Common Council
MEETING AGENDA

February 19, 2024 - 5:35 PM
(Following the Committee of the Whole Meeting)
City Hall
Council Chambers

Published 02/14/2024
Rescheduled from 02/13/2024

AGENDA

1. PRIVILEGE OF THE FLOOR

2. CALL TO ORDER, PLEDGE OF ALLEGIANCE

3. ROLL CALL; DECLARATION OF QUORUM; PUBLIC NOTICE

4. APPROVAL OF MINUTES

A. January 23, 2024 Common Council Meeting Minutes

5. REPORTS

A. City Clerk

B. Council President

C. Mayor

6. COMMUNICATIONS

A. Acuity Insurance Claim re: Wisconsin Kitchen Mart, Inc.

7. PARKS, BUILDINGS & GROUNDS COMMISSION

A. Discussion and recommendation to Common Council to approve disc golf league permits to Mike Harrington DBA the Disc Golf Experience

B. Discussion and possible action to recommend to Common Council approval awarding the city wide door access project to Circle Electric, Inc. per the requested action statement

C. Discussion and possible action to recommend to Common Council approval awarding the city hall window replacement project to B&D Contractors, Inc. per the requested action statement

8. DEFERRED, REFERRED & TABLED ITEMS

9. ITEMS REMOVED FROM CONSENT AGENDA, if any

10. CONSENT AGENDA----------

A. *Items under the Consent Agenda have passed unanimously by the Committee of the Whole. Items not passed by a unanimous vote will be removed from consent agenda and will be considered separately.*

11. MINUTES

A. January 23, 2024 Committee of the Whole Meeting Minutes

12. UTILITY & FINANCE

A. Discussion and recommendation to Common Council approval of the February 14, 2024 Water Utility claims in the amount of $142,981.94, Sewer Utility claims in the amount of $21,234.32 and General City Claims in the amount of $1,527,280.98. Tax overpayment checks totaling $102,671.46 were also generated. US Bank

VISA EFT of $17,781.22 for 2023 Invoices and $19,714.47 for 2024 Invoices. We Energies EFT of $71,486.75

13. MISCELLANEOUS

A. Discussion and recommendation to Common Council approval of Ordinance No. 2690, an ordinance to amend section 6-7 of the City of New Berlin Municipal Code regarding the Police and Fire Commission per the RAS submitted by Alderman Hopkins

B. Discussion and recommendation to Common Council for the approval to revisit the RFP process looking for companies to erect a two-sided Digital Out Of Home Sign near the intersection of Wall Street and Moorland Rd on the ARC property per the RAS submitted by Alderman Stribl

14. END CONSENT AGENDA----------

15. CLOSED SESSION

A. *The basis for the items to be discussed in closed session are as enumerated in Section 19.85(1)(e) of the Wisconsin State Statutes, (e) Deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified business, whenever competitive or bargaining reasons require a closed session, more specifically:*

B. Counter-offer to purchase from Bill and Alison Spindler - 15321 West National Avenue, Approximately 12,000 Square feet

C. *The basis for the items to be discussed in Closed Session are as enumerated in Section 19.85(1)(g) of the Wisconsin State Statutes. (g) Conferring with legal counsel for the governmental body who is rendering oral or written advice concerning strategy to be adopted by the body with respect to litigation in which it is or is likely to become involved, more specifically:*

D. Wellner Claim

E. Schulpius Claim

F. Hernandez Claim

16. RECONVENE TO OPEN SESSION

A. Discussion and possible action re: Counter-offer to purchase from Bill and Alison Spindler - 15321 West National Avenue, Approximately 12,000 Square feet

B. Discussion and possible action re: Wellner Claim

C. Discussion and possible action re: Schulpius Claim

D. Discussion and possible action re: Hernandez Claim

17. ADJOURN

Supplemental Information:

- *The meeting agenda and agenda packet are available online at www.NewBerlin.org. The minutes are published online and are approved at the next regularly scheduled meeting.*
- *It is possible that action will be taken on any of the items on the agenda and that the agenda may be discussed in any order.*
- *You may provide comments to the City Clerk via email at CitizenComments@NewBerlin.org. Comments will be forwarded to the Mayor and members of the governing body. Emailed comments are not read during the meeting.*
- *The City of New Berlin strives to host inclusive, accessible meetings that enable all individuals to engage and participate fully. Any person who has a qualifying disability under the Americans with Disabilities Act that requires that the meeting be accessible, please contact City Clerk Rubina R. Medina at (262) 786-8610 or via email at CityClerk@NewBerlinWI.gov at least 48 hours before the scheduled meeting time. Efforts will be made to accommodate the needs of disabled individuals through appropriate aids and/or services.*
- *It is also possible that members of and possibly a quorum of other governmental bodies of the municipality may be in attendance at the above-stated meeting to gather information; no action will be taken by any governmental body at the above-stated meeting other than the governmental body specifically referred to in the above notice.*

Common Council
MEETING MINUTES

January 23, 2024 - 6:05 PM
City Hall
Council Chambers

Please note: Minutes are unofficial until approved at the next regular scheduled meeting.

MINUTES

1. PRIVILEGE OF THE FLOOR

None

2. CALL TO ORDER, PLEDGE OF ALLEGIANCE

Mayor Ament called the meeting to order at 6:40 PM and lead the Pledge of Allegiance.

3. ROLL CALL; DECLARATION OF QUORUM; PUBLIC NOTICE

City Clerk Rubina Medina took the roll call as follows:
Present: Alderperson Hopkins, Alderperson Harenda, Alderperson Stribl, Alderperson Horbinski, Alderperson Kroupa, Alderperson La Fever
Excused: Alderperson Dave Maxey

Staff Present: City Attorney Mark Blum, City Clerk Rubina Medina

City Clerk Rubina Medina stated that a quorum had been established and the meeting was properly noticed.

4. APPROVAL OF MINUTES

A. January 9, 2024 Common Council Meeting Minutes

MOTION: Motion to Approve

VOTE: Motion by: Alderperson Kroupa
Second by: Alderperson Horbinski
Motion Passed 6-0

5. REPORTS

A. City Clerk

No Report.

B. Council President

No Report.

C. Mayor

- I wanted to start off taking a moment to give a special thank you to our Department of Public Works, Emergency Management, and our Fire and Police Departments that worked around the clock to collectively keep our city moving as smoothly as possible through the past weekend Winter Storm. It is estimated that we received 16.5 inches of snow on top of enduring ice and frigid temperatures. I want to also thank our residents who took time to check on family members, friends, and neighbors as we all navigated through this storm.

- As we continue through the Winter Season, please help keep **fire hydrants** clear of snow – clear an area of approximately 3 feet around the fire hydrant – every second counts in an emergency.
- Finally, the City has received a significant number of reports of mailbox damage or the inability to have mail delivered due to snow blocking their mailbox. The City is attempting to repair the remaining mailboxes that were reported. We appreciate your patience and understanding during this time.
- The **Miss New Berlin Competition will be held on Saturday January 27th, 2024 at West Allis Central High School**. The event will crown our city's 2024 Miss New Berlin and Miss New Berlin Outstanding Teen.
- Lastly, The **New Berlin Library** will be hosting a **Valentine's Day Kindermarket** on **February 2nd from 6:00 p.m. – 8:00 p.m**. This Kindermarket is a fun sales event featuring handmade gift items that are both crafted and sold by kids. For information, please visit the Library's website.

6. COMMUNICATIONS

A. Hernandez Claim

B. Brunner Claim

C. Bremer Claim

7. UTILITY COMMITTEE

A. UT 02-24 Recommend to the Common Council to amend the 2024 Water and 2024 Wastewater CIP Budget in the amount of $225,000.00 to purchase a tandem dump truck.

MOTION: Motion to Approve

VOTE: Motion by: Alderperson Harenda
Second by: Alderperson Hopkins
Motion Passed 6-0

8. DEFERRED, REFERRED & TABLED ITEMS

A. Discussion and possible action to recommend to Common Council approval of (4) KH SP-2302092 Ryan's Buying LLC - 5751 S. Sunny Slope Road - Adoption of a resolution approving the Theofila Estates Preliminary Plat. ***This item was deferred at the 1/9/2024 Committee of the Whole meeting***

MOTION: Motion to Approve

VOTE: Motion by: Alderperson Stribl
Second by: Alderperson Harenda
Motion Passed 6-0

9. ITEMS REMOVED FROM CONSENT AGENDA, if any

Item 13 C was removed from the Consent Agenda.

10. CONSENT AGENDA----------

A. *Items under the Consent Agenda have passed unanimously by the Committee of the Whole. Items not passed by a unanimous vote will be removed from consent agenda and will be considered separately.*

MOTION: Motion to Approve

VOTE: Motion by: Alderperson Harenda
Second by: Alderperson Kroupa
Motion Passed 6-0

11. MINUTES

A. January 9, 2024 Committee of the Whole Meeting

12. UTILITY & FINANCE

A. Discussion and recommendation to Common Council approval of the January 24, 2024 Water Utility claims in the amount of $112,586.99 for 2023 Invoices and $19,402.89 for 2024 Invoices. Sewer Utility claims in the amount of $26,388.58 for 2023 Invoices and $900 for 2024 Invoices. General City Claims in the amount of $1,596,525.66 for 2023 Invoices and $349,721.86 for 2024 Invoices. Tax overpayment checks totaling $13,359.31 were also generated. US Bank VISA EFT of $42,668.13 for November and December 2023 and We Energies EFT of $53,923.85 for November 2023.

13. MISCELLANEOUS

A. Municipal Court Department Update

B. New Berlin Utility Adjustment of Water Rates - Possible discussion, no action

C. Discussion and recommendation to the Common Council approval to hold the February 13, 2024, COW/CC meetings and the Prusinski appeal regarding the Transient/Short Term Lodging denial via Zoom

D. Discussion and recommendation to the Common Council to authorize the change from a Streets Manager Position to a Deputy Director position within the Department of Public Works as outlined in the RAS.

14. END CONSENT AGENDA----------

15. CLOSED SESSION

A. The basis for the items to be discussed in closed session are as enumerated in Section 19.85(1)(e) of the Wisconsin State Statutes, (e) Deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified business, whenever competitive or bargaining reasons require a closed session, more specifically:

MOTION: Motion to Enter Closed Session at 6:51 PM. City Clerk Rubina Medina took a roll call vote.

VOTE: Motion by: Alderperson Stribl
Second by: Alderperson Kroupa
Motion Passed 6-0

B. Deliberation regarding the proposed collective bargaining agreement between the City of New Berlin and the New Berlin Professional Firefighters Association

C. Offers to Purchase from Bill and Alison Spindler - 15321 West National Avenue, Approximately 12,000 square feet

16. RECONVENE TO OPEN SESSION

MOTION: Motion to Return to open session at 7:25 PM. City Clerk Rubina Medina took a roll call vote.

VOTE: Motion by: Alderperson Horbinski
Second by: Alderperson Kroupa
Motion Passed 6-0

A. Discussion and possible action re: The proposed collective bargaining agreement between the City of New Berlin and the New Berlin Professional Firefighters Association

MOTION: Motion to Approve

VOTE: Motion by: Alderperson Hopkins
Second by: Alderperson Stribl
Motion Passed 6-0

B. Discussion and possible action re: Offers to Purchase from Bill and Alison Spindler - 15321 West National Avenue, Approximately 12,000 square feet

MOTION: Motion to Approve

VOTE: Motion by: Alderperson Stribl
Second by: Alderperson Harenda
Motion Passed 6-0

17. ADJOURN

MOTION: Motion to Adjourn at 7:27 PM

VOTE: Motion by: Alderperson Kroupa
Second by: Alderperson La Fever
Motion Passed 6-0

Respectfully Submitted,
Rubina R. Medina, City Clerk

From:	Virginia Kurth
To:	New Berlin City Clerk
Subject:	SG6568
Date:	Tuesday, January 23, 2024 10:02:49 AM
Attachments:	image002.png image003.png image004.png image005.png

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> You don't often get email from vkurth@acuity.com. Learn why this is important

Hello,

Our insured, Wisconsin Kitchen Mart Inc., had two of their company vehicle's hit by a city snowplow on 1/18/2024. The vehicles were legally parked on S. Woodhill Lane when struck. Acuity is handling our insured's damages. Once repairs are complete, we will forward our damages to your office for consideration. For your reference, a police report was filed with the New Berlin PD. The report number is E24001401.

This email serves as our notice of the intent to subrogate.

Thank you,
Virginia

Virginia Kurth
Senior Claims Representative
Ph: 800.242.7666 x1664

www.acuity.com
Acuity, A Mutual Insurance Company
2800 S. Taylor Drive | Sheboygan, WI 53081

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City of New Berlin
3805 South Casper Drive P.O. Box 510921
New Berlin, Wisconsin 53151-0921

(262) 786-8610
Fax (262) 786-6121

REQUESTED ACTION STATEMENT

DATE: February 1st, 2024

TO: Parks, Buildings & Grounds Commission

FROM: Josh Radomski, DPW Director

ISSUE: Discussion & possible action of Disc Golf League Permits

REQUESTED:

Approval of Disc Golf League Permits to Mike Harrington DBA the Disc Golf Experience LLC.

Manic Mondays Spring March 25th-June 3rd (No 05/27) 6:00 PM-9:00 PM (10 weeks)

Manic Mondays Summer June 10th – August 26th 6:00 PM-9:00 PM (12 weeks)

Tuesday Morning League Spring April 23rd -June 25thth 9:00 AM - 12:00 PM (10 weeks)

Tuesday Morning League Summer July 2nd – September 3rd 9:00 AM – 12:00 PM (10 weeks)

Discin' In The Dark (Mondays) September 9th-November 25th 6:00 PM - 9:00 PM (12 weeks)

Saturday Snow Throwers December 7th - March 22nd 9:00 AM - 12:00PM (16 weeks)

FISCAL IMPACT:

City to receive $25 per week of league. Applicant charging $6 per person per day to participate in league at Disc Golf Course in Valley View Park. (15-35 participants per week estimated by applicant)

RATIONALE:

Mr. Harrington has applied for disc golf league permits and plans to charge individuals a per day fee to participate in his league. Chapter 184-8 of the Municipal Code does not allow for solicitation on any park or parkway without the Commission's approval. The Athletic field Guidelines also indicates (under Chapter IV Conditions of Use - item G.) "No individual may utilize publicly owned athletic facilities for personal profit unless approved by the Commission. This includes but is not limited to clinics, lessons, tournaments or the sale of athletic items or concessions."

RECOMMENDATION:

Recommend Parks, Buildings & Grounds Commission approval of disc golf league permits to Mike Harrington DBA the Disc Golf Experience.

City of New Berlin
city living with a touch of country

City of New Berlin

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REQUESTED ACTION STATEMENT

DATE: February 1, 2024

TO: Mayor
Common Council
Parks, Buildings and Grounds Commission

FROM: Josh Radomski – Director of Public Works

ISSUE: City Wide Door Access Project

REQUESTED:

Recommend Council to award the City Hall Door Access Upgrade Project to Circle Electric, Inc. We are recommending that all buildings, including the Community Center be included with this award to take advantage of the $17,510 deduction for awarding all of the bids. With the unknown future of the Community Center, we are going to have the contractor hold off on doing any work to that facility until the end of the project. If it is determined that the building will eventually be demolished, we intend on requesting a deduction from the contractor that will most likely be more financially beneficial to the city than if we don't award that portion of the contract.

FISCAL IMPACT:

Monies to come from the Door Access Systems Account #04251300-61411-C2022 and Card Access Upgrades Account #04251300-61411-C2024 for the contract amount of $436,485 with a 52% Contingency of $19,515 for a total construction cost of $456,000.

RATIONALE:

Circle Electric, Inc. was the lowest, responsive and responsible bidder.

Door Access Bid Results

Building	Circle Electric	Wil-Surge
City Hall	$118,754	$134,294
Community Center	$18,408	$21,658
Library	$41,970	$48,071
Fire Station 1 (Now 7)	$15,542	$12,848
Fire Station 2 (Now 8)	$16,555	$15,436
Fire Station 3 (Now 9)	$26,660	$27,859
Fire Station 4 (Now 10)	$16,619	$15,960
Parks Garage	$14,588	$12,635
Safety Building	$184,899	$215,803
All Building Award Deduction	-$17,510	-$21,510
Total All Buildings with Deduct	$436,485	$483,054

New Berlin Door Access Upgrade Project
Project #BG2023 - 4
Various Locations, New Berlin, WI 53151

BID FORM

1. GENERAL DIRECTIONS TO BIDDERS

A. All Bids must be submitted on these standard form sheets inclusive without modification. Fill out all blanks on the Bid Form by typing or writing in ink. Sign in ink. Erasures or other changes in Bid must be explained or noted over signature of Bidder. Enter Bid amount in both written words and printed figures in spaces provided on Bid Form. In case of conflict, amount given in written words will govern.

B. Base Bid(s) must be for Work bid in strict accordance with the Drawings and Specifications. **INCLUDE BOND COSTS IN THE BASE BID(S)**. Bid all requested Alternates. If no change to the Base Bid applies, enter "No Change."

C. Bid Forms containing qualifications, conditions, omissions, unexplained erasures, alterations or items not called for in Bid Form or other irregularities of any kind may be rejected at the discretion of the Owner.

D. Bidders shall examine the provisions of the Project Manual thoroughly to ensure compliance with all bidding requirements.

E. Bidders shall only submit the Bid Forms included in the Project Manual – DO NOT return the Project Manual.

F. Bidders shall ensure that all items in the Bid Form such as Work Schedule, Bidders Official Title and Signature, and Proof of Responsibility are properly executed.

G. A bid must be accompanied by a bid security made payable to Owner in an amount of 10% of bidder's maximum bid price (determined by adding the base bid and all alternates), and in the form of a certified check, bank money order or a bid bond issued by a surety acceptable to the City. The bid security will be retained by the City until the City awards the contract to such bidder and such bidder has executed the contract documents and met the other conditions of the Notice of Award, where upon the bid security will be released. If the successful bidder fails to execute and deliver the contract documents and furnish the requirements contract security within 15 days after the Notice of Award, the Owner may consider the bidder to be in default and anull the Notice of Award and the bid security of that bidder will be forfeited. Such forfeiture shall be the Owner's exclusive remedy if the bidder defaults.

H. The Bidder shall be required to identify any subcontractor, suppliers, individuals or entities to be submitted to the Owner 14 days in advance of the

City's acceptance of the agreement. The apparent successful bidder shall, within 5 days after the bid opening, submit to the Owner a list of all such subcontractors, suppliers, individuals or other entities that will be utilized in the completion of the work. An experience statement with pertinent information regarding similar projects and other evidence of qualification for the work that the subcontractor will be performing is required. If the Owner, after review of such information, determines, in its sole discretion, that such subcontractor, supplier, individual or entity is not satisfactory, the Owner, prior to the Notice of Award, shall give notice to the successful bidder requiring that an acceptable substitute be provided. In the event there is any adjustment to the cost as a result of said substitution, Owner may take that into consideration in making the contract award. In the event that the contractor fails to make the substitution requested, the Owner may award the contract to the next lowest responsive responsible bidder.

I. Bids not conforming to the above directions may be declared irregular and are subject to disqualification at the discretion of the Owner.

THE BIDDER HEREBY AGREES THAT THIS BID IS INVALID WITHOUT BIDDER'S SIGNATURE APPEARING IN THE SIGNATURE BLOCK ON THE LAST PAGE OF THIS BID FORM.

2. BID SUBMITTAL PROCEDURE

In submitting a Bid, the Bidder represents that:

- He/She thoroughly reviewed and understood the Bidding and Contract Documents and the Bid is made in full accordance with these documents and amendments issued thereto.

- He/She has thoroughly reviewed and understands the Bidding and Contract Documents related to the Work of other portions of the Project, if any, being bid concurrently or presently under construction.

- He/She has thoroughly reviewed informational reports and documents available to him/her, visited the project site, become familiar with actual local conditions under which the Work is to be performed and has correlated his/her evaluations and personal observations with the requirements of the Bidding and Contract Documents.

- The contract for the work, if awarded, will be on the basis of materials and equipment specified or described in the bidding documents, and those or equal or substitute or materials and equipment subsequently approved by the Owner prior to the submittal of bids and identified by addendum. No item of material or equipment will be considered by Owner as an or equal or substitute unless written requests for approval has been submitted by the bidder and has been received by the Owner at least 10 days prior to the date of receipt of bids in the case of a proposed substitute. The burden of proof on the merit of the proposed item is upon the bidder. The Owner's decision of approval or disapproval of a proposed item will be final. If the Owner approves any such proposed items, such approval will be set forth as an addendum issued to all perspective bidders. Bidder shall not rely upon approvals made in any other manner. All prices that Bidder sets forth in this bid shall be based on the presumption that the contractor will furnish the materials and equipment specified or described in the bidding documents as supplemented by any addenda.

A. After Bid Forms are completed, place one (1) set of signed originals and the Bid Bond in a sealed envelope. Oral, telephonic, e-mailed, or faxed Bids are invalid and will not be considered.

B. Address the envelope to:
New Berlin Door Access Project
City Clerks Office
3805 S Casper Dr
New Berlin, WI 53151

C. Bidders shall affix their name and address to the front upper left-hand corner of the envelope with the words "Sealed Bid Enclosed" written on the outside. Identified in lower left corner should be: Bid number, project name and opening date.

3. BID CLOSING

A. Bids must be received on or before 10:00 a.m. on January 31, 2024. The Bidder assumes full responsibility for timely delivery at the location designated for receipt of Bids. **Bids received after the time and date for receipt of Bids will be rejected and returned unopened.**

4. BID OPENING

A. Bids will be publicly read at 10:00 a.m. on January 31, 2024 in the New Berlin City Hall – Common Council Chambers.

(a corporation)

We Circle Electric, Inc. ~~(a partnership)~~ ~~(an individual)~~
(Cross out inapplicable)

Of 4606 N. 132nd Street, Butler, WI 53007
Street City County State Zip

hereby agree to execute the proposed Contract and to furnish a satisfactory Public Improvement Performance/Labor and Material Payment Bond, in the amount of one hundred percent (100%), and to provide all labor and material required for the construction of the designated Work, for the prices hereinafter set forth, in strict accordance with the Construction Documents released by: **City of New Berlin**, address: 3805 S. Casper Dr, New Berlin, WI dated May 26, 2023.

Including Amendment Nbr(s). none **dated** _____.

5. BASE BID

Base Bid includes all work required to complete the Project, including Building Permits, General Conditions, overhead, profit, insurance, bonds, taxes, and all other expenses. Bid Guarantee ten percent (10%) Bid Bond Cost, Public Improvement Performance Bond and Labor and Materials Payment Bond Cost one hundred percent (100 %) for the sum for the following buildings:

City Hall

One-hundred-eighteen thousand, seven-hundred-fifty-four Dollars ($ 118,754.00)

Community Center

Eighteen thousand, four-hundred-eight Dollars ($ 18,408.00)

Library

Forty-one thousand, nine-hundred-seventy Dollars ($ 41,970.00)

Fire Station #1

Fifteen thousand, five-hundred-forty-two Dollars ($ 15,542.00)

Fire Station #2

Sixteen thousand, five-hundred-fifty-five Dollars ($ 16,555.00)

Fire Station #3

Twenty-six thousand, six-hundred-sixty Dollars ($ 26,660.00)

Fire Station #4

Sixteen thousand, six-hundred-nineteen Dollars ($ 16,619.00)

Parks Garage

Fourteen thousand, five-hundred-eighty-eight Dollars ($ 14,588.00)

Safety Building

One-hundred-eighty-four thousand, nine-hundred-ninety-nine Dollars ($ 184,899.00)

All Buildings – Deduction – This represents a deduction in total costs associated with this project should the City decide to pursue all buildings as part of this project based on savings that may be recognized by the contractor due to various factors, including economies of scale. This deduction, if any, will be split proportionally between each of

the buildings based on the bid price received and will subtract from the amount bid for each building.

Seventeen thousand, five-hundred-ten Dollars ($ 17,510.00)

Note: The City of New Berlin reserves the right to accept any combination or all of the buildings that are listed above.

8. SCHEDULE OF VALUES

A. Submit schedule of standard rates for all personnel, including personnel of subcontractors, involved with project.

B. Include schedule of standard markups.

Circle Electric

Foreman	$105 / hr regular time,	$157.50 / hr OT,	$210 / hr DT
Journeyman	$90 / hr regular time,	$135 / hr OT,	$180 / hr DT
Apprentice	$80 / hr regular time,	$120 / hr OT,	$160 / hr DT

Subcontract markup	5%
Material markup	10%
Change order markup	20%

Subcontractor

Technician	$130 / hr, regular time,	$195 / hr OT,	$260 / hr DT

10. COMMENCEMENT, PROGRESS AND COMPLETION OF WORK

A. If written Notice of Intent to Award Contract is issued not later than February 14, 2023 with a Project commencement of February 21, 2023, can you complete the Work in compliance with the requirements of the Contract Documents by July 26, 2024, in full cooperation and coordination with other Contractors, if any.
Yes X No __ .

If "No", state additional calendar days required _____.

B. The undersigned understands that time is of the essence and agrees that the specified time period for completion stated above is a reasonable time for the completion of the Work. All time limits shall be binding.

11. BID ACCEPTANCE:

A. All Bids as stated above are effective and open for acceptance by the Owner for a period of ninety (90) days after date set for opening of Bids.

FIRM NAME Circle Electric

BY SIGNATURE Ryan Kastanek

TITLE President

DATED 01-31-2024

TELEPHONE 262 783-7700

FAX NBR 262 783-8935

EMAIL ADDRESS: rjkastanek@circleelectric.com

If a corporation, answer the following:

Incorporated under laws of what state?

SEAL _____ (If Bid is by Corporation)

PROJECT MANUAL

City of New Berlin
Access Control System Upgrades

3805 South Casper
New Berlin, Wisconsin 53151

Harwood Engineering Consultants, Ltd.
Owner Project No. BG-2023-4
HEC Project No. 19-1011.20
January 05, 2024

Project Name	**City of New Berlin Access Control System Upgrades**
HECL Project No.	**19-1011.20**
Owner Project No.	**BG2023-4**

INDEX Specification Sections

DIVISION 26 - ELECTRICAL

26 00 01 Electrical General Requirements
26 05 02 Electrical Demolition for Remodeling
26 05 19 Wire & Cable 600 Volt and Below
26 05 26 Grounding and Bonding
26 05 33 Raceways and Boxes
26 27 26 Wiring Devices

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

28 01 30 Door Access System

INVITATION TO BID

Project: BG2023-4 City of New Berlin Door Access Upgrades (Various Buildings)

1. Bids will be prepared in accordance with Contract Documents prepared by ***Harwood Engineering Consultants, Ltd.***, Phone 414-475-5554, Fax 414-773-9299, 255 N 21st St. Milwaukee, WI, and dated January 05, 2024.

2. Notice is hereby given that sealed Bids are due in the New Berlin City Hall – City Clerk office, by 10:00 a.m. CST/CDT on January 31, 2024. (Reference Bid Form, Item 2)

3. Bids will be publicly read at 10:00 a.m. on January 31, 2024 in the Council Chambers of New Berlin City Hall located at 3805 S. Casper Dr.

4. Oral, faxed or e-mailed Bids will be rejected.

5. All blanks on the Bid Form shall be filled in by typewriter print or manually in ink. If the filled areas are illegible, the Bid shall be rejected. The Bidder shall make no additional stipulations on the Bid Form or qualify the Bid in any manner.

6. Where so indicated on the Bid Form, the values shall be expressed in both words and figures. In the event of discrepancy between the words and figures, the amount written in words shall govern.

7. Bids will be submitted using the Bid Forms provided herein. Bid security shall be by a qualified surety in the form of a bid bond, in the amount of five percent (5%) of Bid amount, and shall be submitted with the Bid. Bidders shall agree to not withdraw the Bid for a period of ninety (90) days after due date of Bids.

8. Accepted Bidders will be required, as a condition precedent to award of Contract, to furnish in the amount of 100% of the contract prices, satisfactory Performance Bond, Labor and Material Payment Bond and Certificate of Insurance.

9. Bidding Documents will be available on January 10, 2024. Bidders may obtain Bidding Documents only from the following site: Quest ebid doc #8889309 – Bid/RFP Listing. Documents will available for download. Documents will not be mailed. **It is the responsibility of prospective Bidders to check this website for any future amendments, questions, revisions, etc., prior to the opening date. All addenda must be acknowledged on the signature page in the area provided. Failure to do so may result in your response being rejected.**

10. Pre-Bid meeting and walkthrough on January 24, 2024 at 10:00 AM. Meeting location is New Berlin City Hall Conference Room A/B, 3805 South Casper, New Berlin, WI

53151. Parking is available in the lot on the south side of the field. **Please be on time as no accommodations will be made for late arrivals. NOTE: This will be the only opportunity for a walk through, therefore, be sure to bring all potential subcontractors. Vendors are also reminded to review all Bid Documents, etc. prior to arrival.**

12. The right to reject any or all Bids, either in whole or in part, or to waive any informalities or irregularities is reserved by City of New Berlin.

Published by Order of:
City of New Berlin
Buildings and Grounds
(262) 786-8610
3805 S Casper Dr
New Berlin, WI 53151

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

GENERAL:

Carefully review Project Manual, including Bidding Requirements, General Requirements, Specifications, Alternates, and Amendments, all of which contain provisions applicable to all Bidders. Successful Bidder will be required to execute all Work belonging to their Contract which is stated in the Specifications, or reasonably implied as necessary to complete their Contract, including removal of existing work and preparing present work to receive new, if such be the requirements of actual job conditions.

Visit site to become acquainted with: Adjacent areas; means of approach to the site; present conditions of project site; and facilities for delivering, storing, placing and handling of materials and equipment. Compare Specifications with existing work in place, inspect demolition requirements and inform yourself of all conditions affecting execution of Work, including other new work, if any, being performed.

WORKSITE AVAILABLILITY:

A specific window of opportunity exists for completion of the Work, therefore Work shall commence on the date noted in the Bid Form. Construction activities may take place between **7:00 AM and 7:00 PM Monday through Friday, 8:00 AM – 5:00 PM on Saturday and no work will be allowed on Sundays.**

DOCUMENTS:

Bidders shall be familiar with all Bidding Requirements and proposed Contract Documents. See General Conditions for definition of Contract Documents.

BID FORM:

Alterations of or amendments to Bid Form, attachments thereto, or inclusion of any correspondence, or other written or printed matter or details of any nature other than that specifically called for may disqualify Bid. No e-mailed alterations to the Bid will be accepted.

Only Bids which are made on regular Bid Form will be considered. No Bids for any arbitrary subdivision or sub classification of Work required by requested Bid(s) will be accepted.

Requirements of Signing: Include with each Bid full business address of Bidder. Bids by corporations shall be executed in the full legal name of the corporation, giving State of incorporation and be signed by an authorized officer or officers, who shall, in each case, type or print name and corporate title beneath the signature. Partnership Bids shall state the full name of all partners, e.g., “Smith and Jones, a partnership of John S. Smith and William B. Jones”. Such Bids must also be signed by an authorized partner or other representative, typing or printing the name and title of the signer beneath the signature. Individuals operating as a business shall sign Bids, typing or printing the individuals name followed by the words “Sole Proprietor” beneath the signature. When requested by Owner, furnish satisfactory evidence of agency or authority of any person signing on behalf of another.

Submission of Bids: Reference Bid Form, Section 2.

CONTRACT AND CONTRACT DOCUMENTS:

The Contract into which successful Bidder will be required to enter is based on City of New Berlin General Terms and Conditions of Service (as modified by Owner). Familiarize yourself with the provisions of this document.

ACCEPTANCE OF BID (AWARD):

It is the intent of the Owner to award a Contract or accept any Bid which will be in the best interests of the Owner, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner reserves the right to waive informalities or irregularities in a Bid received and to accept the Bid, which in the Owner's judgment, is in the Owner's best interests.

The Owner reserves the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsible Bidder on the basis of the Base Bid and Alternates accepted.

WITHDRAWAL OF BIDS:

Matters pertaining to the withdrawal of a Bid and to claims of error, omission or mistake in preparing or submitting a Bid shall be governed by Section 66.0901 of the Wisconsin Statutes.

All Bids shall be effective and open for acceptance for a period of ninety (90) days after date set for opening of Bids.

RESERVATION:

Owner reserves the right to: reject any or all Bids, reject a Bid not accompanied by a required bid security or by other data required by the Bidding Documents, reject a Bid which is in any way incomplete or irregular, waive any irregularities in any Bid, accept any Bid which will be in best interests of Owner.

INADEQUACIES AND OMISSIONS:

Failure to request timely clarification or interpretation of Bidding Documents shall not relieve Bidder/Contractor of responsibility to execute the Work in accordance with the intent of the Contract Documents. Signing of Contract means that the Contractor has thorough comprehension of full intent and scope of Contract Documents.

The Owner and his consultants are not responsible for oral instructions.

INTERPRETATIONS AND CORRECTIONS:

Carefully review and compare all parts of the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is being submitted. Examine the site and local conditions, and immediately report to the Owner errors, inconsistencies or ambiguities discovered.

Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall submit a written request to the Owner, received in Owner's office at least seven (7) days prior to the date set for receipt of Bids.

Interpretations and corrections of and changes to the Bidding Documents will be made in writing by Addendum only. Interpretations and corrections made in any other manner are not binding. Bidders shall not rely upon verbal instructions or information.

POWER OF ATTORNEY AND BOND REQUIREMENTS:

Submit with each Bid a bond executed by an attorney-in-fact, including a certified and effectively dated copy of his power of attorney. Where the certification is by facsimile, or otherwise does not bear an original signature, the bonding company must be qualified for recognition under facsimile execution.

New Berlin Door Access Upgrade Project
Project #BG2023 - 4
Various Locations, New Berlin, WI 53151

BID FORM

1. GENERAL DIRECTIONS TO BIDDERS

A. All Bids must be submitted on these standard form sheets inclusive without modification. Fill out all blanks on the Bid Form by typing or writing in ink. Sign in ink. Erasures or other changes in Bid must be explained or noted over signature of Bidder. Enter Bid amount in both written words and printed figures in spaces provided on Bid Form. In case of conflict, amount given in written words will govern.

B. Base Bid(s) must be for Work bid in strict accordance with the Drawings and Specifications. **INCLUDE BOND COSTS IN THE BASE BID(S)**. Bid all requested Alternates. If no change to the Base Bid applies, enter "No Change."

C. Bid Forms containing qualifications, conditions, omissions, unexplained erasures, alterations or items not called for in Bid Form or other irregularities of any kind may be rejected at the discretion of the Owner.

D. Bidders shall examine the provisions of the Project Manual thoroughly to ensure compliance with all bidding requirements.

E. Bidders shall only submit the Bid Forms included in the Project Manual – DO NOT return the Project Manual.

F. Bidders shall ensure that all items in the Bid Form such as Work Schedule, Bidders Official Title and Signature, and Proof of Responsibility are properly executed.

G. A bid must be accompanied by a bid security made payable to Owner in an amount of 10% of bidder's maximum bid price (determined by adding the base bid and all alternates), and in the form of a certified check, bank money order or a bid bond issued by a surety acceptable to the City. The bid security will be retained by the City until the City awards the contract to such bidder and such bidder has executed the contract documents and met the other conditions of the Notice of Award, where upon the bid security will be released. If the successful bidder fails to execute and deliver the contract documents and furnish the requirements contract security within 15 days after the Notice of Award, the Owner may consider the bidder to be in default and anull the Notice of Award and the bid security of that bidder will be forfeited. Such forfeiture shall be the Owner's exclusive remedy if the bidder defaults.

H. The Bidder shall be required to identify any subcontractor, suppliers, individuals or entities to be submitted to the Owner 14 days in advance of the

City's acceptance of the agreement. The apparent successful bidder shall, within 5 days after the bid opening, submit to the Owner a list of all such subcontractors, suppliers, individuals or other entities that will be utilized in the completion of the work. An experience statement with pertinent information regarding similar projects and other evidence of qualification for the work that the subcontractor will be performing is required. If the Owner, after review of such information, determines, in its sole discretion, that such subcontractor, supplier, individual or entity is not satisfactory, the Owner, prior to the Notice of Award, shall give notice to the successful bidder requiring that an acceptable substitute be provided. In the event there is any adjustment to the cost as a result of said substitution, Owner may take that into consideration in making the contract award. In the event that the contractor fails to make the substitution requested, the Owner may award the contract to the next lowest responsive responsible bidder.

I. Bids not conforming to the above directions may be declared irregular and are subject to disqualification at the discretion of the Owner.

THE BIDDER HEREBY AGREES THAT THIS BID IS INVALID WITHOUT BIDDER'S SIGNATURE APPEARING IN THE SIGNATURE BLOCK ON THE LAST PAGE OF THIS BID FORM.

2. BID SUBMITTAL PROCEDURE

In submitting a Bid, the Bidder represents that:

- He/She thoroughly reviewed and understood the Bidding and Contract Documents and the Bid is made in full accordance with these documents and amendments issued thereto.

- He/She has thoroughly reviewed and understands the Bidding and Contract Documents related to the Work of other portions of the Project, if any, being bid concurrently or presently under construction.

- He/She has thoroughly reviewed informational reports and documents available to him/her, visited the project site, become familiar with actual local conditions under which the Work is to be performed and has correlated his/her evaluations and personal observations with the requirements of the Bidding and Contract Documents.

- The contract for the work, if awarded, will be on the basis of materials and equipment specified or described in the bidding documents, and those or equal or substitute or materials and equipment subsequently approved by the Owner prior to the submittal of bids and identified by addendum. No item of material or equipment will be considered by Owner as an or equal or substitute unless written requests for approval has been submitted by the bidder and has been received by the Owner at least 10 days prior to the date of receipt of bids in the case of a proposed substitute. The burden of proof on the merit of the proposed item is upon the bidder. The Owner's decision of approval or disapproval of a proposed item will be final. If the Owner approves any such proposed items, such approval will be set forth as an addendum issued to all perspective bidders. Bidder shall not rely upon approvals made in any other manner. All prices that Bidder sets forth in this bid shall be based on the presumption that the contractor will furnish the materials and equipment specified or described in the bidding documents as supplemented by any addenda.

A. After Bid Forms are completed, place one (1) set of signed originals and the Bid Bond in a sealed envelope. Oral, telephonic, e-mailed, or faxed Bids are invalid and will not be considered.

B. Address the envelope to:
New Berlin Door Access Project
City Clerks Office
3805 S Casper Dr
New Berlin, WI 53151

C. Bidders shall affix their name and address to the front upper left-hand corner of the envelope with the words "Sealed Bid Enclosed" written on the outside. Identified in lower left corner should be: Bid number, project name and opening date.

3. BID CLOSING

A. Bids must be received on or before 10:00 a.m. on January 31, 2024. The Bidder assumes full responsibility for timely delivery at the location designated for receipt of Bids. **Bids received after the time and date for receipt of Bids will be rejected and returned unopened.**

4. BID OPENING

A. Bids will be publicly read at 10:00 a.m. on January 31, 2024 in the New Berlin City Hall – Common Council Chambers.

(a corporation)
(a partnership)
We _____(an individual)
(Cross out inapplicable)
Of _____
Street City County State Zip

hereby agree to execute the proposed Contract and to furnish a satisfactory Public Improvement Performance/Labor and Material Payment Bond, in the amount of one hundred percent (100%), and to provide all labor and material required for the construction of the designated Work, for the prices hereinafter set forth, in strict accordance with the Construction Documents released by: **City of New Berlin**, address: 3805 S. Casper Dr, New Berlin, WI dated May 26, 2023.

Including Amendment Nbr(s)._____ dated_____.

5. BASE BID

Base Bid includes all work required to complete the Project, including Building Permits, General Conditions, overhead, profit, insurance, bonds, taxes, and all other expenses. Bid Guarantee ten percent (10%) Bid Bond Cost, Public Improvement Performance Bond and Labor and Materials Payment Bond Cost one hundred percent (100 %) for the sum for the following buildings:

City Hall

_____ Dollars ($ _____)

Community Center

_____ Dollars ($ _____)

Library

_____ Dollars ($ _____)

Fire Station #1

_____ Dollars ($ _____)

Fire Station #2

_____ Dollars ($ _____)

Fire Station #3

_____ Dollars ($ _____)

Fire Station #4

_____ Dollars ($ _____)

Parks Garage

_____ Dollars ($ _____)

Safety Building

_____ Dollars ($ _____)

All Buildings – Deduction – This represents a deduction in total costs associated with this project should the City decide to pursue all buildings as part of this project based on savings that may be recognized by the contractor due to various factors, including economies of scale. This deduction, if any, will be split proportionally between each of

the buildings based on the bid price received and will subtract from the amount bid for each building.

_____ Dollars ($ _____)

Note: The City of New Berlin reserves the right to accept any combination or all of the buildings that are listed above.

8. SCHEDULE OF VALUES

A. Submit schedule of standard rates for all personnel, including personnel of subcontractors, involved with project.

B. Include schedule of standard markups.

10. COMMENCEMENT, PROGRESS AND COMPLETION OF WORK

A. If written Notice of Intent to Award Contract is issued not later than February 14, 2023 with a Project commencement of February 21, 2023, can you complete the Work in compliance with the requirements of the Contract Documents by July 26, 2024, in full cooperation and coordination with other Contractors, if any.
Yes __ No __ .

If "No", state additional calendar days required _____.

B. The undersigned understands that time is of the essence and agrees that the specified time period for completion stated above is a reasonable time for the completion of the Work. All time limits shall be binding.

11. BID ACCEPTANCE:

A. All Bids as stated above are effective and open for acceptance by the Owner for a period of ninety (90) days after date set for opening of Bids.

FIRM NAME _____

BY SIGNATURE _____

TITLE _____

DATED _____

TELEPHONE _____

FAX NBR _____

EMAIL ADDRESS: _____

If a corporation, answer the following:

Incorporated under laws of what state?

SEAL _____ (If Bid is by Corporation)

CITY OF NEW BERLIN
GENERAL TERMS and CONDITIONS
FOR THE DOOR ACCESS UPGRADE PROJECT (VARIOUS LOCATIONS)

1. Introduction. This document (hereinafter referred to as "Terms and Conditions") is hereby incorporated and part of the contract between the City of New Berlin (hereinafter referred to as "City") and the vendor identified below (hereinafter referred to as "Vendor"). These Terms and Conditions, along with the Bid Instructions, Bid Forms, Specification, City of New Berlin Insurance Requirements, Certificates of Insurance and Policy Endorsements, shall constitute the entire contract for materials, work and other goods and services, collectively referred to as the "Contract" between the City and the Vendor. The work that is being performed herein shall collectively be referred to as the "Project". It is expressly agreed that no statement, arrangement, warranty or understanding, oral or written, expressed or implied, will be recognized unless it is stated in or otherwise permitted by these Terms and Conditions, and the aforementioned invoices and specifications. These Terms and Conditions are solely for the benefit of the City and the Vendor, and are not intended for the benefit of any other party.

2. Goods and/or Equipment. The goods and materials being furnished under this contract shall be as identified in Bid Instructions, Bid Forms and Specifications that are incorporated herewith.

The City shall not be deemed to have accepted the Goods until they have been provided the opportunity to inspect them and to acknowledge, in writing, that they are in accordance with the specifications/invoice and without damage or defect.

3. Contract Time. Time is of the essence with respect to all time limits, milestones (if any), as well as deadlines for substantial completion and completion of the work provided for in the specifications.

The work will be substantially completed on or before July 26, 2024, and completed and ready for final acceptance and payment in accordance with this Agreement on or before August 30, 2024, subject to conditions beyond the control of the Contractor, such as labor or material shortages, weather conditions, strikes, civil unrest or wars. The Owner shall make the final decision as to the adequacy of the justification for the delay. Contractor and Owner recognize that time is of the essence and that the Owner will suffer financial and other losses if the work is not completed and the milestones are not achieved within the time limits specified above. The parties also recognize that delays, expense and difficulties involved in proving, in a legal or arbitration proceedings, of the actual loss suffered by the Owner if not completed on time. As a consequence and not as a penalty, but rather to cover the City's costs if the milestones are not achieved and the work causing baseball games to be moved or cancelled is not completed by the completion date, the parties agree that the City shall be entitled to liquidated damages in the sum of $250.00 (two hundred and fifty dollars) per day as to when substantial completion is delayed.

4. Contract Price. The City shall pay the Vendor for the completion of the work in accordance with the Contract in the amounts that follow, subject to any applicable adjustments under the Contract:

   a. For all unit price work in an amount equal to the sum of the established unit prices for each separately identified item of unit price work times the actual quantity of that time.
   b. The estimated total of all unit price work for the base bid is $_____. These prices are based on estimated quantities. This includes work on the following buildings:

      City Hall for an estimated price of $_____.
      Community Center for an estimated price of $_____.
      Library for an estimated price of $_____.
      Fire Station #1 for an estimated price of $_____.
      Fire Station #2 for an estimated price of $_____.
      Fire Station #3 for an estimated price of $_____.
      Fire Station #4 for an estimated price of $_____.
      Parks Garage for an estimated price of $_____.
      Safety Building for an estimated price of $_____.

   c. These quantities shall be adjusted based upon the actual work performed.
   d. For all work at the price as stated in the Contract Bid attached hereto as Exhibit A.

5. Payment Procedures. Contractors shall submit applications for payments in accordance with the terms of this Agreement upon final completion and acceptance of the work at each building. Owner shall have thirty (30) days after receipt of such request to review the request for correctness and to obtain approval for such payment by its Common Council. The Owner may withhold payment for any portion of the work which is not completed in accordance with the specifications, and shall pay for the work related to any undisputed charges. Upon the successful completion of the work and the acceptance of that work as provided for hereunder, the Owner shall pay the remainder of the contract price.

Upon substantial completion of the work, the owner shall pay an amount sufficient to increase the total payments to the Contractor to one hundred (100%) percent of the work completed, but less such amount set off by Owner as provided for herein, less two hundred (200%) percent of the estimated value of the work to be completed or corrected in accordance with a punch list to be completed prior to final payment. Upon the successful completion of the work and the acceptance of that work as provided for hereunder, the Owner shall pay the remainder of the contract price.

6. Vendor's Representations. In order to induce the City to enter into this Contract, the Vendor makes the following representations:

   a. The Vendor has examined and carefully studied the Contract documents and any data and referenced items included in the Contract documents.

b. The Vendor has visited the site, conducted a thorough visual examination of the site and adjacent areas, and has become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress and performance of the work.

c. The Vendor is familiar with and is satisfied as to all laws and regulations that may affect cost, progress and performance of the work.

d. The Vendor has carefully studied all reports and expirations and tests related to the conditions in which the work will be performed, as well as reports and drawings related to the work and technical data in such reports and drawings.

e. The Vendor has considered the information known to the Vendor itself, including information commonly known to vendors doing business in the Milwaukee metropolitan area, as well as information and observations obtained from visits to the site; the Contract documents; site related reports and drawings in the Contract documents with respect to the impact of such information; observations and documents on the cost, progress and performance of the work; the means, methods, techniques, sequences and procedures of construction; and the Vendor's safety, precautions and programs.

Based on the information and observation referred to in the preceding paragraph, Vendor agrees that no further examinations, investigations, explorations, tests, studies or data are necessary for the performance of the work of the Contract price within the Contract times in accordance with the other terms and conditions of the Contract.

The Vendor has given the City written notice of all conflicts, errors, ambiguities or discrepancies which the Vendor has discovered in the Contract documents and the Vendor certifies that the written resolution there by the City is acceptable to the Vendor.

The Contract documents are sufficient to indicate and convey understanding of all terms and conditions for performance in the furnishing of the work.

The Vendor is entering into this Contract constitutes an incontrovertible representation by the Vendor that, without exception, all prices in the Contract are premised upon performing and furnishing the work requirement by the Contract documents.

7. Assignment of Contract. Unless expressly agreed to by the City, no assignment may be made of the rights and responsibilities of the Vendor under this agreement.

8. Successors and Assigns. The City and Vendor each binds themselves, their successors, agents, legal representatives and assigns with respect to all covenants, agreements and obligations contained in the Contract documents.

9. Severability. Any provision or part of the Contract documents held to be void or unenforceable under any law or regulation shall be deemed stricken and all remaining provisions shall continue to be valid and binding upon the City and Vendor, which do hereby agree that the Contract documents shall be performed or replaced as to such stricken revision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10. Taxes, Social Security and Government Reporting. Personal income tax payments, social security contributions, insurance, payroll taxes and all other governmental reporting and contributions required as a consequence of the Contract or receiving payment for this Contract shall be the sole responsibility of the Vendor.

11. Advertising. The Vendor shall not identify the City as a client or customer of the Vendor or utilize the name of the City or its logo in any advertisements or other documents placed in the public domain without the express written consent of the City.

12. Modification. In the event that the parties determine that a modification to the Terms and Conditions of the providing of these goods are necessary, such change shall not be effective unless executed by authorized representatives of both parties.

13. Delivery. The goods provided hereunder shall be delivered to the City within the number of working days set forth in the contract or otherwise as soon as reasonably practicable unless delay occurs due to work stoppage, adverse weather conditions, labor disputes or modifications to the Terms and Conditions of the contract. In the event that the goods are not delivered within a reasonable period of time, the City shall have the right to cancel this contract without fee or penalty.

14. Insurance. Vendor shall maintain workers compensation, automobile liability and commercial general liability insurance coverage with carriers licensed to do business in the State of Wisconsin, and with such limits as the City may establish and require from time to time:

a. General Aggregate: $2,000,000.00
b. Personal Advertising Injury: $1,000,000.00
c. Each occurrence: $1,000,000.00
d. Fire damage: $50,000.00
e. Medical Expense, any one person: $5,000.00
f. Automobile liability: CSL $1,000,000.00
g. Excess liability umbrella form: $1,000,000.00 per occurrence
h. Excess liability umbrella form: $2,000,000.00 in the aggregate with a self-insured retention limit of not greater than $10,000.00
i. Professional Liability, General Aggregate: $2,000,000.00
j. Professional Liability, Each Occurrence: $1,000.00.00

Vendor shall furnish a Certificate of Insurance evidencing the types and amounts of coverage. Said coverage shall be on an occurrence basis and the limits identified in the general liability coverage shall be for this project and not the policy as a whole. Vendor agrees to require that the

insurer list the City as an Additional Insured on a primary and non-contributory basis and to provide adequate evidence of said status through the liability insurance endorsement. Vendor shall further obtain an endorsement from the insurance carrier indicating that any material changes to the policy or any cancellation of the coverage subsequent to the issuance of the Certificate, and until the completion of the services hereunder, shall necessitate that the insurer provide not less than thirty (30) days notice to the City of said fact. Clauses such as that the insurer will endeavor to notify the City are unacceptable and will be rejected.

15. Dispute. These Terms and Conditions shall be deemed to have been made and governed by the laws of the State of Wisconsin. Any legal suit or action with regard to these Terms and Conditions or the project as a whole shall be venued in the Waukesha County Circuit Courts, Waukesha County, Wisconsin, unless the parties mutually agree to arbitration and/or mediation in place of civil litigation.

16. Limitation on Liability. The City's liability to the Vendor shall not exceed the sums paid by the City to the Vendor under this contract. In addition, to the extent that the Vendor seeks indemnification from the City, that indemnity shall be subject to the limitations set forth herein. No indemnity provided under any contract hereinunder shall be construed to be a waiver or estoppel of the City of New Berlin or its insureds' ability to rely upon the limitations, defenses and immunities contained within Wisconsin law, including, but not limited to those set forth in Wisconsin Statute §893.80, §895.52 and §345.05. To the extent indemnification is available and enforceable, the City of New Berlin or its insured shall not be liable in indemnity or contribution for any amount greater than the limits of liability for municipal claims established by Wisconsin law. The City's obligations to indemnify hereunder are further subject to the availability limits of applicable insurance coverage. Under no circumstances shall the City be required to indemnify the Vendor for its own negligence or intentional conduct.

17. Protection of the Project Site. Vendor agrees to post signage and to appropriately guard the area in which the contract work is being performed, and to take all other steps that may be necessary in accordance with requirements of OSHA and/or other governmental agencies with jurisdiction to ensure that the project site is maintained in a safe manner to as to prevent workers and passersby from entering the project site.

18. Warranty. Vendor warrants and guarantees to City that all goods and/or equipment to be supplied hereunder will be of good quality and free from faults and defects. This warranty shall cover materials for the manufacturer stated warranty period and workmanship for two (2) year from the date of substantial completion or as provided in the specifications/invoice attached hereto, whichever is greater.

19. Conflicts. If there is any inconsistency between these Terms and Conditions and the specifications/invoice or any attachments thereto, these Terms and Conditions shall apply.

20. Hold Harmless. The Vendor shall indemnify and hold harmless the City and its agents, employees, elected officials, representatives and assigns (hereinafter referred to as the "Indemnified Parties") as and against any and all claims, demands, actions, causes of action, losses, costs, expense, including, but not limited to actual attorney fees, arising out of our resulting from

the performance of the work. Said indemnity shall include both the Vendor, as well as any subcontractors working under them, regardless of whether or not such claims, demands, losses or expenses are caused in whole, or in part, by the parties that are being indemnified. Such obligation shall not be considered to negate, abridge or reduce other rights or obligations of indemnity which would otherwise exist as to a party or persons described in this paragraph. To the extent that the Vendor retains subcontractors for the performance of the work, or any portion thereof, the Vendor and/or subcontractors shall provide evidence of the insurance coverages set forth above, as well as the terms of this indemnification provision shall be applicable to such Vendor and/or subcontractors.

21. Modification and Assignability. This contract, including all documents incorporated by reference herein, may not be enlarged, modified or altered except upon written agreement signed by both parties. The Vendor may not subcontract or assign its rights, including rights to compensation, or terms of performance arising hereunder without the prior written consent of the City. Any subcontractor or assignee shall be bound by all of the terms and conditions of the contract, and will be required to enter into a written agreement with the City.

22. Termination of Contract. This contract may be terminated as follows:

a. *Termination for Convenience.* City may terminate this contract in whole or in part for the convenience of the City when the City determines that the continuation of the project is not in the best interests of the City. Vendor shall be entitled to payment for all of the services performed at the date of the termination, together with its direct costs of termination. Under no circumstances shall the Vendor be entitled to any penalty for the termination nor shall the Vendor be entitled to any payment for lost profits.

b. *Termination for Cause.* If the City determines that the Vendor has failed to comply with any of the terms and conditions of the contract and the scope of services and related documents thereto, the City may give written notice to the Vendor of any such deficiency and in the event that the Vendor fails to cure said deficiency within ten (10) days of the notice of such failure, the City may, with no further notice, declare this contract to be terminated. Vendor will therefore be entitled to receive payment for those services performed at the date of termination, plus the amount of reasonable damages suffered by the City by reason of the Vendor's failure to comply with the terms of the contract. Under no circumstances shall the Vendor be entitled to any lost profits arising from the contract.

23. Ongoing Services. This is also a contract for ongoing preventative maintenance services, as provided for in the Project Specifications. The parties agree that these Terms and Conditions shall be applicable to these ongoing Services.

24. Relationship of the Parties. The Vendor agrees to perform the services as provided for hereunder as an independent contractor, not as an employee of the City. The Vendor shall furnish all services, labors, materials and equipment necessary to conduct and complete the work.

The work shall be performed in accordance with the specifications subject to the satisfaction of the City.

25. Delay. The Contractor shall not be liable for delays or failure to perform the services necessary to complete the work which are caused directly or indirectly by circumstances beyond the Contractor's control, including but limited to, acts of God, fire, flood, war, sabotage, accident, labor dispute, material shortage, governmental action, including regulatory requirements, change conditions, delays resulting from actions of the Owner or third parties not under control of the Contractor, site inaccessibility or inability of others to obtain materials, labor, equipment or transportation. Should any of the above occur, then the date for completion of the services shall be adjusted for such delay, provided that the Contractor reports the delay, both verbally and in writing, to the Owner within a reasonable time of its discovery. The Owner shall determine whether or not the cause of delaying or not completing a duty or obligation under this Agreement is under the control of the Contractor.

The Contractor acknowledges that in December of 2019 a novel strain of the Coronavirus (now referenced as COVID-19) was detected and has now spread throughout many countries, including the United States. Based upon this, the World Health Organization has declared a Public Health Emergency of international concern; and the United States Department of Health and Human Services has declared a Public Health Emergency. The Contractor further acknowledges that it is aware of the COVID-19 pandemic and that the existence of said pandemic will not constitute a force majeure or otherwise preclude the Contractor's ability to perform the terms of this agreement absent the issuance of any Order by a governmental entity with jurisdiction that would preclude such performance

The Contractor acknowledges that it must perform the work and services hereunder, pursuant to the terms and conditions of this Agreement and that such work shall conform to the recognized standards in the Milwaukee Metropolitan Area for the performance of this work as are prevalent in this field of endeavor and like services. Also, its work shall be performed in a good and workmanlike manner.

26. Regulations. The Vendor agrees to comply with all the requirements of applicable federal, state and local laws, as well as Codes and Specification requirements related to the performance of the work under this Contract.

27. Records and Reports. Records relating to the performance of the services under this Contract must be retained for seven (7) years after final disposition. However, if any litigation claim or audit has started before the expiration of the seven (7) year period, then records shall be retained for five (5) years after the litigation or audit is resolved. Notwithstanding any other clause written herein, Vendor understands and agrees that the City is a municipal entity and therefore, is subject to the Open Records Law of the State of Wisconsin. Wisconsin Statute §19.36(3) requires governmental entities to make available for inspection a copy of any records produced or collected under a contract entered into by the municipal entity to the same extent as if the record were maintained by the municipality. Therefore, in the event there is a request for any other documentation pertaining to this Contract, Vendor shall provide the information as requested and charge no more than the cost to copy said information. The parties agree that upon completion or

termination of this Contract, all project contract documents or instruments of service, including electronic files of computer-aided record drawings and field inspection reports shall be delivered to and shall become the property of the City. These records, drawings, reports, etc. may be used without restriction by the City for any public purpose and to implement construction and use of the project. Any such use or reuse of these documents outside the scope of the project shall be without compensation or liability to the Vendor, excepting for errors and omissions associated with the completed project, services and documents performed under this Contract.

28. Governing Law; Entire Agreement. This Contract shall be governed and construed in accordance with the laws of the State of Wisconsin. These Contract documents represent the complete understanding of the parties with respect to the subject matter set forth herein and may only be amended in a subsequent agreement executed by all parties.

29. Relationship of the Parties. The contractor agrees to perform the services as provided for hereunder as an independent contractor, not as an employee of the owner. The contractor shall furnish all services and labors and materials and equipment necessary to conduct and complete the work. The work shall be performed in accordance with the specifications subject to the satisfaction of the owner.

CITY:	**VENDOR:**
City of New Berlin	
	_____
	[Insert Vendor Name}
By: _____	By: _____
_____	_____
[Print Name & Title]	[Print Name & Title]

ADDENDUM TO CITY OF NEW BERLIN CONTRACTS

This Addendum is made and entered into and shall be considered an attachment to all contracts entered into by the City of New Berlin for so long as the City of New Berlin is subject to the U.S. Department of Treasury Restrictions, as well as other federal regulations related to the City's receipt of American Rescue Plan Act Funds. The following Terms and Conditions shall be included in each such agreement and are incorporated as though fully set forth in the original contract.

1. The contractor agrees to comply with the applicable requirements of Section 603 of the American Rescue Plan Act (hereinafter referred to as the "Act") regulations adopted by the US Department of Treasury (hereinafter referred to as the "Treasury") pursuant to Section 603(f) of the Act and the guidance issued by the Treasury regarding the foregoing. The contractor also agrees to comply with all other applicable federal statutes, regulations and executive orders and shall provide for such compliance by other parties, including subcontractors in any agreements it enters into with other parties related to this award.

2. Statutes and regulations prohibiting discrimination and applicable to this contract include, but are not limited to the following:

    a. Title VI of the Civil Rights Act of 1964 (42 USC, §2000 D, et. seq.) and Treasury's implementing regulations at 31 CFR, Part 22, which prohibit discrimination on the basis of race, color or national origin under programs or activities receiving federal financial assistance.
    b. Fair Housing Act. Title VIII of the Civil Rights Act of 1968 (42 USC, §3601, et. seq.) which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status or disability.
    c. Section 504 of the Rehabilitation Act of 1973, as amended, (29 USC, §794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance.
    d. The Age Discrimination Act of 1975, as amended (42 USC, §6101, et. seq.) and Treasury's implementing regulations at 31 CFR, Part 23, which prohibit discrimination on the basis of age and programs or activities receiving federal financial assistance; and
    e. Title II of the Americans with Disabilities Act of 1990, as amended (42 USC, §12, 12101 et. seq.), which prohibits discrimination on the basis of disability under programs, activities and services provided or made available by state and local governments or instrumentalities or agencies thereto.

3. Equal Employment Opportunity. During the performance of the contract, the contractor will be required to comply with Equal Opportunity Employment Statutes as outlined in 47 CFR, §90.168.

4. Copeland Anti-Kickback Act. The contractor shall comply with 18 USC, § 874, 40 USC, §3145 and the requirements of 29 CFR, Part 3, as may be applicable, which are incorporated by reference into this contract.

5. Contract Work Hours of the Safety Standards Act.

   a. Overtime Requirements. No contract or subcontract contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any work week in which he/she is employed on such work to work in excess of 40 hours in such work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such work week.
   b. Violation. Liability for unpaid wages; liquidated damages: In the event a violation of the clause set forth in (a) above, the contractor or any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards employed in violation of this section.
   c. Withholding fund paid wages and liquidated damages: The City of New Berlin shall, upon its own action or upon written request of an authorized representative of the US Department of Labor, withhold or cause to be withheld from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other federal contract with the same contractor or any other federally assisted contract subject to the contract work hours and Safety Standards Act, which is held by the same contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractors or subcontractors or unpaid wages and liquidated damages as provided in the clause set forth in this section.
   d. Subcontract. The contractors or subcontractors shall insert in any contract the clauses set forth in Paragraph B, 1-4 of 29 CFR §5.5 and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in Paragraphs B, 1-4 of 21 CFR, §5.5.

6. Clean Air Act and Federal Water Pollution Control Act. Contractor needs to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 USC, §7401, et. seq.

7. Debarment and Suspension. This award is a covered transaction for purposes of 2 CFR, Part 180 and 2 CFR, Part 3000. As such, the contractor is required to verify that none of the contractors principals (defined in 2 CFR, §180.995) or its affiliate (defined in 2 CFR, §180.1.905) are excluded (defined in 2 CFR, §180.940) or disqualified (defined in 2 CFR, §180.935). Selected contractors must comply with 2 CFR, Part 180, Subpart C and 2 CFR, Part 3000, Subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into. This certification is a material representation of fact relied upon by the City of New Berlin. If it is later determined that the contractor did not comply with 2 CFR, Part 180, Subpart C and 2 CFR, Part 3000, Subpart C, in addition to remedies available to the City of New Berlin, the federal government may pursue available remedies including, but not limited to, suspension and/or

disbarment. The contractor and the bidder or proposer agree to comply with the requirements of 2 CFR, Part 180, Subpart C and 2 CFR, Part 3000, Subpart C, while this offer is valid and throughout the period of any contract that may arise from this offer. This contractor and the bidder or proposer further agrees to provide a provision requiring such compliance in its lower tier covered transactions.

8. Byrd Anti-Lobbying Amendment. The contractor shall file the required certification. The contractor and all subcontractors certify that they will not and have not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress or an employee of a member of Congress, or employees of the City of New Berlin in connection with obtaining any federal contract, grant or any award covered by 31 USC, §1352. Each tier, including the contractor and all subcontractors, shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the recipient, who in turn will forward the certifications to the awarding agency. If the agreement exceeds $100,000.00, the contractor must certify compliance with the Byrd Anti-Lobbying Amendment.

9. Procurement of Recovered Materials. Contractor shall comply with 2 CFR, §200.323 as applicable.

10. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment. Contractor shall comply with 2 CFR, §200.216, as applicable.

11. Domestic Preferences for Procurements. Contractor shall comply with 2 CFR, §200.322.

12. This Exhibit A is intended to incorporate those federal laws and regulations that apply to this contract. If the contractor believes that any law or regulation described herein is not applicable in this contract per the terms of the federal law or regulation, the contractor shall present their position in that regard to the City of New Berlin with a written change order request. The laws cited herein shall be followed by the contractor and all subcontractors unless the municipality agrees that the cited federal law or regulation does not apply, and the change order is approved by the City of New Berlin Common Council.

ADDENDUM TO CITY OF NEW BERLIN CONTRACTS

This Addendum is made and entered into and shall be considered an attachment as Exhibit B to all contracts entered into by the City of New Berlin for so long as the City of New Berlin is subject to the U.S. Department of Treasury Restrictions, as well as other federal restrictions related to the City's receipt of Federal Funds. The following Terms and Conditions shall be included in each such agreement and are incorporated as though fully set forth in the original contract.

1. No City contractor or employee shall operate any machinery or vehicle while utilizing a smart phone, including, but not limited to, the use of any cellular phone or texting.

2. All City employees and contractors, while engaged in the performance of City business or acting consistent with the performance of services under a contract with the City shall utilize seatbelts and any other safety devices related to the operation of a motor vehicle.

3. City employees or contractors whose duties and responsibilities are funded through the Coronavirus State and Local Fiscal Recovery Funds agree that they will not engage in any lobbying activities while in the course of providing services on behalf of the City of New Berlin, as restricted under the Hatch Act, 5 USC Sec. 1501-1508. No funds appropriated under the Coronavirus State and Local Fiscal Recovery Act shall be utilized for lobbying, and no political payments shall be made through the use of said funds.

4. All City employees and contractors, while in the performance of duties on behalf of the City shall abide by all local, state and federal regulations concerning the ingestion of controlled substances and shall not violate such Statutes or Ordinances. The City shall enforce drug free workplace standards and provide awareness programs for Staff. The City shall further agree to take action regarding individuals using drugs in the workplace according to law.

5. All City employees and contractors, in the course of performing of their duties on behalf of the City, shall, to the extent applicable, comply with the provisions in Wisconsin Statute §19.59 regarding conflicts of interest, as well as City of New Berlin Municipal Code Chapter 28 regarding ethics. Specifically, no City employee or contractor shall accept or solicit money or tangible personal property or otherwise receive consideration in exchange for the agreement to enter into a contract with a third party.

6. City employees shall avoid the acquisition of unnecessary items or property on behalf of the City.

7. City employees shall, to the extent applicable, engage in value engineering as part of any construction work performed on behalf of the City.

8. Contracts shall only be awarded to responsible contractors with experience in performing the services being contracted for.

9. City contracts shall avoid compensating for contractor work performed on a time and material basis and, to the extent practicable, shall have fixed-price contracts.

10. The selection of a contractor by the City should be done in an atmosphere of open and honest competition.

11. In the course of public bidding involving the purchase of equipment, the City shall not specify only a brand name for the purpose of limiting potential contracting parties. The City may include a clause, however, that any equipment being supplied under a City contract must interface well and be compatible with existing equipment utilized by the City of New Berlin, which is identified as the following: _____.

12. The City shall verify that any entity with which it is contracting has not been excluded for contracting pursuant to 2 CFR §180.

13. City contractors do hereby certify that they are not designated by the federal government as being precluded from engaging in federal contracts.

14. The City of New Berlin, its employees, officers, agents, contractors and assigns may not discharge, demote or otherwise discriminate against an employee in reprisal for disclosing information that the employee reasonably believes is evidence of gross mismanagement of a Federal, State or City contract or grant; a gross waste of Federal, State or City funds; an abuse of authority relating to Federal, State or Local Contractor Grant; a substantial and specific danger to public health, safety or welfare; or a violation of law, rule or regulation related to a Federal, State or City contract (including, but not limited to, the competition for or negotiation of a contract) or Grant. The entities to which disclosure of such information includes, but is not limited to the following entities:

    a. A member of Congress or a representative of a committee of Congress;
    b. An Inspector General;
    c. The Government Accountability Office;
    d. A Treasury employee responsible for contract grant oversight or management;
    e. An authorized official of the Department of Justice or other law enforcement agency;
    f. A Court or Grand Jury;
    g. A management official or other employee of the City;
    h. A contractor of the City;
    i. A subcontractor of the City, which has the responsibility to investigate, discover or address misconduct;
    j. An official of the State of Wisconsin, or other employee, agent or contractor of the State who has the responsibility to investigate, discover or address misconduct.

15. This Policy shall be disclosed to all City officers, agents, contractors or assigns and shall be included as part of the City's Addendum for City contract.

16. The City shall engage in a cost and price evaluation analysis to include independent estimates of the cost of the equipment or service before placing the matter out for bid.

17. When the City is engaged in negotiating purchase of goods and services, the profit in the contract shall be negotiated independently from the materials and labor. In any contract entered into by the City of New Berlin for the acquisitions of goods and services shall require remedies in the event of a breach of the agreement and shall include provisions for termination as to cause.

INVITATION TO BID

Project: **BG-2023-4**
New Berlin Access Control System Upgrades (Multiple Buildings)
3805 South Casper Dr.
New Berlin, WI 53151

1. Scope: The city of New Berlin is soliciting requests to provide a new/upgraded access control system for the following buildings:

    a. City Hall
    b. Community Center
    c. Library
    d. Fire Station #1
    e. Fire Station #2
    f. Fire Station #3
    g. Fire Station #4
    h. Parks Garage
    i. Safety Building

2. Notice is hereby given that sealed Bids are due at 10:00 A.M., on January 31, 2024

3. Bidding Documents will be available on or before January 10, 2024. Bidders may obtain Bidding Documents only from the following site: Quest ebid doc #8889309 – Bid/RFP Listing. Documents will available for download. Documents will not be mailed. **It is the responsibility of prospective Bidders to check this website for any future amendments, questions, revisions, etc., prior to the opening date.**

4. Pre-Bid meeting and walkthrough on January 24, 2024 at 10:00 AM. Meeting location is New Berlin City Hall Conference Room A/B, 3805 South Casper, New Berlin, WI 53151. Parking is available in the lot on the south side of the field. **Please be on time as no accommodations will be made for late arrivals. NOTE: This will be the only opportunity for a walk through, therefore, be sure to bring all potential subcontractors. Vendors are also reminded to review all Bid Documents, etc. prior to arrival.**

Published by Order of:
City of New Berlin
Buildings and Grounds
(262) 786-8610
3805 S Casper Dr
New Berlin, WI 53151

INVITATION TO BID

Project: **BG-2023-4**
New Berlin Access Control System Upgrades (Multiple Buildings)
3805 South Casper Dr.
New Berlin, WI 53151

1. Bids will be prepared in accordance with Contract Documents prepared by ***Harwood Engineering, 255 N. 21st St, Milwaukee, WI 53233.***

2. Notice is hereby given that sealed Bids are due in the New Berlin City Hall – City Clerk office, by 10:00 a.m. CST/CDT on January 31, 2024. (Reference Bid Form, Item 2)

3. Bids will be publicly read at 10:00 a.m. on January 31, 2024 in the Council Chambers at New Berlin City Hall located at 3805 S. Casper Dr.

4. Oral, faxed or e-mailed Bids will be rejected.

5. All blanks on the Bid Form shall be filled in by typewriter print or manually in ink. If the filled areas are illegible, the Bid shall be rejected. The Bidder shall make no additional stipulations on the Bid Form or qualify the Bid in any manner.

6. Where so indicated on the Bid Form, the values shall be expressed in both words and figures. In the event of discrepancy between the words and figures, the amount written in words shall govern.

7. Bids will be submitted using the Bid Forms provided herein. Bid security shall be by a qualified surety in the form of a bid bond, in the amount of ten percent (10%) of Bid amount, and shall be submitted with the Bid. Bidders shall agree to not withdraw the Bid for a period of ninety (90) days after due date of Bids.

8. Accepted Bidders will be required, as a condition precedent to award of Contract, to furnish in the amount of 100% of the contract prices, satisfactory Performance Bond, Labor and Material Payment Bond and Certificate of Insurance.

9. Bidding Documents will be available on January 10, 2024. Bidders may obtain Bidding Documents only from the following site: Quest ebid doc #8889309 – Bid/RFP Listing. Documents will available for download. Documents will not be mailed. **It is the responsibility of prospective Bidders to check this website for any future amendments, questions, revisions, etc., prior to the opening date. All addenda must be acknowledged on the signature page in the area provided. Failure to do so may result in your response being rejected.**

10. Pre-Bid meeting and walkthrough on January 24, 2024 at 10:00 AM. Meeting location is the New Berlin City Hall, Conference Room A/B located at 3805 S. Casper Dr., New Berlin, WI 53151. **Please be on time as no accommodations will be made for late arrivals. NOTE: This will be the only opportunity for a walk through, therefore, be sure to bring all potential subcontractors. Vendors are also reminded to review all Bid Documents, etc. prior to arrival.**

12. The right to reject any or all Bids, either in whole or in part, or to waive any informalities or irregularities is reserved by City of New Berlin.

Published by Order of:
City of New Berlin
Buildings and Grounds
(262) 786-8610
3805 S Casper Dr
New Berlin, WI 53151

SECTION 26 00 01

ELECTRICAL GENERAL REQUIREMENTS

PROJECT DESCRIPTION: Electrical work associated with the access controls upgrades project at the City of New Berlin, Wisconsin.

PART 1 - GENERAL

1.00 INDEX

DIVISION 26 ELECTRICAL		SUBMITTAL REQUIRED
26 00 01	Electrical General Requirements	NO
26 05 02	Electrical Demolition for Remodeling	NO
26 05 19	Wire & Cable 600 Volt and Below	YES
26 05 26	Grounding and Bonding	NO
26 05 33	Raceways and Boxes	NO
26 27 26	Wiring Devices	YES

DIVISION 28 ELECTRONIC SAFETY AND SECURITY		SUBMITTAL REQUIRED
28 01 30	Door Access System	YES

1.01 DESCRIPTION

A. Work Includes:
1. Furnish all labor materials, tools, equipment, and services for all electrical work as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically called out on drawing, the contractor shall furnish and install all miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.

B. Drawings Use and Interpretation:
1. Drawings are diagrammatic and indicate general arrangement of systems and equipment, except when specifically dimensioned or detailed.
2. For exact locations of building elements, visit the site and field measure the areas.
3. Field measurements take precedence over dimensioned drawings.
4. Intention is to show size, capacity, approximate location, direction and general relationship of one work phase to another, but not exact detail or arrangement.
5. Field verify locations and arrangement of all existing systems and equipment.
6. Omissions no later than ten (10) days before bid opening, the Contractor shall call the attention of the Owner/Engineer to any materials or apparatus the Contractor believes to be inadequate and to any necessary items of work omitted.
7. If any errors or omissions appear in Drawings, Specifications, or other documents, bidding Contractor shall notify Engineer no later than ten (10) days prior to submitting bid. Should conflict occur in or between drawings and specifications, bidding contractor is deemed to have estimated more expensive way of doing work, unless he shall have asked for and obtained written decision (addendum) before submission of bid as to which method or materials will be required.

C. Installation of all systems and equipment is subject to clarification as indicated in reviewed shop drawings and field coordination drawings.

D. Dimensions indicated are limiting dimensions.

E. Do not use equipment exceeding dimensions indicated or equipment or arrangements that reduce required clearances or exceed specified maximum dimensions.

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F. Description of systems: Furnish and install all materials to provide functioning systems in compliance with performance requirements specified, and any modifications required by reviewed shop drawings and field coordinated drawings.

G. Definitions:
1. A/E: Owner and/or Engineer
2. Provide: Furnish, install, wire and connect complete by Contractor.
3. Contractor/EC: The person or group responsible for project construction under Divisions 26, 27 and 28.
4. The word “ENERGIZE” means all material and labor necessary to apply voltage to a device or item of equipment to make same operational.
5. The word “CODE” means all applicable codes.
6. Unless noted otherwise, the terminology used throughout the Specifications shall be interpreted as defined in Article 100 of the NEC.

1.02 WEATHERPROOF EQUIPMENT

A. Where weatherproof (WP) equipment is indicated, use NEMA 3R enclosures.
1. All exterior devices and equipment shall be weather-proof.

1.03 QUALITY ASSURANCE

A. Perform all work and install materials and equipment in full accordance with the latest applicable rules, regulations, requirements, and specifications of the following:

State and Federal Laws
National Electrical Testing Association (NETA)
National Electrical Code (NEC 2017 Edition)
International Building code (IBC)
Life Safety Code (NFPA-101)
National Electrical Safety Code (NESC)
American National Standards Institute (ANSI)
National Electrical Manufacturers Association (NEMA)
Institute of Electrical and Electronic Engineers (IEEE)
Insulated Power Cable Engineers Association (ICEA)
The Occupational Safety and Health Act (OSHA)
American Society for Testing and Materials (ASTM)
Underwriters' Laboratory (UL)
Wisconsin Safety and Professional Services Code
Department of Natural Resources NR-101
Local laws, codes and ordinances
ADA Accessibility Guidelines

B. Conflicts, if any that may exist between the above items, the more restrictive shall govern.

C. The Electrical Contractor is charged with responsibility for full compliance with local interpretations of applicable Codes. After entering into contract, this Contractor will be held to complete all work as per the foregoing without extra compensation.

1.04 SUBMITTALS

A. General:
1. The A/E's review of shop drawings or samples shall not relieve the EC of responsibility for any deviation from the contract documents. The EC shall include with the shop drawings an index sheet detailing all deviations from the contract documents, and will be held responsible for all deviations unless he has received written approval from the A/E for the specific deviation, separate from general shop drawing approval. The A/E's review shall not relieve the EC from responsibility for errors or omissions in the shop drawings or samples.

B. Shop Drawings:

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1. As indicated in Divisions 26, 27 and 28.
2. The Contractor shall review the shop drawings and stamp with his approval prior to submitting shop drawings to A/E for review.
3. Shop drawings shall be submitted electronically in an editable PDF format file. PDF file name shall contain specification number and product name. Provide one submittal (PDF file) for each specification section submitted. Each shop drawing submittal shall contain the following:
   a. Cover Sheet
      The submittals shall contain a cover sheet, which shall include the following information:
      1) Submittal Date
      2) Specification Section(s)
      3) Manufacturer's Representative (Contact Name, address, and telephone number)
      4) Electrical Contractor (Contact Name, address, and telephone number)
      5) Project Name, Project City, Project State, and Project Address.
   b. Equipment List
      A complete equipment list of all components, including the following: Quantity, Manufacturer, Part Number, and Description. If the supplier uses different part numbers from those of the actual manufacturer, the actual manufacturer and part numbers as they appear - marked on the shipping box/packages, shall also be identified on this list.
   c. Product Data:
      Manufacturer's product data sheets and equipment description of all system components. These data sheets shall be highlighted or suitably marked, so that included items and options are indicated. On data sheets that include multiple products, products that are not used shall be crossed out.
      1) Product Data Sheets shall be organized, in order, corresponding to the FIRST occurrence of the corresponding item on the equipment list.

C. Samples:
   1. As indicated in Divisions 26, 27 and 28.

D. Project Information:
   1. As indicated in Divisions 26, 27 and 28.

E. Approval Documents:
   1. Prepare and submit all drawings, calculations, and professional seals as required to Federal, State and local authorities having jurisdiction.

1.05 PROTECTION

A. Provide covering and shielding for all equipment to protect from damage.

B. Protect nameplates on motors and similar equipment, to prevent defacing.

C. Repair, restore or replace damaged, corroded and rejected items.

1.06 JOB CONDITIONS

A. Cause as little interference or interruption of existing utilities and services as possible. Schedule work which will cause interference or interruption in advance with Owner, Engineer, authorities having jurisdiction and all affected trades.

B. Examine Contract Documents to determine how other work will affect execution of electrical work.

C. Determine and verify locations of all existing utilities on or near site.

D. Make arrangements for and pay for necessary permits, licenses, and inspections.

E. Record drawings:

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1. Keep a complete set of all electrical drawings in job site office for showing actual installation of electrical systems and equipment.
2. Use this set of drawings for no other purpose.
3. Where any material, equipment, or system components are installed differently from that shown, indicate differences clearly and neatly using ink or indelible pencil.
4. At project completion, submit record set of drawings (See Division 01).

1.07 QUALIFICATIONS

A. Where specified in various Sections of this DIVISION, final wiring terminations to all equipment and testing of the completed system shall be done by a factory authorized representative. The representative shall be part of a fully equipped service organization capable of furnishing adequate maintenance to the entire system, including factory replacement parts.

1.08 COORDINATION

A. Obtain and review shop drawings, product data, and manufacturer's instructions for equipment furnished under other sections.

B. Determine connection locations and requirements.

C. Sequence rough-in of electrical connections to coordinate with installation schedule for equipment.

D. Sequence electrical connections to coordinate with start-up schedule for equipment.

E. Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection and operation.
1. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Acceptable Manufacturers:
1. Individual items:
a. Base: As noted
b. Optional: As noted
2. Other manufacturers desiring approval comply with Instruction to Bidders

B. Use only prime quality, new materials, apparatus and equipment.

C. Use U/L labeled electrical materials where listing has been established for materials or devices in question.
1. Manufactured items and fabricated assemblies of electrically operating equipment: U/L approval or U/L reexamination listing.

D. Access doors, panels and frames:
1. Style and type required for material in which installed.
2. All materials, equipment and other electrical apparatus subject to replacement, inspection or maintenance shall be readily accessible. The Electrical Contractor shall provide metal access panels of required size and type to meet the requirements for access to equipment located in walls, above ceilings or furred in spaces. Exception: Wherever accessible acoustical tile ceilings are employed.

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3. Non-secure area access panels:
   a. Size: Minimum 12 x 12 IN (300 x 300 mm), or larger as required.
   b. Minimum 14 GA (1.9 mm) sheet metal, cadmium plated or galvanized after fabrication.
   c. Key lock, keyed alike, for panels in public areas.
   d. Prime painted.
   e. U/L labeled in fire rated construction.
   f. Base manufacturer: J L Industries.
   g. Optional: Ventfab; American Warming; Potter-Roemer and Milcor Inc.
   h. Other manufacturers desiring approval comply with Instructions to Bidders.

2.02 FIRESTOPPING

A. Firestop all penetrations of fire rated walls, floors and assemblies.

PART 3 - EXECUTION

3.01 GENERAL

A. Use only thorough, highly skilled, and experienced workmen.
   1. Divisions 26, 27, 28 equipment shall be installed in a neat and workmanlike manner.

B. When changes in location of any work are required, obtain approval of Owner before making change.
   1. Make changes at no extra cost.

C. Do not change indicated sizes without written approval of Owner.

D. Provide all necessary offsets and crossovers in conduits, raceways, cable trays and ducts.

E. Install exposed conduits parallel to walls and ceilings and vertically plumb, unless otherwise indicated.

3.02 CUTTING AND PATCHING

A. Perform or pay for all cutting, fitting, repairing, patching and finishing of work of other sections where it is necessary to disturb such work to permit installation of electrical work.
   1. Repair or replace existing or new work disturbed.

B. Avoid cutting, where possible, by setting sleeves or frames, and by requesting openings in advance.

C. Before cutting obtain approval of Owner.
   1. Use only approved methods.
   2. Cut all holes neatly and as small as possible to admit work.
   3. Do not weaken walls or floors; locate holes in concrete to miss structural sections.

D. Do not remove or damage fireproofing materials.
   1. Install hangers, inserts, supports, and anchors prior to installation of fireproofing.
   2. Repair or replace fireproofing removed or damaged, at no extra cost, in accordance with special conditions.

3.03 INSTALLATION OF EQUIPMENT

A. Install all equipment in accord with manufacturer's recommendations.

B. Provide all necessary anchoring devices and supports.
   1. Use structural supports suitable for equipment.
   2. Check loadings and dimensions of equipment with shop drawings.
   3. Do not cut, or weld to, building structural members.

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C. Verify that equipment will fit support layouts indicated.
   1. Where substitute equipment is used, revise indicated supports to fit at no additional cost.

G. Have repair and replacement of roof construction, damaged by this work, done in manner which will not nullify roof warranty.

3.04 PAINTING

A. By Electrical Contractor:
   1. Touch up or completely paint all factory painted Electrical System components which have become rusted, scratched, or otherwise damaged during construction (which are not painted under Division 09) to match the original finish or pay for restoration of such items as may be stipulated by the AE.
   2. Building surfaces/finishes previously painted by the General Contractor and damaged by the Electrical Contractor shall be repainted/refinished by the General Contractor at the Electrical Contractor's expense.

3.05 ADJUST AND CLEAN

A. Inspect all equipment and put in good working order.

B. Clean all exposed and concealed items.

C. Where new work occurs in existing areas where no other work has been done, clean area and restore to original condition.

3.06 PUTTING SYSTEMS IN OPERATION - START UP

A. Prior to energizing any equipment whether installed by this section or not:
   1. First make a thorough inspection of it to make sure it has been unpacked correctly and all packing materials and supports have been removed.
   2. Be responsible for assisting the equipment startup personnel to assure correct equipment connections and rotation.

B. Prior to final acceptance, at time agreed to by Owner and Engineer, put all systems in to satisfactory operation.

C. Operate all systems in good working order for period of 5 working days.

3.08 TRAINING

A. Electrical Contractor shall be responsible for owner training as specified in other sections of this specification. Provide competent personnel to meet the Owner or his representative to fully explain and familiarize the Owner with the operation of all equipment and systems installed under Divisions 26, 27 and 28.

B. All training sessions shall be taped on disc DVD-format; with (2) two copies of the disc turned over to the Owner for future use. If provided by the manufacturer of the equipment, provide Owner's manual, and training session in DVD format.

C. Use the submitted Operation and Maintenance Manuals as referenced during training sessions.

END OF SECTION

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SECTION 26 05 02

ELECTRICAL DEMOLITION FOR REMODELING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Includes:
Furnish all labor, materials, tools, equipment, and services for wiring all equipment furnished by others as indicated, in accord with provisions of Contract Documents.

1.02 RELATED WORK AND REQUIREMENTS

A. Applicable provisions of Division 01 shall apply to all of this section.

1.03 WORK INCLUDED

A. Electrical Demolition

PART 2 - MATERIALS

2.01 MATERIALS AND EQUIPMENT

A. Materials and equipment for patching and extending work: As specified in individual sections.

PART 3 - EXECUTION

3.01 DEMOLITION, RENOVATION AND DISPOSITION OF EXISTING EQUIPMENT:

A. The EC shall note that the existing building will remain in service during construction. Areas of the building will be vacated as required to facilitate construction. Proceed with the completion of the work in much a manner as to cause the least possible interference with the Owner's operation. All work shall be done in a manner and time acceptable to the Owner. Outages and other work rendering existing equipment inoperative shall be held to a minimum; prior arrangements for each shall be made with the Owner and shall be acceptable as to time and duration.

B. The EC shall do the necessary demolition work in the affected areas. Also, where necessary to maintain service in other areas, provide necessary and required sources of power and temporary wiring.

C. Electrical equipment in conflict with construction shall be removed and/or relocated as indicated on the drawings, as directed or required. Remove all electrical equipment, accessible conduit, wire and low voltage exposed cabling back to source released from service as a result of construction, equipment removed shall not be reused, except as specifically directed on the drawings or elsewhere herein. Unless otherwise indicated, all electrical equipment removed shall become the property of the EC and shall be removed from the site by the EC. Equipment to be retained by Owner shall be stored on site at location designated by Owner. Electrical Contractor shall remove lighting fixtures after disconnection.

D. The EC shall be responsible for the work normally done by other trades as may be necessary to facilitate the installation of electrical work in the existing building. Such work, that is, normally done by other trades and is not covered as a part of other divisions of the work shall be done under the direction and at the expense of the EC.

E. Any existing circuits or equipment not shown on the drawings and which are logically expected to be continued in service and which may be interrupted or disturbed during construction shall be reconnected in an approved manner. In addition, any existing circuit or equipment which may require relocation or rerouting as a result of construction shall be considered a part of the work of

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this branch and shall be done by the EC with no additional compensation.

F. Electrical drawings are based on the best information available. For areas being remodeled, work shown reflects information shown on original construction drawings; it is not guaranteed 100% accurate. This contractor must field verify conditions and make necessary adjustments without extra costs to the project to suit actual needs.

END OF SECTION

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SECTION 26 05 19

WIRE AND CABLE - 600 VOLT AND BELOW

PART 1 - GENERAL

1.01 DESCRIPTION

A. General:
1. Furnish all labor, materials, tools, equipment, and services for all wire and cable (600 V and below) as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
4. See Section 26 00 01 for General Electrical Requirements.

1.02 WORK INCLUDED

A. Building wire and cable.

B. Control wire and cable.

C. Wiring connectors and connections.

1.03 RELATED SECTIONS

Section 26 05 33 - Raceways and Boxes

1.04 REFERENCES

A. ANSI/NFPA 70 - National Electrical Code.

1.05 SHOP DRAWING SUBMITTALS

A. Submit under provisions of General conditions and Section 26 00 01.

B. Submit product data: Provide for each cable assembly type.

1.06 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years documented experience.

1.07 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.08 PROJECT CONDITIONS

A. Verify that field measurements are as shown on Drawings.

B. Conductor sizes are based on copper.

C. Wire and cable routing shown on Drawings is approximate unless dimensioned. Route wire and cable as required to meet Project Conditions.

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D. Where wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required.

1.09 COORDINATION

A. Coordinate Work under provisions of General conditions and Section 26 00 01.

B. Determine required separation between cable and other work.

C. Determine cable routing to avoid interference with other work.

PART 2 - PRODUCTS

2.01 GENERAL

A. All wire shall be new, delivered to the site in unbroken cartons and shall be less than one year old out of manufacturer's stock.

B. All conductors shall be copper.

C. In mechanical rooms, light fixtures, and other high temperature applications, the insulation shall be rated 90°C. Other areas shall use insulation rated 75°C unless stated.

D. All conductors must be suitable for the application intended. Conductors #10 and larger must be stranded. Conductors #12 and smaller may be solid or stranded with the following requirements or exceptions.

E. All conductors terminated with crimp type devices must be stranded.

F. Stranded conductors may only be terminated with UL or ETL Listed type terminations or methods: e.g. stranded conductors may not be wrapped around a terminal screw but must be terminated with a crimp type device if a terminal screw is used or must be terminated in an approved back wired method.

2.02 BUILDING WIRE

A. Description: Single conductor insulated wire.

B. Insulation: Type THW, THHN/THWN, XHHW insulation for feeders and branch circuits.

C. Use conductors not smaller than #12 AWG for power and lighting circuits.

2.03 REMOTE CONTROL AND SIGNAL CABLE

A. Refer to Section 28 31 00 for requirements for cable to be used on fire alarm system.

B. All other systems cabling shall meet the requirements of NEC Article 725 and the following:
   1. Control Cable for Class 1 Remote Control and Signal Circuits: 600 volt insulation, individual conductors twisted together, shielded, and covered with an overall PVC jacket. Cable shall be Listed, temperature rated, and plenum or non-plenum rated for the application as required in the National Electrical Code.
   2. Control Cable for Class 2 or Class 3 Remote Control and Signal Circuits shall be constructed, listed, temperature rated, and plenum or non-plenum rated for the application as required in the NEC Article 725.

C. Use conductors not smaller than #16 AWG for control circuits.

2.04 WIRING CONNECTORS

A. Split Bolt Connectors: Not acceptable.

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B. Solderless Pressure Connectors: High copper alloy terminal. May be used only for cable termination to equipment pads. Not approved for splicing.

C. Spring Wire Connectors: Solderless spring type pressure connector with insulating covers for copper wire splices and taps. Use for conductor sizes 10 AWG and smaller.

D. Mechanical Connectors: Bolted type tin-plated; high conductivity copper alloy; spacer between conductors; belled cable entrances.

E. Compression (crimp) Connectors: Long barrel; seamless, tin-plated electrolytic copper tubing; internally beveled barrel ends. Connector shall be clearly marked with the wire size and type and proper number and location of crimps.

F. Cord Connectors: All cord connectors should be Kellums type using wire mesh cord restraint.

PART 3 - EXECUTION

3.01 GENERAL WIRING METHODS

A. All wire and cable shall be installed in conduit unless indicated otherwise. However, low voltage control or signal cables may be installed without conduit above accessible ceilings if the cable meets NEC requirements for the application.

B. Except where fixture whips are configured in accordance with NEC 210.19(4), Exception No. 1, 330.30(D)(2), do not use wire smaller than 12 AWG for power and lighting circuits, 14 AWG for control wiring greater than 60 volts, or 18 AWG for voltages less than 60 volts, all sizes subject to NEC 725 requirements.

C. All conductors shall be sized to prevent excessive voltage drop at rated circuit ampacity. As a minimum use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 100 feet. Wire and cable size shall be increased from size indicated unless indicated otherwise or required by code to meet the following voltage drop requirements:
1. 3% drop for branch circuits.

D. Splice only in junction or outlet boxes.

3.02 WIRING INSTALLATION IN RACEWAYS

A. Pull all conductors into a raceway at the same time. Use Listed wire pulling lubricant for pulling 4 AWG and larger wires and for other conditions when necessary.

B. Completely and thoroughly swab raceway system before installing conductors.

D. Place all conductors of a given circuit (this includes phase wires, neutral (if any), and ground conductor) in the same raceway. If parallel phase and/or neutral wires are used, then place an equal number of phase and neutral conductors in same raceway or cable.

3.03 CABLE INSTALLATION

A. Provide protection for exposed cables where subject to damage.

B. Neatly train and lace wiring inside boxes, equipment, and panelboards.

C. Support exposed low voltage cables above accessible ceilings; do not rest on ceiling tiles. Use J hooks or cable tray to support cables from building structure. Tie wraps are not acceptable. DO NOT SUPPORT CABLES FROM OTHER EQUIPMENT. See Division 27 00 00 for more information.

D. Use suitable cable fittings and connectors.

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E. In plenum spaces non-metallic cable accessories used to secure and support cables shall be listed as having low smoke and heat release properties.

3.04 WIRING CONNECTIONS AND TERMINATIONS

A. Splice only in accessible junction boxes.

B. Wire splices and taps shall be made firm, and adequate to carry the full current rating of the respective wire without soldering and without perceptible temperature rise.

C. Use solderless spring type pressure connectors with insulating cover for wire splices and taps, 10 AWG and smaller.

D. Use mechanical or compression connectors for wire splices and taps, 8 AWG and larger. Tape uninsulated conductors and connectors with electrical tape to 150 percent of the insulation value of conductor.

E. Thoroughly clean wires before installing lugs and connectors.

F. At all splices and terminations, leave tails long enough to cut splice out and completely resplice.

3.06 FIELD QUALITY CONTROL

A. Branch circuits shall have their insulation tested after installation and before connection to utilization devices such as fixtures, motors, or appliances.

B. Test shall be performed by meggar and conductors shall test free from short-circuits and grounds.

C. Test conductors phase-to-phase and phase-to-ground.

D. The contractor shall furnish the instruments, materials, and labor for these tests.

3.07 WIRE AND CABLE INSTALLATION SCHEDULE

A. Interior Locations: Building and control wire in raceways.

B. Above Accessible Ceiling: Building and control wire in raceways.

C. Exterior Locations: Building and control wire in raceways.

D. High Temperature Areas (light fixtures and mechanical rooms): Building wire rated 90°C in raceways.

3.08 WIRE COLOR

A. General:
1. In existing facilities, use existing color scheme.

B. Neutral Conductors: White. Where there are two or more neutrals in one conduit, each shall be individually identified with the proper circuit. See requirements of NEC 200-6, 200-7, 210-4, and 310-12.

C. Branch Circuit Conductors: Three or four wire home runs shall have each phase uniquely color coded.

3.09 BRANCH CIRCUITS

A. In general, the use of multiwire branch circuits having a common neutral feeding loads, producing a high level of harmonics, is discouraged due to the problems with overheating of the common neutral.

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B. Therefore, if multiwire branch circuits used for loads producing harmonics (such as fluorescent lighting, and computer receptacles) then the neutral shall be sized two times phase conductor overcurrent protection.

C. Multi-wire branch circuits shall be provided with a means that will simultaneously disconnect all ungrounded conductors at a point where the branch circuit originates. Contractor shall provide multi-pole breakers or approved breaker ties as required.

END OF SECTION

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SECTION 26 05 26

GROUNDING AND BONDING

PART 1 - GENERAL

1.01 DESCRIPTION

A. General:
1. Furnish all labor, materials, tools, equipment, and services for grounding as indicated in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
4. See Section 26 00 01 for General Electrical Requirements.

1.02 WORK INCLUDED

A. Grounding electrodes and conductors.

B. Equipment grounding conductors.

C. Bonding

1.04 REFERENCES

A. ANSI/NFPA 70 - National Electrical Code.

B. IEEE/ANSI 142-1982 - Recommended Practice for Grounding of Industrial and Commercial Power System.

1.05 PERFORMANCE REQUIREMENTS

A. Grounding System Resistance: 2 ohms.

PART 2 - PRODUCTS

2.01 WIRE

A. Material: Stranded copper (aluminum not permitted).

B. Grounding Electrode Conductor: Size as shown on drawings, specifications or as required by NFPA 70, whichever is larger.

C. Branch Circuit Equipment Ground: Same size as phase conductors or as indicated on plan.

PART 3 - EXECUTION

3.01 GENERAL

A. Install Products in accordance with manufacturer's instructions.

B. Ground connection surfaces shall be cleaned and all connections shall be made so that it is impossible to move them.

3.02 LESS THAN 600 VOLT SYSTEM GROUNDING

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A. Receptacle Grounding: All receptacle circuits and permanently wired equipment, except light fixtures, shall have a separate grounding conductor. Receptacles shall be connected to the ground conductor utilizing pigtails. At time of final inspection, any one device found improperly grounded shall mean a complete check by the Contractor of every device on the project at no additional cost to the Owner.

3.03 FIELD QUALITY CONTROL

A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.

B. Measure ground resistance from system neutral connection at service entrance to convenient ground reference point using suitable ground testing equipment. Resistance shall not exceed 2 ohms.

END OF SECTION

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SECTION 26 05 33

RACEWAYS AND BOXES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Includes:
1. Furnish all labor, materials, tools, equipment and services for all raceways as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
4. See Section 26 00 01 for General Electrical Requirements.

1.02 WORK INCLUDED

A. Galvanized Rigid and Intermediate Metal Conduit and Fittings

B. Electrical Metallic Tubing (EMT) and Fittings

C. Flexible Metal Conduit and Fittings

D. Rigid Nonmetallic Conduit and Fittings

E. Conduit Supports

F. Expansion Fittings

G. Conduit Bodies

H. Outlet Boxes

I. Pull and Junction Boxes

J. Conduit Sizing, Arrangement and Support

K. Conduit Installation

L. Conduit Installation Schedule

M. Connections and Fittings

N. Supports and Seals

O. Fire Stops and Penetration Seals

P. Cutting and Patching

Q. Coordination of Box Locations

R. Outlet Box Installation

S. Pull and Junction Box Installation

T. Pull and Junction Box Installation Requirements

1.03 RELATED WORK

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Section 26 27 26 - Wiring Devices
Section 27 00 00 - Communications Cable and Equipment

PART 2 - PRODUCTS

2.01 GALVANIZED RIGID AND INTERMEDIATE METAL CONDUIT AND FITTINGS

A. Manufactured lengths, full weight, heavy wall, rigid steel conduit, protected inside and out by hot-dipped galvanized or electro-galvanized coating.

B. Minimum conduit size shall be 1/2 inch.

C. Connectors and Couplings: Threaded, liquidtight, insulated throat.

2.02 ELECTRICAL METALLIC TUBING (EMT)

A. Standard lengths and size.

B. Minimum conduit size shall be 1/2 inch.

C. Connectors and Couplings: Threaded, insulated throat, gland compression type, rain and concrete tight. No set screw, push on or indenter type permitted.

2.03 FLEXIBLE METAL CONDUIT AND FITTINGS

A. Galvanized flexible steel.

B. Standard conduit sizes.

C. Minimum size 1/2" with the exception that 3/8" diameter may be used to serve individual lighting fixtures installed in a suspended accessible ceiling system.

D. Connectors: Threaded, grounding type, insulated throat. Two-screw clamp type with locknuts, externally secured.

2.04 LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND FITTINGS

A. Galvanized flexible steel.

B. Standard conduit sizes.

C. Heavy wall PVC jacket.

D. Connectors: Liquidtight, suitable for grounding, suitable for wet locations. Tapered threaded hub, nonmetallic material.

2.05 RIGID NONMETALLIC CONDUIT AND FITTINGS

A. Standard lengths and sizes.

B. Minimum size 1/2" with the exception that the minimum size conduit for underground site lighting circuits shall be 1".

C. Schedule 40 or 80, rigid plastic (PVC) conduit, manufactured to NEMA TC-2 standards, UL listed, and as required by NEC.

D. PVC conduit may not be used in plenum rated ceilings.

E. Rated for 90ºC cable.

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F. Connectors and Couplings: Schedule 40 or 80 to match conduit.

2.06 EXPANSION FITTINGS

A. Copper bonding jumper: Crouse Hinds Type XJ.

B. Expansion/Deflection Fittings: Copper bonding jumper Crouse-Hinds Type XD.

C. PVC expansion fittings installed per manufacturer's recommendations. Heritage Plastic Group 59000 Series or approved equal.

2.07 CONDUIT BODIES

A. Galvanized or cadmium plated with threaded hubs.

B. PVC in corrosive areas.

C. Removable cover, with gasket.

D. Corrosion-resistant screws, 316 stainless steel.

2.08 EMPTY CONDUIT AND OUTLET BOXES

A. Conduit: As specified in Section 26 00 01.

B. Conduit Stub-outs: From outlet box to 6 IN above nearest lay-in type building main corridor ceiling, terminated with insulated bushing.
   1. Provide pulling wire or heavy nylon pulling cord for conduit more than 25 FT long.

C. Outlet Box - General: With extension ring, of proper size and depth, with cover plate to match wiring device cover.

2.09 OUTLET BOXES

A. Acceptable Manufacturers:
   1. Galvanized boxes:
      a. Base: Appleton Electric Co.; Steel City; and Raco.
   2. PVC boxes F Series with ground lug.
      a. Base: Heritage Plastic Group.
   3. Junction box and conduit supports:
      a. Base: CADDY.
   4. Other manufacturers desiring approval comply with Instruction to Bidders.

C. Receptacle Boxes for Concealed Wiring: Galvanized.
   1. Provide bar hangers or CADDY quick mount for metal stud partitions.
   2. Narrow switch boxes (for hollow metal jambs): Raco 426.
   3. Between studs provide CADDY bar hanger assembly series BHA.

D. Concealed gang-switch and junction boxes not dimensioned: 4 IN. square, galvanized.
   1. Provide CADDY quick mount support for metal stud partitions.
   2. Between studs provide CADDY bar hanger assembly series BHA.

E. Weatherproof receptacle boxes: Corrosion resistant cast ferrous metal type, with threaded hubs and neoprene gasket; Crouse-Hinds Type FS.

F. Pull and junction boxes: Code-sized galvanized steel boxes provided with plain blank removable covers held in place with screws unless otherwise indicated.
   1. Where sizes are not indicated, use 4 IN square or NEC size.

G. Install boxes to preserve fire resistance rating of partitions and other elements.

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H. Wall outlets shall comprise of 4” square box with a flush single gang raised cover and blank.

2.10 PULL AND JUNCTION BOXES

A. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

B. Acceptable Manufacturers:
   1. For interior work, provide galvanized sheet metal boxes of code thickness with lapped and welded joints, 3/4" flanges and screw covers.
   2. For exterior work, provide galvanized sheet metal boxes of code thickness with lapped and welded joints, 3/4" flanges, bolted covers with full gaskets forming a completely raintight assembly, equal to Keystone 19000 series.

PART 3 - EXECUTION

3.01 CONDUIT SIZING, ARRANGEMENT AND SUPPORTS

A. Exposed interior conduits for electrical wiring may be electrical metallic tubing (EMT) above heights of 8’-0” AFF or from top of equipment; otherwise GRC shall be used unless protected from damage. Exceptions to the requirements stated above area as follows:
   1. Conduits installed within 1-1/2" under metal-corrugated sheet roof decking shall be IMC or GRC.

B. Cut joints shall be square, reamed smooth, and drawn up tight.

C. Keep conduit plugged, clean, and dry during construction.

D. Install No. 12 pull wire in empty conduit.

E. Cap spare conduits.

F. Provide riser clamps around all conduits 1-1/4" or larger that are routed between floors.

3.02 CONDUIT INSTALLATION

A. Install all conduits concealed within finished areas of building.

B. Exposed overhead conduits may be used in Switchgear Room, Mechanical Equipment Rooms, Electric Closets, and unfinished Storage and Equipment Rooms.

C. Run exposed conduit in straight lines at right angles to or parallel with walls, beams or columns.

D. Keep conduit away from waterlines or heating duct lines. Where crossings are unavoidable, leave minimum 6 IN clearances.

E. Install no conduit in floor slabs, only under floor slab.
   1. Do not install conduit under pads for fans, pumps, boilers, or other machinery.

F. Conduits installed within 1-1/2" under metal-corrugated sheet roof decking shall be rigid metal or intermediate metal conduit.

H. Maintain 12 inch clearance between conduit and surfaces with temperatures exceeding 104 degrees F.

3.04 CONDUIT INSTALLATION SCHEDULE

A. Support all conduit systems from building structure or structure with approved hangers or supports.
   1. Do not support from piping, ducts or support systems for piping or ducts.
   2. Do not install to prevent ready removal of piping, ducts or ceiling tiles.
   3. Do not support from ceiling or ceiling support systems.

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B. Do not install more than the equivalent of three 90º bends (270 degrees total) in any conduit run.
   1. Where more bends are necessary, install junction box or pullbox.
   2. Make all bends in 1/2 IN and 3/4 IN conduit (1 IN EMT) with a conduit bender.
   3. Use machine bends for larger sizes.

C. Fit all conduit ends at switch and outlet boxes with approved tight bond with box when screwed tightly in place.

D. Remove moisture and debris from conduit before wire is drawn into place. Tightly plug ends of conduit with tapered wood plugs inserts until wire is pulled.

E. Neatly seal openings around conduits, etc., where they pass through fire rated construction or exterior walls or roof.

3.05 CONNECTIONS AND FITTINGS

A. Above lay-in tile ceilings, make connections to lay-in type fixtures with 3/8 or 1/2 IN x 6 FT long flexible steel conduit.
   1. Include no. 14 branch and grounding conductors or as indicated in NEC 210.19(A) Exception No. 1.
   2. Arrange conduit and box systems for easy removal of lay-in ceiling.

B. Connect switch legs for narrow switches in hollow metal jamb posts using 1/2 IN flexible steel conduit.

C. Install electrical fittings in accordance with the manufacturer's written instructions and with recognized industry practices to ensure that fittings serve intended purposes.

D. Rigidly secure connectors at cabinets and boxes with galvanized lock nut and bushing.

E. Seal conduits that run through different temperature or atmospheric conditions to prevent condensations or moisture from entering electrical equipment and devices.

F. Install conduit expansion fittings complete with bonding jumper in following locations:
   1. Conduit runs which cross a structural expansion joint.
   2. Conduit runs where movement perpendicular to axis of conduit may be encountered.

G. Locate conduit bodies so as to assure accessibility of electrical wiring.

H. Install fittings designed for use with flexible liquid-tight conduit to ensure continuity of ground throughout the fittings and conduit and prevent entrance of moisture.

I. Above ground PVC conduit shall have expansion fittings on straight runs, between, where allowed by Engineer, securely mounted items such as but not limited to junction boxes, cabinets, elbows or other conduit terminations, or as required by the current NEC 352.44 maximum spacing 25'-0". Install per manufacturer's recommendations for the current temperature at the time of installation.

3.06 SUPPORTS AND SEALS

A. Conduit Hangers - General: Threaded rods, with straps or clamp conduit holder. For corrosive areas use stainless steel 316 threaded rods, nuts and anchors.
   1. Do not use perforated strap hangers or wire.
   2. Use trapeze assemblies for multiple conduits.
      a. Trapeze assembly to consist of threaded rod hangers, Unistrut P1000 strut and Caddy SCH conduit clips.
   3. Provide sufficient hangers for support of electrical work and equipment to limit load on single hanger to 25 LB, max.; space not over 8 FT on center.
   4. Hangers in metal roof deck: Do not extend above tops of ribs, or otherwise interfere with vapor barrier, insulation or roofing.
   5. For PVC conduit provide non-metallic straps, chemical and corrosion resistant, UV

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inhibited, spaced per N.E.C. section 352.30. 316 stainless steel bolts and anchors shall be used.

B. Hangers for joint between precast units: Fehr Bros., T-Hanger; Heckman Building Prod., No. 480; and Dayton Sure-Grip, F-68.
   1. Space minimum 4 IN from walls and minimum 2 IN apart.

C. Hanger fasteners: Provide inserts or fasteners to attach hangers to structure.
   1. Do not use drilled or explosive driven inserts in precast-prestressed concrete construction.
   2. Drilled or explosive driven inserts may not extend more than 1 IN into post-tensioned concrete construction.
   3. Attachment to metal roof deck may be by means of prepunched tabs, prepunched holes, or with screws in sides of ribs or toggle bolts in bottom of ribs.
   4. Do not use concrete nails in masonry walls.

D. Support for conduit in GWB walls:
   1. Vertical support:
      a. If conduit is to be fastened to wall stud, provide conduit support clip mounted to stud.
      b. If conduit is to be supported between studs provide bar hanger and bar hanger conduit clips.
   2. Horizontal support:
      a. Provide conduit clips to secure conduit to studs when passing through studs horizontally.
      b. Space clips as indicated for support.
   3. Do not use wire as means of anchor or support.

3.07 FIRE STOPS AND PENETRATION SEALS

A. All penetrations through fire rated floors and walls due to the electrical installation shall be sealed with CHASE-FOAM PR-855 Fire Resistant foam Sealant, to prevent the spread of smoke, fire, toxic gas or water through the penetration either: before, during, or after a fire. The fire rating of the penetration seal shall be at least that of the floor or wall into which it is installed, so that the original fire rating of the floor or wall is maintained as required by Article 300-21 of the National Electrical Code. Equivalent foam sealant manufactured by Dow Corning approved.

B. The sealant shall remain soft and pliable to allow for the removal and/or addition of cables without the necessity of drilling holes. It shall adhere to itself perfectly to allow any and all repairs to be made with the same material. It shall permit the vibration, expansion and/or contraction of anything going through the penetration without the seal cracking or crumbling.

C. When damming materials are to be left in place after the seal is complete then all such materials shall be nonflammable.

D. When sealant is injected into a penetration, the foam shall expand to surround all the items within the penetration and maintain pressure against the walls of the penetration. The foam shall cure within five minutes and be fire resistant at that time. No heat shall be required to further expand the foam to block the passage of fire and smoke or water.

E. All wall or floor penetration openings shall be as small as possible.

F. The foam sealant shall meet all fire test and hose stream test requirements of ASTM E119-73 and shall be UL Classified as a Wall Opening Protective Device.

3.08 CUTTING AND PATCHING

A. Provisions for openings, holes, and clearances through walls, floors, ceiling, and partitions shall be made in advance of construction.

B. Provide cutting, patching and painting necessary for the installation of electrical systems.

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3.09 COORDINATION OF BOX LOCATIONS

A. Provide electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections, and code compliance.

B. Electrical box locations shown on Contract Drawings are approximate unless dimensioned. Verify location of floor boxes and outlets in offices and work areas prior to rough-in.

C. No outlet shall be located where it will be obstructed by other equipment, piping, lockers, benches, counters, etc.

D. It shall be the Contractor's responsibility to study drawings pertaining to other trades, to discuss location of outlets with workmen installing other piping and equipment and to fit all electrical outlets to job conditions.

E. In case of any question or argument over the location of an outlet, the Contractor shall refer the matter to the Owner/Engineer and install outlet as instructed by the Architect/Engineer.

F. The proper location of each outlet is considered a part of this contract and no additional compensation will be paid to the Contractor for moving outlets which were improperly located.

G. Locate and install boxes to allow access to them. Where installation is inaccessible, coordinate locations and provide 18 inch (450 mm) by 24 inch (600 mm) access doors.

H. Locate and install to maintain headroom and to present a neat appearance.

I. Install boxes to preserve fire resistance rating of partitions and other elements, using approved materials and methods.

3.10 OUTLET BOX INSTALLATION

A. Do not install boxes back-to-back in walls. Provide minimum 6 inch separation, except provide minimum 24 inch separation in acoustic-rated walls.

B. Provide knockout closures for unused openings.

C. Support boxes independently of conduit.

D. Install boxes in wall without damaging wall insulation.

E. Provide recessed outlet boxes in finished areas; secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.

F. All boxes on a common wall with common mounting heights shall be mounted so faceplates are level and square to each other. Adjustments required after installation shall be made without additional compensation.

3.11 PULL AND JUNCTION BOX INSTALLATION

A. Locate pull boxes and junction boxes above accessible ceilings or in unfinished areas.

B. Support pull and junction boxes independent of conduit.

3.12 PULL AND JUNCTION BOX INSTALLATION REQUIREMENTS

A. Provide junction boxes as shown on drawings and otherwise where required, sized according to number of conductors in box or type of service to be provided. Minimum junction box size 4" square and 2-1/8" deep. Provide screw covers for junction boxes.

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B. Use minimum 16 gauge steel for pull boxes and provide with screw cover.

C. Install boxes in conduit runs wherever necessary to avoid excessive runs or bends. Do not exceed 100' runs without pull boxes.

D. Rigidly secure boxes to walls or ceilings. Conduit runs will not be considered as adequate support.

E. Install boxes with covers in accessible locations. Size boxes in accordance with Article 314 of the latest edition of the National Electric Code.

F. Do not install pull or junction boxes for joint use of line voltage and signal or low voltage controls unless all conductors are insulated for the highest voltage being used in the same box.

G. Install all components as indicated.

H. Tag ends of conduit with system identification letters.

I. Test conduit for clear passage.

J. Neatly mark inside of outlet boxes with system identification letters using black felt-ink marker.

END OF SECTION

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SECTION 26 27 26

WIRING DEVICES

PART 1 - GENERAL

1.01 DESCRIPTION

A. General:
1. Furnish all labor, materials, tools, equipment, and services for all wiring devices as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices and incidental to or necessary for a sound, secure and complete installation.
4. See Section 26 00 01 for General Electrical Requirements.

PART 2 - PRODUCTS

2.01 MATERIALS - GENERAL

A. Acceptable Manufacturers:
1. Receptacle Outlets:
   a. Base: Hubbell; Leviton; Pass & Seymour (P&S); Eaton.
2. GFI Receptacles:
   a. Base: Hubbell; Leviton; Pass & Seymour (P&S); Eaton.
3. Other manufacturers desiring approval comply with Instructions to Bidders.

B. Device and Cover Plate Colors:
1. Coordinate device and cover plate color with final wall finish; verify with Owner before ordering.
2. Unless noted otherwise, receptacles controlling emergency or critical loads shall be red in color. Receptacles and light switches on the UPS system shall be blue in color.
3. Adjustments in device or cover plate color shall be made in the field without additional compensation.

2.02 DUPLEX AND SINGLE RECEPTACLES

A. General:
1. Receptacles shall be flush mounted.
2. Color shall be as indicated in 2.01B above.
3. Shall have full grounding straps and be suitable for side or side and back wiring.
4. Shall be Hubbell Nos. listed below, or equal by approved manufacturer.
5. Unless noted otherwise, receptacles shall be 125 volt, 2 pole, 3 wire grounding.

B. Specification Grade (Commercial Grade):
1. 15 amp, duplex: NEMA 5-15R; Hubbell HBL 5252; Eaton 5262.
2. 20 amp, duplex: NEMA 5-20R; Hubbell CR5362; Leviton 5362-S; P&S 5363; Eaton 5362.
3. 20 amp, single: NEMA 5-20R; Hubbell HBL 5351; Eaton 1877.
4. Ground Fault Circuit Interrupter: 20 amp, with built-in ground fault interruption, 5 mA sensitivity, LED indicator light (on when operable) and reset, UL 943 2015 compliant. GFI receptacle shall have lock-out feature when GFI protection device fails, auto-monitoring or self-test function and reverse line-load misfire function. Duplex, Leviton 8898; Eaton SGF20.
5. TVSS 13KA per mode, 20 amp, with light and alarm, Hubbell 5362S; Eaton 5362-S.

C. Weatherproof Receptacles: GFCI receptacle with die cast weatherproof receptacle cover:
1. Unless noted otherwise, cover shall be weatherproof- while-in-use type, metallic with pad lock holes, Hubbell WP Series. Ground wires shall not be readily accessible.
2. Receptacles installed outside shall be GFCI weather-resistant type.

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3. Where designated on plans as maintenance outlets, cover shall be Hubbell CWP26H; Eaton S1966-SP.

2.03 DEVICE PLATES

A. Device Plates for Concealed Wiring: Same manufacturer as devices, to suit device covered, single or ganged in one piece with beveled edges.
   1. Coverplates shall be of thermoplastic, nylon, non-combustible, mar-proof thermosetting material, minimum 0.100" thick.
   2. See Article 2.01, Paragraph B for cover plate color coordination.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install convenience receptacles with grounding pole on top.

B. Install devices and wall plates flush and level.

H. Receptacles shall have a bonding conductor from grounding terminal to the metal conduit system. Self-grounding receptacles using mounting screws as bonding means are not approved.

3.02 FIELD QUALITY CONTROL

A. Inspect each wiring device for defects.

B. Verify that each receptacle device is energized.

D. Test each receptacle device for proper polarity.

E. Test each GFCI receptacle device for proper operation.

3.03 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

B. Mark all conductors with the panel and circuit number serving the device, at the device.

C. Mark the panel and circuit number serving the device on the inside of the device plate unless directed otherwise. Use machine generated labels

D. All devices and face plates on a common wall with common mounting heights shall be level and square to each other. Adjustments required after installation shall be made without additional compensation.

END OF SECTION

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SECTION 28 01 30

DOOR ACCESS SYSTEM

Project Description: Upgrading the card access system in 9 buildings throughout the City of New Berlin, WI. Some of the upgrades include:

- Existing City Wide Network Architecture Exists In Place.
- New C-Cure 9000 v3.0 software (No Alternates) to be installed on existing City Server. City IT department to assist Contractor in installation of new software.
- Existing C-Cure 9000 software (version 2.90 SP1) (Build 1134.1134) to be upgraded and/or replaced in its entirety with new software.
- There are an estimated (73) existing card access doors. See door schedule for details.
- There are an estimated (56) new card reader doors, existing frames. New electric strikes or magnetic locks to be installed at these doors. See door schedule for details.
- All existing door controllers and power supplies to be replaced with new throughout all buildings. Door controllers to be network ready and be wired to existing network telecommunication rooms. For purposes of bidding, Network runs to be estimated at 200' using plenum Cat.6 cable. Power supplies to be supplied as required for all doors.
- New doors to be included in sizing of new controllers and power supplies.
- All existing and new card reader doors/locks to be rewired to new controllers, power supplies and software.
- New Door Controllers to be sized (2 Door, 4 Door, etc.) by Contractor based on layout. For purposes of bidding, general layout of new controller locations has been provided. Once awarded, Owner to verify these locations with Contractor to confirm final controller/power supply locations prior to new wire pulling.
- New 120 volt, 20 amp dedicated circuits to be provided/installed where shown on drawings. All circuits to be installed in EMT conduit, minimum ¾" size. Existing electrical panels are shown for reference.
- It is the intent that all new door wiring will be installed to ALL door locations throughout. New software, controllers to be programmed ahead of time. Existing door locations will be cut over to the new system/controllers one at a time. Once cut over of the existing doors is complete the remaining new doors will be added to the system one at a time.
- Some existing readers will remain, some existing readers will be replaced. See door schedule for details.
- Where drop ceiling exists, new cable routes to be established with new J-hook routes, size accordingly. This includes new sleeving, patching and firestopping.
- All exposed indoor locations / conductors to be installed in EMT conduit, minimum ¾" size.
- All above ground outdoor locations / conductors to be installed in rated metal conduit, minimum ¾" size.
- All underground outdoor locations / conductors to be installed in rated non-metallic conduit, minimum ¾" size.
- All outdoor conduit to buried at minimum 24". All spoils to be replaced, leveled, tamped and re-seeded.
- Outdoor card access entrance pedestals where shown to be installed in concrete base per manufacturer recommendations. Verify placement with Owner prior to installation of base. Provide/Install all conduits, conductors, devices for a working system.
- All building penetrations to be sealed to maintain existing ratings.
- Door verification. All new controllers and doors to be verified for proper function after each door cutover. Check off sheets with Owner approval shall be created in order to verify function.
- Once all doors on the schedule have been connected and verified, and with approval from Owner, the existing card access system is to be demolished in its entirety. This to include but not limited to: controllers, readers, cabling, power supplies from source to door. Patching and firestopping of cable penetrations left open as a result of demo shall be completed at the time of demo.
- All work to be planned for normal working hours.

PART 1 - GENERAL

1.01 GENERAL DESCRIPTION

A. The Security Management System (SMS) shall be a powerful, flexible, multi-function and object-oriented security and event management system that features a variety of customizable interfaces for maintaining the system and for monitoring the desired secure sites. The SMS shall provide an option to display these management and monitoring interfaces in the native languages of the people using the system. The security and event management system shall be flexible in order to

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meet specific requirements and quickly respond to evolving security challenges. The SMS shall be a scalable platform, simple and economical enough to support a single site, yet upgradeable enough to manage a multi-site network. The SMS shall use an open, distributed architecture, where database servers could reside in geographically separate locations.

B. The SMS shall provide extensive information management capability using Microsoft .NET Framework V4.61. It shall operate in a Client / Server configuration on personal computers with a Windows-based platform. Its distributed client-server architecture shall be capable of supporting up to 256 simultaneous clients, multiple types of controllers, and over 20,000 input devices, including cameras and multiple types of card readers. The SMS shall be constructed to be database independent and shall support at a minimum Microsoft SQL Server 2012R2 (Express, Standard, or Enterprise), for data protection, redundancy and manageability.

C. The SMS shall have true multi-tasking, multiprocessor and remote client support; allowing independent activities and monitoring to occur simultaneously at different locations. The operator workstation (Client) shall be user friendly, employing icon-based menus and providing a mouse-driven interface for system operation and the creation of color graphic maps. The user interface shall be customizable, capable of delivering a unique look and feel without a unique version release. It shall be an intuitive user interface that is similar to Microsoft's Outlook and Explorer with its easy navigation and tree structures. A practical application layout editor shall let users drag and drop any application onto one screen and create a customized hub for all activities via a single "command and control" center.

D. Field devices such as card readers, alarm inputs, control points, etc. shall be connected to fully distributed intelligent field controllers or directly through a Software Development Kit or Web Services and be capable of operating without host computer intervention. All objects within the SMS, i.e. doors, readers, time intervals, etc. shall be addressed by a unique name as opposed to point numbering or mnemonics. The SMS shall have badge generation tools to create and manage badges using a graphical interface and convenient query features to manage large numbers of badges.

1.02 SUBMITTALS

A. Shop Drawings: Prior to assembling or installing the SMS, the Contractor shall provide complete shop drawings which include the following:
1. Architectural floor plans indicating all system device locations.
2. Full schematic wiring information for all devices. Wiring information shall include cable type, cable length, conductor routings, quantities, and point-to-point termination schedules.
3. Complete access control system one-line block diagram.
4. Statement of the system sequence of operation.
5. Riser diagrams showing interconnections.
6. Detail drawings showing installation and mounting.
7. Fabrication drawings for console arrangements and equipment layout.
8. All drawings shall be fully dimensioned and prepared in DWG format using any CAD-based software capable of exporting the format (such as AutoCAD).

B. Product Data: Prior to assembling or installing the SMS, the Contractor shall provide the following:
1. Complete product data and technical specification data sheets that include manufacturer's data for all material and equipment, including terminal devices, local processors, computer equipment, access cards, and any other equipment provided as part of the SMS.
2. A system description, including analysis and calculations used in sizing equipment required by the SMS. The description shall show how the equipment shall operate as a system to meet the performance requirements of the SMS. The following information shall be supplied as a minimum:
   a. Central processor configuration and memory size.
   b. Description of site equipment and its configuration.
   c. Protocol description.
   d. Rigid disk system size and configuration.
   e. Backup/archive system size and configuration.
   f. Start-up operations.

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g. System expansion capability and method of implementation.
h. System power requirements and UPS sizing.
i. A description of the operating system and application software.

C. As-Built Drawings
1. At the conclusion of the project, the Contractor shall provide “as built” drawings. The “as built” drawings shall be a continuation of the Contractor’s shop drawings as modified, augmented, and reviewed during the installation, check out and acceptance phases of the project. All drawings shall be fully dimensioned and prepared in DWG format using any CAD-based software capable of exporting the format (such as AutoCAD).

D. Manuals
1. At the conclusion of the project, the Contractor shall provide copies of the manuals as described herein. Each manual’s contents shall be identified on the cover. The manual shall include names, addresses, and telephone numbers of each security system integrator installing equipment and systems and the nearest service representatives for each item of equipment for each system. The manuals shall have a table of contents and labeled sections. The manuals shall include all modifications made during installation, checkout, and acceptance. The manuals shall contain the following:
a. **Hardware Manuals** shall describe all equipment furnished including:
1) General description and specifications.
2) Installation and check out procedures.
3) System layout drawings and schematics.
4) Manufacturer’s repair parts list indicating sources of supply.
b. **Software Manuals** shall describe the functions of all software and shall include all other information necessary to enable proper loading, testing, and operation. The manual shall include:
1) Definition of terms and functions.
2) Use of system and applications software.
3) Initialization, start-up, and shut down.
4) Alarm reports.
5) Reports generation.
6) Database format and data entry requirements.
c. **Operator Manual** shall fully explain all procedures and instructions for the operation of the system including:
1) Computers and peripherals.
2) System start-up and shut down procedures.
3) Use of system, command, and applications software.
4) Recovery and restart procedures.
5) Graphic alarm presentation.
6) Use of report generator and generation of reports.
7) Data entry.
8) Operator commands.
9) Alarm messages and reprinting formats.
10) System access requirements.
d. **Maintenance Manual** shall include descriptions of maintenance for all equipment including inspection, periodic preventive maintenance, fault diagnosis, and repair or replacement of defective components.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications
1. The manufacturers of all hardware and software components employed in the SMS shall be established vendors to the access control/security monitoring industry for no less than five (5) years and shall have successfully implemented at least 5 systems of similar size and complexity.

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B. Contractor / Integrator Qualifications

1. The security system integrator shall have been regularly engaged in the installation and maintenance of integrated access control systems and have a proven track record with similar systems of the same size, scope, and complexity.
2. The security system integrator shall supply information attesting to the fact that their firm is an authorized product integrator certified with the SMS. A minimum of one technician shall be a Certified SMS installer.
3. The security system integrator shall supply information attesting to the fact that their installation and service technicians are competent factory trained and certified personnel capable of maintaining the system and providing reasonable service time.
4. The security system integrator shall provide a minimum of three (3) references whose systems are of similar complexity and have been installed and maintained by the security system integrator in the last five (5) years.
5. There shall be a local representative and factory authorized local service organization that shall carry a complete stock of parts and provide maintenance for these systems.

C. Testing Agencies

1. The SMS shall be tested and listed by Underwriters Laboratories (UL) for UL/cUL 294 for Access Control System Units.
2. The SMS shall be tested and listed by Underwriters Laboratories (UL) for UL/cUL 1076 for Proprietary Burglar Alarm Units.
3. The SMS shall employ a FIPS 197-listed AES 256-bit encryption between the SMS Servers, Clients, and iSTAR Ultra/eX/Edge Controllers.
4. The SMS shall include full support for FIPS 201 initiative:
   a. Ability to customize a system-wide Card Holder Unique Identification number (CHUID).
   b. Ability to configure custom, extended card formats, including GSA 75-bit Wiegand standard, and to download them to the card access panels.
   c. Ability to use Hashed Message Authentication Codes (HMAC) for medium assurance profile.
   d. Enhanced data fields per the FIPS 201 standard, including Agency Code, System Code, Credential Series and Credential Issue Code.
5. The SMS hardware shall comply with the following regulatory requirements:
   a. FCC Class A.
   b. FCC Class B.
   c. CE.
   d. Canadian Radio Emissions requirements.
   e. Restriction of Hazardous Substances Directive (RoHS) 2002/95/EC.
   f. FIPS 140-2 encryption (certified for the iSTAR Ultra/Edge/eX controllers).
6. The SMS shall support Americans with Disabilities Act (ADA) compliance in door and access operation.

D. Licensing

1. Licensing shall be required for the SMS software. The licensing shall include:
   a. Series (Model).
   b. Number of online readers.
   c. Number of online inputs.
   d. Number of online outputs.
   e. Number of card holders.
   f. Number of simultaneous clients.
   g. Number of simultaneous badging stations.
   h. Optional Features.

1.04 WARRANTY

A. The SMS shall be provided with a 14-month product warranty from date of shipment or 1 year from date of registration, whichever is shorter. The SMS Hardware shall be provided with a 5 year product warranty from date of manufacture. Software version upgrades shall be available for no charge during this warranty. The software media warranty shall be 90 days per the C•CURE software licensing agreement.

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PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. The SMS shall be the Software House C•CURE 9000 system. The Badging Solution shall be Software House C•CURE ID. The SMS field controllers shall be the Software House iSTAR family of controllers. The hardware manufacturer shall be an ISO 9001:2000 registered company.

2.02 DESCRIPTION

A. The SMS shall be an integrated system that utilizes a single, industry-standard relational database management system for the storage and manipulation of related data. The SMS shall include a server with operating system and applications software, operator and administrator terminals with appropriate software, hard copy printers and fixed magnetic storage media. The security devices shall communicate with the field panels via a dedicated cable network. The field panels shall communicate to the server via a Fast Ethernet 10/100 or 1 GB, TCP/IP network.

B. The SMS shall allow for growth and scalability from a low-end or entry level system to a high end or enterprise system by increasing CPU power, memory and database. The SMS shall be modular in nature, allowing system capacities to be easily expanded without requiring major changes to system operation. All defined system data as well as historical information shall be maintained. Customizable user interfaces shall allow management of system information and activity for administrators and operators. The SMS shall include an intuitive .NET based badging solution with a WYSIWYG badge layout editor and GUI for badge design.

2.03 SMS FUNCTIONALITY

A. Partitioning: The SMS shall allow system administrators to separate the creation and viewing of objects into partitions. SMS operators shall be associated with partitions and this shall determine which objects operators have the ability to create and or view. The SMS shall support an unlimited number of partitions.

1. The SMS partitions shall include but not be limited to the following objects:
   a. Personnel
   b. Clearances
   c. Doors
   d. Controllers with all associated hardware (readers, inputs, outputs, etc.)
   e. Video servers with all associated objects (cameras, tours, views, etc.)
   f. Application layouts
   g. Events
   h. Dynamic views
   i. Maps
   j. Reports, forms, results
   k. Holidays
   l. Badge layouts
   m. Queries
   n. Images
2. Through the use of privileges, the SMS System Administrator shall be able to determine which objects are associated with a particular partition. These objects shall then be assigned to System Operators with the appropriate privilege.
3. The SMS shall support a super-user assigned the ‘System All’ privilege who shall have full access to all objects in all partitions.
4. Any operator shall have the ability to be assigned access rights to any partition. Individual Access rights shall be created and have the ability to be assigned to any users of the SMS.
5. The SMS shall allow objects to be created in any partition. The SMS shall have the ability to grant or remove permission from any object in any partition.
6. The SMS shall provide the ability to move objects from one partition to another partition without the requirement of deleting and recreating.
7. The SMS shall provide the ability to import/export any configured object.
8. The SMS shall support the display of all associated objects contained within a partition.

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B. Enterprise Architecture

1. The SMS shall provide an Enterprise Architecture, licensable option that allows you to configure multiple Satellite Application Servers (SAS) to communicate with a Master Application Server (MAS). The Master Application Server shall provide a platform for global management of the personnel, video, and access control security objects on two or more Satellite Application Servers (SAS) in an enterprise.
2. The Enterprise Architecture shall work by synchronizing each SAS system's database with the MAS database. The MAS shall contain the global data that is used across every server, such as global personnel records, global clearances, and global schedules. The global data shall be synchronized to each SAS to provide enterprise-wide security. The MAS shall be used to remotely monitor and manage controllers and video servers attached to SAS's in the enterprise, however it shall not support any directly connected controllers or video servers.
3. The MAS shall provide the capability for Central Monitoring of the entire enterprise, using the Monitoring Station application. From a Central Monitoring Station connected to the MAS, the system shall be capable of viewing events, activities, and status of every SAS in the enterprise. Alternatively, you can connect to an individual SAS to monitor that system and its connected hardware. In addition, the MAS shall provide the ability to integrate with external sources via LDAP, XML, CSV or ODBC imports both manually or automatically through scheduled processes.
4. Each SAS shall contain database records for all connected video and access control devices, as well as local personnel, clearances, privileges, and other related data. Each SAS shall synchronize with the MAS so that SAS local data is replicated to the MAS for central management and monitoring. In addition, the MAS shall provide central reporting capability for replicated SAS objects including journal and audit transactional data. [Note, for Connected Program integrations, SAS local data is not replicated to the MAS and central reporting is limited.]
5. All local data shall be synchronized immediately to the MAS or queued if a server is offline. All queued data shall be replicated automatically upon restoral of communication. Global data that is created or changed at the SAS/MAS shall be replicated to all locations. Journal and Audit data shall be synchronized either manually or on a configurable schedule, providing the ability to manage bandwidth usage and load balancing.
6. Operators in the enterprise architecture shall be configured as local or global. Global operators shall be subject to the user privileges as defined on each SAS.
7. The Enterprise Architecture shall support a Standalone to SAS Migration Utility that shall be used to merge a standalone SMS server into an existing SMS Enterprise site.
8. The Enterprise Architecture option shall include:
   a. Global Administration of Personnel and Clearances, Images, Card formats, CHUID Formats, Holidays, Personnel groups, and Operators and Privileges
   b. Centralized Reporting
   c. Central Monitoring of Events and Activities across the Enterprise
   d. Central Management of Access Card Enrollment
   e. Central Badging and Image processing
   f. Global Management of Badge Layouts
   g. Single Card Access across the Entire Enterprise
   h. Increased Scalability of Security Hardware and Video
   I. End-to-End Encryption
   j. Automated Synchronization of Enterprise Security Databases
   k. Central Management of Video and Hardware Resources
   l. Remote Editing of Global and Local Data
9. The SMS Enterprise model shall not restrict the addition and/or configuration of over 40 regional application servers configured to a master application server. Testing and qualification has been completed for up to 40 regional servers. However, the SMS shall have no technical restrictions to regional server capacity limits other than system performance.
10. The SMS shall support the configuration of multiple Global partitions in addition to the default Global partition providing the SMS more organization options for objects within the Enterprise system.
11. The Enterprise Architecture option shall provide Multi-Version support. Multi-Version support shall allow SASs running a prior version of the SMS software to continue to synchronize with the MAS allowing for a phased deployment during an Enterprise-wide

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upgrade. Client connectivity between MAS and Multi-version SASs for monitoring and administration is supported

C. Graphical User Interface (GUI)

1. The SMS shall employ a standard Windows graphical user interface (GUI). A mouse and keyboard shall be the primary operator interface with the system. Operator screens shall utilize all standard Windows-style functions such as drop-down menus, context menus, radio buttons, and lists, as appropriate. The interface shall utilize a 'tree structure' similar to Windows Explorer.

D. Administration Operator Interface

1. The SMS shall employ an Administration Operator Interface to control the following:
   a. Hardware (readers, inputs, outputs, video systems, door controls, CCTV, and other systems).
   b. Configuration of personnel records, operators and operator privileges.
   c. Graphical Maps.
   d. Application Layouts.
   e. Dynamic Views.
   f. Queries.
   g. Import/Export of objects, including images.
   h. System Variables.
   i. Reports (either periodic or one-time).
   j. System functions (event command and control, actions, schedules).
   k. Display of a list of objects in a grid that can have their values modified and respond to real-time status changes.
   l. Scheduling of backups.
   m. Monitoring of system settings and performance.
   n. Designing of and printing of badges.
2. The GUI shall be configurable by the system administrator to control the views and access of each Monitoring Station operator.

E. Monitoring Operator Interface / Activity Monitoring

1. The SMS shall contain a monitoring component that is capable of, among other things, displaying the current state of any object in the system. Additionally, the monitoring station shall be capable of displaying a log of all activity that occurs in the system, from object state changes, to access control information. All text for events (alarms) in the system shall be configurable to be displayed in color based on the user-specified priority of the event.
2. The Monitoring Station shall be capable of showing all changes occurring to an object without requiring the associated activity messages for that object to be routed to that monitoring station. The SMS shall require the operator to have appropriate permissions to view and/or control any object.
3. The monitoring station interface shall be user-customizable. The SMS shall support the ability of the end user to create a customized application layout for the monitoring station. The monitoring station shall support multiple application layouts that can be assigned to the operators. Each application layout can have multiple panes in the same window. The panes can have multiple tabs so that different objects such as cameras and tours can be displayed in the same pane. The panes shall have the ability to include: General activity; Event (Alarm) activity; Dynamic card swipe information; Video cameras and tours; Maps; Dynamic Views; Reports; and links to external applications. Each pane shall have the ability to be moved to a specific screen.
4. The SMS monitoring station shall support a Swipe and Show Viewer. The Swipe and Show Viewer shall monitor a configurable list of doors and shall display a portrait or multiple portraits of personnel who present an access credential at a Reader on an included Door or Elevator. The SMS shall allow multiple Swipe and Show Viewers to be added to an Application Layout. The Swipe and Show Viewer shall provide configurable image border colors that shall correspond to access transaction states (Admit, Reject etc.,). The Swipe and Show Viewer shall display the date and time of the transaction, the location, area, Cardholders name and the status of the transaction. The Swipe and Show Viewer shall allow an Operator with the appropriate Privileges to perform the following functions from the Viewer:

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a. View/Edit the Cardholder record
b. Perform a momentary unlock of the associated door
c. Grace the Cardholder (allow the cardholder into an APB area)
d. Perform an Area Lockout Grace of the cardholder
e, Perform an APB reset on the cardholder

5. The SMS shall support multiple monitor displays providing the ability to configure an Operator's Application Layouts to open in separate instances of the Monitoring Station to enhance the performance of multiple displays. Each pane within an Application Layout shall be able to be moved to a separate monitor or put in a floating window to allow it to be moved between monitors or to any position on the screen. Closing a floating pane shall place it back into its previous position within the Application Layout. The SMS shall support up to Ten (10) assigned monitors for Application Layouts.
6. The SMS shall provide the Monitoring Operator with following functional capabilities:
   a. Shall provide a scrolling list of lines or tiles showing current activity on the system.
   b. Shall display activity in real-time as data is being transmitted by field hardware.
   c. Shall include icons that indicate the type of activity and textual description of the activity.
   d. The color of the frames of the tiles, icons, and/or text shall indicate the type or importance of the information contained therein.
   e. A series of menus, driven by drop-down or trees, shall allow the Monitoring Station operator to perform manual actions, such as “momentary door unlock” for a given door.
   f. As part of the manual action capability, the system shall provide screens or boxes that query the operator on specifics, such as start and end time, and offer guidance on performing the manual actions.
   g. Ability to view a sortable list of active alarms or events and recently active alarms or activity.
   h. Ability to view video from DVMS systems within the same GUI. The video screen GUI shall be able to display multiple panes of live or recorded video and have on-screen camera controls for each live window, providing PTZ control of individual cameras.
   i. A GUI that minimizes the number of operator mouse clicks or keyboard strokes.
   j. Mouse controls include “right-click” pop-ups and highlighted default selections.
   k. Objects shall be displayed to the operator based on his/her assigned operator privilege. The operator shall only be able to monitor/command those objects for which he or she has been assigned privilege.
   l. When an operator logs out of a workstation and a new operator logs on, the objects displayed on the workstation screen shall by dynamically updated to display only those objects for which the new operator has privilege.
   m. Allow the customization of columns as defined by the operator privilege, including:
      - Adjusting width (on the fly or pre-programmed).
      - Not displaying Columns (on the fly or pre-programmed).
      - Sorting on selected columns (to follow standard Windows conventions).
   n. Allow for a “freeze” function. This includes a configurable “freeze time-out” that permits an activity to be selected and temporarily prevents the display of subsequent activities which push the selected activity off the screen. A break-through event disables the freeze function. The freeze function shall provide a graphic bar where the remaining time available in the freeze timeout shall be displayed. Selecting the freeze timeout icon before the time elapses shall extend the freeze timeout to the maximum.
   o. Provide Acknowledge All, Acknowledge and Clear All and Silence All buttons for events.
   p. Support multiple panes for the display of events, activities, video, personnel images, and maps.
   q. Display the number of active causes of an event.
   r. Support the ability to attach a log message to an event, even after the event has been acknowledged.
   s. Provide the ability to attach Predefined Log Messages to an event upon acknowledgement.

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t. Shall allow a Monitoring Operator to select on-screen transactions (both events and system activity) and Email the transactions with a single mouse click.

7. Pre-defined Alarm Acknowledgement Messages
   a. The SMS shall provide the ability to create Predefined Log Messages. Each log message shall have a Name, Description, Label and Message Text. These messages shall be assigned to any event providing the ability to select the appropriate response that resolved the event. The SMS shall provide the ability to group multiple log messages and then assign the group to an event. Each group shall contain up to one hundred messages and each event shall support up to one hundred messages. The SMS shall allow only users with specified operator privileges to add, modify, or delete messages or message groups. Predefined messages shall be editable by an operator with the proper privilege and may be appended as required by the operator.
      1) Messages shall have the following characteristics:
         - Message Name shall be configured with up to 500 characters
         - Message Description shall be configured with up to 500 characters
         - Message Label shall be configured with up to 100 characters
         - Message Text shall be configured with up to 3000 characters
8. The SMS shall support audible alarm annunciation at operator workstations (operator configurable audio [WAV] files associated with alarms).
9. The activity monitoring screen shall be capable of displaying the following features:
   a. System clock.
   b, Date/time when the activity actually occurred and the date/time when the activity was received by the server shall be displayed (when they are different).
   c. Real time event counters.
   d. Count of the active events.
   e. Count of the events requiring operator acknowledgment.
   f. Name of operator logged on at the workstation.
   g. Real-time display of the current activity on the system in chronological order.
   h. Acknowledge All and Silence All buttons for events.
   i. Manual Action command buttons.
   j. Pre-defined and configurable acknowledgement messages.
   k. Log message.
   l. Clear event.
   m. Clear group of events.
   n. Event action message (automatically display selected message for event).
   o. Dynamic views.

F. Web Client
1. The SMS shall support a Web Client to provide remote access to the SMS Server via a web browser. The Web Client shall support Microsoft® Internet Explorer, Safari, Mozilla Firefox® and Google Chrome. The Web Client shall support 128-bit AES encryption to the SMS Server.
2. The Web Client shall support Windows Authentication. The privileges of the SMS operator shall be propagated to the Web Client User allowing only access to Security Objects for which the SMS Operator is authorized. The Web Client shall provide support for Partitioning of the system and utilize the Partitions assigned to the Operator.
3. All changes made to the SMS database via the Web Client shall be recorded in the Audit Trail Database.
4. The Web Client shall provide Personnel Management including:
   a. Shall allow the operator to create and modify personnel data (includes adding/removing clearances, schedules, and expiration dates).
   b. Operator shall have the ability to enable and disable cards.
   c. Operator shall have the ability to search for, edit, add, and delete Personnel records from the SMS database.
   d. Search function shall allow searching by name.
   e. Shall support the Auto-increment Card Number feature for Credentials created using the Web Client.
   f. Shall support a Change CHUID Format button on the Credentials tab that allows you to change the CHUID format of a Credential.
   g. The SMS Web client shall provide a personnel Portraits tab that includes image

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display, Image capture from a file or a local USB camera, and save it to the SMS personnel record.

h. The SMS Web client shall support the previewing/printing of badges.

5. The Web Client shall support a Personnel Monitor to provide a scrolling display of access granted / denied activity. Activity shall be restricted based upon the Operator's Privilege and Partition assignments. Display controls shall include page up, page down, and a freeze function.
6. The Web Client shall support Manual Actions including unlocking / locking of doors and arming / disarming of inputs. Web Client Manual Action module shall display details as well as allow for the cancelling of manual actions.
7. The Web Client shall support the display of Dynamic Views as defined by the SMS. Dynamic Views shall provide a real time view of SMS data including Journal and Audit Trail history.
8. The Web Client shall support displaying and saving of reports. Reports shall consist of personnel history activity or audit data. The report data shall allow sorting within the Web Client view page by any displayed field in ascending or descending order. The Web Client shall allow reports to be saved in CSV and PDF formats. The operator shall have the option to save the report to a file or send it via email.
9. The Web Client shall support the ability to query on a specific cardholder by name and sort cardholders by name, type, date modified or object ID. Once the query is complete, the operator shall have the ability to assign a single access clearance or a group of clearances to a cardholder.
10. The Web Client shall support the ability to display a door activity report of the last 10 card swipes from the cardholder record configuration view. In addition, it shall provide the ability to display the Activation / Expiration Date and Time for each credential assigned to a cardholder. The Web Client shall display all user-defined personnel fields and the details of each assigned access clearance in a separate window. The Cardholder record configuration view shall also allow Journal and Audit log review.
11. The Web Client shall support Auto-Logoff based upon inactivity. The Web Client shall monitor user activity and shall automatically log a user out of the workstation after a user defined timeout period. A Web Client Operator with the appropriate privileges shall be able to set the inactivity time out value from the Web Client. The maximum inactivity time shall be 60 minutes. After the inactivity timer has expired, the Web Client shall logout and return to the login screen.
12. The Web Client shall provide a configurable modular layout called a Dockview. The Dockview module shall support up to 3 configurable pages and each page can consist of up to 6 modules for viewing various aspects of the system.
13. The Web Client shall provide a Diagnostic dashboard. The C•CURE Web Diagnostics shall be used to monitor the health status of multiple devices simultaneously from three separate Dashboard views - Alert, Device Health and System.

G. SMS Mobile Application

1. The SMS shall support a Mobile Application allowing operators to monitor or administer the SMS system by way of mobile device. The device shall be connected via the phone network and a VPN or via Wi-Fi to the SMS server utilizing Web Service (IIS - Web Service).
2. The SMS Mobile software shall be available for download from the following locations:
   a. Apple App Store
   b. Google Play
3. The Mobile Application shall support mobile phones and tablets running the following operating systems.
   a. Apple iOS 8.0 and higher (iPhone, iPad, iPod Touch)
   b. Android OS 4.0 and higher
4. The Mobile Application shall connect to a standalone SMS server, including an Enterprise Satellite Application Server (SAS) and Site Server (Appliance).
5. The SMS Mobile Application shall support connection to the SMS system through a 3G (minimum), 4G, or Wi-Fi connection.
6. The number of mobile connections allowed by the SMS server shall be based on the SMS licensing model. Each connection made through the SMS Web service shall be considered a simultaneous client connection.
7. Operator login to the SMS Mobile Application shall be consistent with the SMS thick client

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application, authenticating login credentials via Windows Single Sign-On (SSO).

8. The SMS Web Service shall require Internet Information Services (IIS) be installed on the target system. The SMS Web Service shall be installed on the IIS server during installation.
9. The SMS Mobile Application user interface shall be localized with supported SMS languages: Arabic, Czech, Danish, Dutch, English, French, German, Greek, Hungarian, Italian, Japanese, Korean, Polish, Portuguese (Brazilian), Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish.
10. The SMS Mobile Application shall support SSL-encrypted communications with the remote Mobile Web Service.
11. The SMS Mobile Application shall provide a search and filter option to refine query results.
12. The SMS Mobile Application shall provide a link to a context menu while viewing objects, providing the operator the ability to perform SMS operations consistent with the SMS administration and monitoring applications.
13. The SMS Mobile Application shall provide the following core features:
    a. The SMS Mobile Application shall provide operators with the appropriate privilege, access to tools used for inspecting the SMS Journal and Audit Logs.
    b. The SMS Mobile Application shall provide a collection of tools to monitor SMS events and other objects. Monitoring shall show active SMS events in real time.
    c. The SMS Mobile Application shall provide a collection of tools to manage personnel and shall allow for the following:
        1) Create/Update Personnel Records
        2) Assign/Remove a card/credential to personnel.
        3) Capture an image and associate that image with personnel.
        4) Grace personnel, Antipassback Card Reset, Area Lockout Grace, and remove personnel from an Area.
    d. The SMS Mobile Application shall support the viewing of live and recorded video using American Dynamics VideoEdge NVR.
14. The SMS Mobile Application shall provide tools used to explore, edit and control the following objects:
    a. Favorite Filters
    b. Favorite Monitors
    c. Query
    d. Events
    e. Manual Actions
    f. Operators
    g. Controllers
    h. Doors
    i. Elevators
    j. Inputs
    k. iSTAR Clusters
    l. Outputs
    m. Readers
15. The SMS Mobile Application shall provide an editor for local application preferences such as:
    a. Login Parameters – Encryption, Inactivity Timer, etc.
    b. Data Collection – Page Size
    c. Monitoring – Polling Intervals, etc.

H. Graphic Maps

1. The SMS shall support unlimited graphic maps and icons to be displayed on the operator workstation monitor.
2. The system shall support an operator-programmable, color graphic map display that supports the following features:
    a. Shall be capable of showing the floor plan, the location of alarm devices, and alarm instructions for a facility.
    b. Shall be centralized in the system configuration and displayed on the operators' workstations.
    c. Shall support a search function that returns a list of objects that can then be dragged and dropped onto a graphic map.
    d, Shall support grouping object icons into regions on a map so that all icons,

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except ones specifically excluded, become related to that region. When one icon in a region goes into alert status the entire region shall animate using the same animation as the last alerting icon.

e. Shall support grouping object icons into polygon regions so that alerts from different maps shall be shown on other maps. The SMS shall support navigating between these using map icons to open different maps in a new tab or in the same tab.

f. Shall support the placement of text on a graphical map. Text shall have customizable parameters for font type, font size, color and bolding/underlining.

g. Shall support a hover feature to open a pop-up view of an icon object without clicking on the icon. The hover feature shall be configurable to allow the hover window to close automatically once the cursor is removed from the object.

h. Shall allow various maps to be associated with different areas to create a hierarchy of maps.

i. Shall support graphic maps having a resolution of 1024x768 Pixels or greater.

3. Operators shall be able to use drag-and-drop mouse technique to place dynamic system level object icons of all objects such as: cameras, video servers, inputs/outputs, events, maps, reports, dynamic views, and door/elevator icons. These dynamic object icons shall allow a system operator to perform tasks and issue commands related to the object by double-clicking on the icon.

a. The SMS shall allow the addition of new layers to the drawing (such that if the drawing must ever be reloaded due to an update of the drawing, the layer(s) created within the SMS will be added back automatically without additional reconfiguration).

b. The SMS shall allow the hiding of layers in View mode but icons in an alert state on hidden layers shall still be shown.

c. The SMS shall be able to directly import the following file formats for the map:

1) AutoCAD (.DWG)
2) DXF
3) JPEG (.JPG)
4) PNG

d. The Maps feature shall include two operational modes: an administrative mode to allow configuring of the facility floor plans or site plans that show exterior features and a runtime mode to allow monitoring and interacting with the configured facility layouts or site plans.

I. GIS Mapping

1. The SMS shall support Geographic Information System (GIS) locations for SMS devices such as, Doors, Readers, Outputs, Inputs, and Events.
2. The SMS shall allow the assignment of GIS locations to objects by selecting the location on a GIS map.
3. The SMS shall allow the SMS Operator to view the GIS location of an object or multiple objects via the context menu (right click).
4. The SMS shall allow the SMS Operator to perform an action on the selected GIS object (Momentary unlock door etc.,) via the context menu (right click).

J. Information Storage, Backup and Transfer

1. All programmed information, as well as transactional history, shall be automatically stored in the database for later retrieval and backup. The SMS shall support configurations where the SMS database(s) may be installed on a hard drive on the SMS server, on an independent database server, or in an existing corporate database server.
2. The SMS shall be capable of backing up and restoring all system data and transactional history. The server shall be capable of transferring all programmed data and transactional history to CD-ROM, DVD, or Hard Drive (including networked drives).
3. The SMS shall allow activity history to be written to a database. The system shall have the capacity to store a minimum of 50 million transactions. There shall be a method of backing up the activity history on external media and then restoring and replaying it.
4. The SMS shall support AES 256-bit encrypted communications between server and user client.
5. The SMS shall support AES 256-bit encrypted communications between server and controller. The encryption shall support both local and third-party digital certificates.

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K. Communication Ports

1. The SMS shall be able to support multiple serial devices. In addition to COM1 and COM2, up to [8, 16, 32, to 256] additional ports may be configured through the use of a port expander or its equivalent. These serial ports may be used for connection to CCTV matrix switchers, or apC panels.
2. The SMS shall support the use of Ethernet networks as the communications path between the host computer and field devices such as, iSTAR, apC, apC 8/x, controllers, and CCTV matrix switchers. This communications path shall be the same network used for communications between the host server and the operator workstations. The communications between the host computer and the field devices shall be encapsulated in a TCP/IP network/transport layer. The SMS shall support IPv6. (IPv6 shall be supported only on C•CURE 9000 Clients and iSTAR Ultra controllers.)

L. Printers

1. The SMS shall support report printing. The report printer(s) may be connected directly to the client PC or shared over a network. The SMS shall support as report printer(s) any printer for which a printer driver exists within the Operating System supported by the current SMS version.

M. Software Configuration

1. The SMS configuration tools shall utilize intelligent configuration controls. The system shall be structured so an operator is unable to perform configuration functions that are invalid based on the configuration used. The system shall support the ability to search within browser lists using filtering operators such as “begins with”, “ends with”, “contains”, etc. The system shall also allow an operator to do searches using filtering operators on any class of object in the system, both in the Administration application and the Monitoring Station application.
2. The SMS shall allow text description of all configured objects. The SMS shall allow the renaming of an existing title description without removing the sub-components of that configuration object. The SMS shall automatically remove from the system all configuration references to an object being deleted. The SMS shall automatically provide default names for all inputs, outputs, readers, and extension boards. The SMS shall clearly display which hardware objects (inputs, outputs, readers) on a controller are configured, and which are not.
3. The SMS shall provide for the configuration of templates. Templates of supported objects shall be operator-configurable to provide default values by pre-populating commonly used data fields.
4. The SMS shall support an unlimited number of groups for any object type. The SMS shall support unlimited object group definitions. In general, a group shall be usable wherever an individual object is referenced in the SMS. For example, a group may be used instead of an object when configuring a schedule/object pair in a clearance, and a group may be used instead of an object when performing a manual action to unlock a door.
5. The SMS shall generally allow any object in the system to be grouped including personnel, doors, inputs, outputs and clearances.
6. The SMS shall restrict the viewing and controlling of objects in the administration and monitoring stations via operator privileges. The SMS shall support the configuration of operator restrictions on an object class basis, and on an object-by-object basis. The SMS shall maintain a distinction between objects that are being monitored and objects that are being controlled, preventing operators from issuing object manual actions to objects for which the operator does not have manual action privileges. There shall be different levels of controls within the system for administration privileges versus monitoring privileges.
7. The SMS shall support unlimited operator accounts with unlimited definable privilege levels.
8. The SMS shall allow configuration of controllers using hierarchical tree-based navigation and context menus.
9. The SMS shall support the ability to download firmware updates to the controllers.
10. The SMS shall support the following methods for Operator authentication and authorization:
    a. Windows Single Sign-On (SSO).
    b. Basic User Authentication with locally defined usernames and passwords with

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strong password rule enforcement.

11. The SMS shall provide an automatic client update process for quick distribution of application updates.
12. The SMS shall have context sensitive online help (at the screen level) available at any point requiring operator input.

N. Workstation Support
1. The SMS shall support a Workstation Dynamic View which shall list at a minimum:
   a. The Workstation Name
   b. A Description
   c. Enabled/Disabled status
   d. Last known Operator
2. Last known Application/connection type with version information
3. The SMS shall support the ability to disable any Workstation preventing any Operator Login from disabled Workstations.

O. Object Tagging
1. The SMS shall support the tagging of system objects. Tags shall be used to associate content or metadata to an object to create ease of use to find, manage, and organize system objects.
2. The SMS shall support General and Location tags. Location tags shall support the addition of Geographic Information System (GIS) information.
3. The SMS shall provide a Tag Manager that shall:
   a, Be built into the SMS Administration application
   b. Facilitate the creation and management of tags
   c. Allow the linking of system objects to tags
   d. Provide the creation of hierarchies and meta-tags
   e. Display hierarchies and objects associated to tags
4. Tag names shall support up to 100 characters
5. Tag hierarchies shall support a depth of up to 20 tags

P. Smart Search
1. The SMS shall support a smart search bar that shall perform a global search among all types, tags, and objects present in the SMS using the name field.
2. The SMS shall support a keyboard shortcut (Ctrl+E) to invoke the smart search from the SMS Administration Application.
3. The smart search shall allow results to be shown for partial entries in the search bar and results shall be displayed immediately upon entering data without additional keystrokes.
4. Search results shall be separated into groups by object type and shall allow objects to be edited by selecting the object from the list.

Q. User-Defined Fields
1. The SMS shall support an unlimited number of User-defined fields. Each user-defined field shall allow a name, description and a customizable label. A default language shall be selectable by the System Administrator for the user-defined field labels.
2. User-defined fields shall support customizable character size restrictions which shall limit the size of the field.
3. User-defined fields shall be usable for reports, queries, dynamic views and exports of system data.
4. User-defined fields shall be available for the following SMS objects:
   a. Personnel
   b. Credentials
   c. Field Controllers
   d. Inputs
   e. Outputs
   f. Events
   g. Card Readers
   h. Doors
   i. Elevators
   j. Clearances
   k. Visits

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l. Access Requests
m. Video Cameras/Servers
n. CCTV Switches/Cameras

5. User-defined fields shall be definable as Mandatory and/or Unique and shall support the following field types:
   a. Character
   b. Integer
   c. Logical
   d. Date/Time
   e. Date
   f. Time
   g. Enumerated List
   h. Multi Line
   i. Decimal
   j. Identity
6. User-defined fields shall support masking to provide consistency of data entry across all system operators. Custom masks, as well as the following predefined masks, shall be available:
   a. Alphabetic
   b. Alphanumeric
   c. Numeric
   d. Phone Number – USA
   e. Zip Code
   f. Zip Code +4
   g. Alpha – All Caps
   h. Alpha – All Lower case

R. Personnel Records
1. The SMS shall provide Personnel Templates that shall eliminate repetitive data entry by pre-configuring Personnel Records with data common to all Personnel of a certain type.
2. The SMS Personnel records shall provide multiple tabbed pages of personnel data containing default system and user-defined fields. Labels for user-defined field tabs shall be customizable by the System Administrator with the appropriate privileges. The SMS Personnel record shall support the creation of tabs allowing for additional user-defined fields.
3. The SMS shall support a Watchlist flag for all Personnel to identify individuals requiring special attention.
4. The SMS shall provide assistance alerts in the form of a button on the Personnel screen for the operator to request assistance from another operator via an event activation.
5. The SMS shall provide a “Personnel Record Document Object” option which allows the operator to assign / attach up to two (2) documents (such as URL, PDF, or TXT files) to the personnel record. The document may be applied to the record as one of the following:
   a. 'Shared' Document - added to the SMS via the Documents Editor.
   b. 'Private' Document - imported from outside the system, such as a birth certificate or a diploma.
6. The SMS shall include a "Documents" tab to user-defined personnel views as well as the default view "Personnel View with Portrait in Header" to support the association of documents. The documents are available for viewing by operators with appropriate privilege.
7. The SMS shall support the generation of a unique random card number for an access credential for all Personnel records. The unique card number shall contain up to the maximum number of digits for the CHUID format chosen for the credential.
8. The SMS shall support the configuration of a trigger for a Personnel record that pulses an Event whenever a 'Card Admitted'/'Card Rejected' message is logged to the Journal for that person at a defined Door/Elevator.
9. The SMS shall support an email address field for each Personnel Record and shall support the sending of emails to Personnel Groups.

S. Credentials
1. The SMS shall support a minimum of five (5) credentials (cards) per Personnel record and shall only count Active and/or Expired Cards towards the maximum assignable Cards per

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Person. Cards designated as Lost, Stolen and Disabled shall not count towards the maximum assignable Cards per Person.

2. The SMS shall support the ability to define the default period of time (in Days, Hours or Years) from a Credential's Activation Date until its Expiration. The SMS shall support an override of the default Expiration time period for individual Personnel Types.
3. The SMS shall support Temporary Credentials. Temporary Credentials shall be available for general re-use without being associated to specific Personnel records. Temporary Credentials shall be assignable to visitors and can also serve as temporary replacement cards for Personnel who misplaced or forgot their regular Credentials. The SMS shall support the configuration of a default number of days for Temporary Credentials to remain active after they are created.
4. The SMS shall provide the ability to define background colors for the Active/Expired Credential Status fields in the Personnel Record.
5. The SMS shall support a system-wide setting to automatically disable Personnel Credentials that have not been used for a specified period of time. The Disable by Inactivity process shall support a user configurable daily scan time.

T. Two Factor Authentication

1. The SMS shall support Two Factor Authentication providing an additional level of security for credentials and access requests utilizing a Mobile phone. Two Factor Authentication (2FA) shall provide access to a protected door using a second, additional method of authentication before access is granted by the reader.
2. Two Factor Authentication shall utilize SMS software only and shall not require specialized hardware at the door.
3. Two Factor Authentication shall be supported using the following methods:
   a. Cardholders using a card at a 2FA protected door shall receive a notification on a mobile phone requesting that they authenticate the pending card access request. Using a mobile App, the cardholder shall either approve or deny the request.
   b. Cardholders using a card at a 2FA protected door shall receive an automated call on their mobile phone. The automated call shall prompt the user to press a key to approve the request or end the call to deny the request. This method shall not require the use of a mobile application.

U. Personnel Views

1. The SMS shall support user-defined Personnel Views. Personnel Views shall provide the ability to customize the Personnel record by adding and/or removing certain objects from the operator's view. Personnel Views shall be assignable to SMS operators via the operator's assigned privilege and shall be definable for use in the creation and/or editing of the Personnel record. All Personnel Views enabled for an operator shall be selectable from the current view to allow an operator to switch views in real time. Personnel Views shall support the following:
   a. Adding/Removing Fields (including all user-defined fields)
   b. Custom Field Labels
   c. Adding Boxes to group together common fields
   d. Adding/Removing tabs to organize fields
   e. Custom Tab Labels
   f. Customization of Tab display order
   g. Background/Foreground color control of fields and labels
   h. Personnel Record Document Object – to associate up to two (2) documents to the record

V. Language Localization

1. The SMS shall be configured so the information presented to system operators is displayed in a language native to the system operator provided that the proper translation files exist.
2. It shall be possible to translate the SMS into any left-to-right or right-to-left language supported by Unicode and by the Microsoft Windows operating system.
3. Languages shall include English, Arabic, Brazilian Portuguese, Czech, Dutch, Danish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Polish, Russian, Swedish, Simplified Chinese, Spanish, Traditional Chinese and Turkish.

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W. Inputs

1. The SMS shall monitor both supervised and unsupervised hardware inputs as well as virtual inputs such as predefined system messages. These inputs include door / elevator inputs and monitor points. The SMS shall also monitor controller inputs such as tamper, AC fail, and low battery.
2. The SMS shall have the ability to name and allow for user-defined descriptions for individual inputs, outputs, and readers as well as input and output modules.
3. There shall be three separate and distinct states for inputs, which can be defined on the input configuration screen: Disabled, Enabled / Disarmed and Enabled / Armed.
4. The SMS shall allow configuration to link the state of an input to an output. The system shall allow multiple inputs to activate a single output or group of outputs.

X. Outputs

1. The SMS shall have outputs, also known as Control points, which associate an input or event action with a relay output. These output uses include doors / elevators, alarms and industrial control.
2. There shall be three types of outputs available: dry contact / Form C relays, wet or voltage sourced relays and Open Collectors. Outputs shall be configured such that they can be activated, deactivated or pulsed by system actions.

Y. Card and Reader Support

1. The SMS shall be designed to support multiple card formats and card reader types.
2. The SMS shall support the following features for directly connected readers:
   a. OSDP. (Open Supervised Device Protocol), v2.1.6 or higher. OSDP shall only be supported with the iSTAR Ultra and qualified OSDP capable readers using OSDP Secure Channel AES128 encryption.
   b. User definable options pertaining to LED and Beeper control.
   c. User defined card formats up to 256 bits.
   d. Unlimited number of SMS card formats.
   e. The ability to assign up to 10 card formats per reader.
   f. The ability to show reader status on RM LCD.
   g. Support Wiegand and 3x4 matrix keypads.
   h. The enrollment of biometric templates to smartcards.
   i. Custom CHUID FIPS201-compliant supporting full 256-bit data.
   j. The SMS shall support readers that provide Wiegand signaling and magnetic signaling to include:
      1) Software House RM readers.
      2) Software House Multi-technology readers.
      3) Wiegand swipe/insert readers.
      4) Proximity readers.
      5) Biometric readers.
      6) Smart card readers.
      7) Wireless readers.
      8) Magnetic readers.

Z. Advanced Door Monitoring

1. The SMS shall support Advanced Door Monitoring allowing additional monitoring inputs and lock sensing equipment at all doors. Advanced Door Monitoring shall allow integration with third-party lock release inputs, such as fire and crash bar devices, that control emergency egress.
2. Advanced Door Monitoring shall include:
   a. Multiple inputs – Advanced Doors shall support up to 16 inputs.
   b. Single and double-leaf doors with multiple DSM or Request To Exit (RTE) inputs.
   c. Shall support Lock sensing devices – to monitor locking on magnetic bonds, bolts, and cams.
   d. Integrated lock releases – to integrate door unlocking with fire, crash bar, power fail, and key switch inputs.
   e. Special events and actions – to create keypad commands that lock, unlock, and secure doors for a specific time period.
   f. Alarm Suppression and RTE control on a per door basis.
   g. Enhanced Shunt control.

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h. Grace and change timing options – to fine tune the SMS timing to avoid the effects of ‘door bounce’.
i. Journal reports and Monitor Station activities – to manage the system and monitor door activity.
j. Additional Event Actions related to Advanced Doors

AA. Keypad Commands
1. The SMS shall support keypad commands. Keypad commands shall be up to nine digits in length. Keypad commands shall be entered at a keypad connected to an iSTAR controller and shall be used to activate system events. The event shall be configurable to activate any allowable event action.
2. Keypad Commands shall support Personnel Permission options to accompany the command and validate the issuer’s identity. Keypad Commands shall be configurable to require a valid credential or a valid credential plus a PIN. Keypad Commands shall also be available to all Personnel or only selected Personnel as part of a Personnel Group.
3. The SMS shall support the assignment of certain users as Keypad Command Administrators. These users shall be able to issue all Keypad Commands and shall not be required to be part of a Personnel Group assigned to a Keypad Command.
4. Keypad commands shall have the ability to be limited to specific doors as part of a Door Group within an iSTAR Cluster. In addition, specific readers shall be configured to allow or disallow keypad commands.
5. Keypad Commands shall support segmentation of the nine-digit code in the form of Prompt Codes. Prompt Codes shall allow the user to utilize some digits of the Keypad Command to correspond to a command such as a door unlock, and the remaining digits to correspond to an object such as a door. When using Prompt Codes, the first segment shall be entered and the SMS shall prompt the user on the reader LCD module to enter the remaining digits. The SMS shall support two Prompt Codes per keypad command.

BB. RM Reader LCD Messages
1. The SMS shall provide custom LCD messages to be displayed on the LCD screen of RM readers. All messages, as well as date and time formats, shall be downloaded to the controller and will be used on all supported readers configured on that panel. The ability for the System Administrator to change the Language for LCD messages shall be provided. (The reader LCD supports Western character sets only. No double-byte languages are supported.)

CC. Wireless Reader Devices
1. The SMS shall provide for a Wireless Lock solution. The SMS shall interface to the wireless lock via panel interface modules. The panel interface modules (PIM) shall support a direct connect Wiegand or RS-485 interface to the Intelligent Controller.
2. The SMS shall support up to 32 wireless readers per iSTAR controller. The readers shall support communicating with two chains of panel interface modules supporting up to 16 modules per chain.
3. The SMS shall provide a Wireless Reader configuration tab within the Intelligent Controller UI for the setup of the RS-485 version of panel interface modules.
4. The wireless reader editor shall support the following input configuration:
   a. Wireless DSM
   b. Wireless RTE
   c. Wireless Reader Tamper
   d. Wireless Reader Communication Fail
   e. Low Battery
5. The wireless reader editor shall support the configuration of an output for door latch relay.
6. The SMS shall also support a Wiegand interface module to communicate to the iSTAR and apC family of controllers as a standard Wiegand reader signal.

DD. Door Configurations / Elevator Control
1. The SMS shall allow doors to be configured to operate in any of the following access control modes:
   a. Unlocked
   b. No Access (Secure mode)
   c. Any combination of the following, as defined by schedule, event: card only, PIN

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only, Card + PIN, Card entry through keypad.

2. The SMS shall allow a door to be configured to operate using the following functions:
   a. Readers shall read cards while the door is in the open position.
   b. Door lock relay shall automatically lock upon the door being opened.
   c. Allow for a user-defined delay relock time period.
   d. Allow for a user-defined door unlock time and door held open time.
   e. A separate (alternate) shunt timer for ADA flagged cardholders
   f. The operator shall be able to specify a shunt expiration output to be triggered for a configurable time (in hh:mm:ss) before the expiration of the door open or alternate shunt. Can be enabled for ADA only, or all the time.
   g. Allow for a user-defined door unlock and door held time, in seconds.
   h. PIN-only access (keypad).
   i. PIN-entry on the reader keypad shall be required during a specified schedule after a card access (unless a manual action or event has disabled PIN).
   j. Card entry through keypad.
3. The SMS shall allow each door to be configured to cause a variety of events such as alarms to occur based on activity at that door.
4. The SMS shall support the activation of an event after a user-defined number of consecutive cards are rejected at a door. A user-configurable timer shall be available to determine the time-frame for the consecutive rejects. The timer shall restart after a valid card read. Separate triggers shall be available for inbound and outbound directions on doors with in and out readers.
5. The SMS shall support configuration of unlimited elevators.
6. The SMS shall support an extended unlock function initiated via two valid card presentations to a single reader or a ‘double swipe’. The double swipe feature provides the ability to designate doors at which cardholders with double swipe privileges may perform an extended lock or unlock of the door. The double swipe feature shall support the following:
   a. Toggle mode – the first double swipe shall unlock the door and the second shall relock it. Toggle mode shall support the assignment of a cardholder group that can perform the double swipe.
   b. Cardholders shall be required to have proper clearance to perform double swipe action.
   c. Each SMS door shall be uniquely configurable for double swipe.
   d. Reset of a double swipe unlock (relock) via a scheduled event.
   e. Event activation to reflect double swipe state (Lock, Unlock).
   f. Modified reader beeper pattern to reflect the extended unlock mode.
7. The SMS shall support a two person mode for unlocking certain doors – two person mode shall require two cardholders to present valid cards to unlock a door. Two person mode shall support the assignment of separate cardholder groups for each cardholder that can perform the door unlock. (Two person mode shall only be available on doors connected to iSTAR Ultra Controllers)

EE. Maintenance Mode

1. The SMS shall support a Maintenance Mode to facilitate the installation, testing and maintenance of selected SMS objects. Maintenance Mode shall be used to limit information about an object displayed on the SMS Monitoring Station. An SMS System Operator, with the appropriate Privileges, shall be able to place SMS objects into Maintenance Mode. Placing an object into Maintenance Mode shall not prevent SMS actions associated with that object from occurring. Maintenance Mode shall only affect the Monitoring Application and shall allow the System Operator to:
   a. Only view those objects in Maintenance Mode
   b. Exclude those objects in Maintenance Mode from an Operator’s view
   c. View information about all System objects, including those in Maintenance Mode
2. Operator Privilege and Application Layout Filtering assignments shall determine whether or not an object in Maintenance Mode is viewable as being in Maintenance Mode on the Monitoring Station. Only Monitoring Station operators with the correct privilege and Application Layout Filtering shall be able to view objects in Maintenance Mode. Maintenance Mode shall only be reported in Journal messages when an object is placed in Maintenance Mode.

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3. The following objects shall be supported in Maintenance Mode (at a minimum):
   - iSTAR Clusters
   - Controllers
   - Doors
   - Readers
   - Input / Output Modules
   - Inputs
   - Outputs
   - Elevators
   - Events
   - Areas
   - Intrusion Zones
   - Keypad Commands

FF. Area Control and Antipassback

1. The SMS shall support the ability to define Area configurations. Areas are defined as physical regions bounded by doors. An area shall consist of a room, a specific location(s) within a building, or an entire building
2. All configured areas shall have in/out access doors providing the ability to run reports showing all present cardholders in each area. There shall be no way to leave an area without presenting a credential to a reader/door.
3. The SMS shall support Global Antipassback and shall allow an area to be configured to cross multiple clusters (groups of controllers) to enforce Global Antipassback decisions.
4. The SMS shall provide the ability to run a Roll Call report. The host shall maintain a current area for each personnel record, and the time at which the area was entered (AreaAccessTime).The current area shall represent the last area entered by the cardholder based on a valid admit.
5. The SMS shall support Area control to provide the ability for tracking personnel. With this function, an operator shall obtain the current location of cardholders. Dynamic views and or reports can be generated to show specific cardholders who are present in each defined area.
6. Each cardholder's record shall provide easy access to view and maintain their current area location. This card record property will be updated as a person moves from one area to another using a valid credential.
7. The SMS shall support the configuration of an area as a Mustering area. A Mustering area is an area where Personnel gather in an emergency. A Roll Call report shall be supported for the tracking of Personnel present during an emergency. The SMS shall also support the definition of a De-Mustering area. The De-Mustering area shall be used to place all Personnel in a neutral area to accurately track Personnel as they re-enter a facility.
8. The local controller shall provide the ability to manage and control the Area configuration in the event that it loses communication with the SMS system server.
9. The SMS Area configuration shall have three modes of operations: None, Antipassback, and Timed Antipassback.
10. Antipassback shall control access based on the cardholder's location. The SMS shall deny access to cardholders who are in violation of antipassback rules. In the event that a cardholder leaves an area without presenting their credential to the out access reader/door and then tries to enter back into the area by swiping the In access reader/door, a denial of access will occur. The SMS shall provide the ability to grace individual cardholders who have violated antipassback rules. The Grace option shall also provide the ability to grace all cardholders.
11. Antipassback shall continue to be enforced during communications failure. SMS controllers shall have the ability to be clustered in a group. The master controller in the group and all other controllers within that group shall have full access to the existing antipassback information. The cluster can be configured for 'No Access' Communications Failure mode or for 'Local' Communications Failure mode.
12. Clustered controllers configured in 'Local' mode that are disconnected from the master controller shall grace all cardholders from antipassback violations. The disconnected controller shall then follow antipassback rules specific to the areas defined on that controller. If the controller does not know if a cardholder is in antipassback violation based on areas that are configured between controllers, access will be granted.
13. Clustered controllers configured in 'No Access' mode that are disconnected from the master controller mode shall not grace all cardholders from antipassback violations. All cardholders will receive a denial of access until communications is restored.
14. The SMS shall support Timed Antipassback. Areas configured for Timed Antipassback shall require a cardholder use an exit reader to exit an area. Cardholders who do not exit properly shall be required to wait for a predetermined period of time before re-entering the

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area.

15. The SMS shall support Pass-through Areas. Area Pass-through shall serve to restrict the length of time that Personnel can remain in an Area before being required to exit or pass through to another area. The SMS shall support a user-defined time period for the Pass-through area. Personnel Groups shall be configurable with Pass-through Restrictions and each Personnel Group shall support a separate, user-defined time period that may be different than the Area-wide time interval. Personnel Groups shall be configurable to be exempt from Pass-through Restrictions.
16. The SMS shall provide occupancy restrictions for areas. Restrictions shall be applied to individual cardholders (personnel) or user defined groups of cardholders. Areas shall be configurable to provide limits for the maximum and minimum number of personnel who can access an area at one time. It shall be possible to trigger an event based upon a violation of either of these rules. Events shall be configurable based upon the following criteria:
    a. Maximum occupancy status
    b. Minimum occupancy status
    c. Group Maximum occupancy status
    d. Group Minimum occupancy status
    e. Personnel Count (user-defined)
    f. Violation status (Antipassback entry/exit violation etc.)
17. The SMS shall support Soft occupancy restrictions for both maximum and minimum occupancy to allow reporting of violations while still allowing access to the area.
18. The SMS shall support Area Lockout. Area Lockout shall restrict or lockout certain cardholders from an area once they have accessed another area. The cardholder shall be locked out of the designated target Area or Group of Areas for a specified period of time. The maximum time period for lockout shall be five (5) days. The target locked-out Area shall be any of the following:
    a. Same Area
    b. Another Area
    c. Area group
19. The SMS shall allow a System Operator with the appropriate privileges to cancel the lockout time (lockout grace) for all or individual cardholders, thereby canceling the area lockout.

GG. Area Supervisor

1. The SMS shall support Area Supervisor functionality. The Area Supervisor feature shall support the designation of certain cardholders as Supervisors and other cardholders as Supervised. A Supervisor shall be present in an area before Supervised Cardholders can enter and a Supervisor shall not be permitted to leave as long as Supervised Cardholders remain in the area.
2. An area designated for the Area Supervisor feature shall have an entry reader and an exit reader.

HH. Dynamic Area Manager

1. The SMS shall support the Dynamic Area Manager feature. The Dynamic Area Manager feature shall allow the first qualified person admitted to the Area to act as the Area Manager. This person shall be the first to enter the area and shall be required to be the last to leave the area.
2. An area designated for the Dynamic Area Manager feature shall have an entry reader and an exit reader.
3. The SMS shall deny any exit request from the area manager until all other occupants have left the area.
4. The Dynamic Area Manager feature shall support the use of the Conditional Access feature for the designated area.
5. The Area status display shall show the following Personnel counts:
    a. Area Manager count
    b. Managed Personnel Count (All Personnel admitted after the Dynamic Area Manager)
    c. Conditionally Admitted Personnel Count

II. Carpool Antipassback

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1. The SMS shall provide Carpool Antipassback to facilitate parking lot area controls. Carpool Antipassback shall support the organization of Personnel into Carpool Groups which shall be permitted to park in designated Carpool Areas. The SMS shall move Carpool Groups in and out of Carpool areas based upon the driver's credential. The Carpool Antipassback feature shall allow the monitoring of vehicle counts in the Carpool Area to facilitate parking lot area Occupancy Restrictions. The SMS shall support Timed Antipassback for Carpool Antipassback areas.

JJ. Escorted Access

1. The SMS shall provide an Escorted Access feature that gives the ability to control, track, and report on the movements of Personnel designated as Escorted Visitors. An Escorted Visitor shall be a visitor who can only move around a facility in tandem with an employee designated as an Escort.
2. There shall be two Escort Visitor modes: Companion mode and Remote Escort Mode. In Companion mode the system shall allow multiple Escorted Visitors to be accompanied by one escort. In Remote Escort mode the system shall allow Escorted Visitors and the Escort to present their credentials on opposite sides of a door to gain access.
3. The SMS shall have the ability to configure a designated Area to allow an Escorted Visitor to enter/exit the area without an Escort.

KK. Conditional Access

1. The SMS shall support Conditional Access that shall allow an occupant on one side of a door to grant temporary access to a cardholder who does not have clearance and was denied access to that door.
2. The SMS shall support the configuration of an event to be used to notify the occupant that a cardholder is attempting to gain access through the door.
3. The SMS shall support the configuration of a second event to be used to unlock/grant access to the door based upon a response from the occupant or a privileged SMS Operator.
4. The Conditional Access function shall support an Operator configurable timer that shall be used to cancel the Conditional Access request if the occupant is unavailable or chooses to deny access
5. The SMS shall support the use of Conditional Access in conjunction with the Dynamic Area Manager feature.

LL. After-Hours Enabling Reader

1. The SMS shall support an After Hours Enabling Reader that shall be used to allow a cardholder access to a group of readers during off hours.
2. The SMS shall support the definition of a group of readers (the After Hours Reader Group) that shall be disabled during a pre-defined after hours period.
3. The SMS shall support the definition of a schedule to be assigned to the after-hours reader group defining the time the readers shall be disabled.
4. The SMS shall allow a cardholder access to all readers in the after-hours reader group once the cardholder presents a card at the enabling reader.
5. The SMS shall require the cardholder to have proper clearance for any reader before granting access.

MM. Intrusion Zones

1. The SMS shall support the configuration of Intrusion Zones. An Intrusion Zone is a user-defined group of Doors and Inputs on the same local Controller that delineates a physical area. This area shall be monitored and produce an alarm during any violation of the objects associated with the Zone.
2. The local controller shall provide the ability to manage and control the Intrusion Zone in the event that it loses communication with the SMS system server.
3. The Intrusion Zone shall have 2 modes of operations: Armed or Disarmed. When an Intrusion Zone is in an armed mode, the state of the Intrusion Zone shall either be violated or Not Violated based on the state of the inputs and doors associated with the Zone. If the Zone is violated the SMS shall provide the ability to execute any defined event(s) within the SMS.
4. The SMS shall provide the ability to display the "Ready to Arm State" of any configured Zone. The "Ready to Arm State" shall be able to be displayed from any SMS monitoring

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application or from a local reader with an LCD display. All off-normal points/doors shall be able to be displayed from both locations. If any point or door associated with a Zone is not in a normal state, the Zone shall show a “Not Ready to Arm State”.

5. When a door is placed in a Zone, the operation of the door shall be configured based on the state of the Zone (unlocked, locked, secure). Specific doors assigned to the Intrusion Zone shall be configured as entrance or exit points for the Zone. When the Zone is being armed or disarmed, a user-definable time shall be set for exit or disarm operations. Specific readers/doors shall have the ability to be defined as arm/disarming stations.
6. The Intrusion Zone shall be configured such that when an input configured in a Zone is active, the Zone cannot be armed without executing a force arm. When a Zone is force armed, the input(s) that were in an active state shall not function as part of the Zone until they are placed back in a normal state and the Zone is disarmed and rearmed.
7. Inputs configured in a Zone shall have the ability to be configured as Controlled Inputs or Monitored Inputs. A Controlled Input shall follow the state of the Zone. If the Zone is disarmed, the Controlled Input shall be disarmed as well. A Monitored Input shall have the ability to cause a Zone violation even if the Zone is in a disarmed state.

NN. Schedules

1. The SMS shall support unlimited operator configurable schedules. Each schedule shall allow unlimited individual time intervals.
2. Each system controller shall support a minimum of 128 schedules and a minimum of 18 time intervals per schedule.
3. Each schedule shall consist of operator-defined time segments. Each time segment shall be day(s) of the week and include holidays and starting and ending times. The system shall provide grouping of days.
4. Recurring schedules shall be supported and provide hourly, daily, weekly, bi-weekly, monthly, quarterly, annual and semi-annual intervals. Recurring schedules shall support a start date and shall be configurable to end by a certain date or after a pre-defined number of occurrences.
5. Recurrence patterns shall be supported to allow:
   a. Schedule recurs every X year(s)
   b. Schedule activates on the last day of each month
   c. Schedule activates on the specified day of each month
   d. Schedule activates on the first, second, third etc. weekday of each month

OO. Holidays

1. The SMS shall support unlimited holidays.
2. The SMS shall support holiday type designations as Recurring Day of Month, Recurring Relative Monthly, Non-Recurring or Day of Week. The SMS shall allow assignment of duration to each holiday.
3. Holiday groups can be assigned to a Schedule.

PP. Time Zones

1. The SMS shall maintain time zones to be used when configuring certain system objects. A time zone shall adhere to standard international Time Zone behavior, and the system shall support all time zones supported by the Windows OS.
2. The SMS shall allow time zones to be assigned to IP devices, controllers, CCTV matrix switchers, DVRs, and scheduled Manual Actions.

QQ. Clearances

1. The SMS shall support configuration of unlimited Clearances.
2. The iSTAR controllers shall support up to 150 clearances per person except for the iSTAR Ultra controller, which shall support up to 1000 clearances per person.
3. The SMS shall support clearance activation and expiration date and time.
4. The SMS shall support unique activation and expiration dates and times for clearances for each Cardholder. (This functionality requires the iSTAR Ultra Controller)
5. The SMS shall support the ability to select multiple personnel from a Dynamic View and assign clearance(s) to the selected personnel.
6. The SMS shall support the ability to select multiple personnel from a Dynamic View and remove clearance(s) from the selected personnel.

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RR. Custom Clearances

1. The SMS shall support the configuration of up to 20 Custom Clearances per Personnel record and up to 100,000 system-wide. Custom clearance shall give unique individualized access to Doors/Door Groups and Elevators/Elevator Groups during an assigned schedule. The SMS Custom Clearances shall also support the assignment of activation and expiration dates.
2. The SMS shall support a process to remove expired custom clearances from personnel records. The process shall be configured as a system-wide event action with the option to activate by schedule.

SS. Clearance Filters

1. The SMS shall support Clearance Filters. Clearance Filters shall provide the ability to dynamically change the access rights of personnel (cardholders) or groups of personnel. Personnel with a lower Clearance Filter level than that assigned to a card reader shall be denied access to that card reader (door). Clearance Filter levels shall be assignable to card readers either manually or automatically via event logic or a time schedule.

TT. Events

1. The SMS shall support unlimited operator configurable events, including the scheduling of events, and action-based trigger of events.
2. The system shall provide 8 configurable event priority levels with a total of 200 numbered event priorities. The system shall allow the operator to define custom colors and labels per individual priority level.
3. The system shall allow an event to be configured to:
    a. Be sortable by event name, date/time, priority, state, and any other displayable information.
    b. Be routed to operators by operator privileges, including support for the routing by time of day feature.
    c. Require or not require operator acknowledgment.
    d. Require or not require operator clearing.
    e. Require or not require a log message to be entered by the system operator acknowledging the event.
    f. Require or not require a log message to be entered by the system operator clearing the event.
    g. Display or not display the event activation.
    h. Require the object(s) causing the event activation to reset before the operator may acknowledge the event.
    i. Display an operator-defined text message upon event activation.
    j. Display an operator-defined text message when the event is deactivated.
    k. Be associated with a map so the map opens automatically on the monitoring station when the event activates.
    l. Activate a second event when the first event activates and is unacknowledged for a specified period of time.
    m. Activate a second event when the first event activates, is acknowledged and is not cleared for a specified period of time.
    n. Allow the operator to associate an audio wave file with the event.
    o. Allow for minimum activation time and delayed activation time for events.
    p. Download events to the iSTAR controllers.
    q. Run imports and exports.
    r. Run reports and remove report results.
4. Event Instructions
    a. Each event shall support event instructions to be displayed in the Event Details Screen. Event instructions shall support a maximum of five hundred characters and shall support website addresses, UNC addresses and local file paths.
5. Latch, Unlatch, Toggle, and Pulse for Event
    a. The SMS shall support Event Actions and Manual Action buttons that can be used to Latch, Unlatch, Toggle, and Pulse other Events.
        1) The SMS shall support a “Latch” Event Action which shall cause it to activate and remain activated.
        2) The SMS shall support an “Unlatch” Event Action which shall cause it to

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deactivate and remain inactive.

3) The SMS shall support a “Toggle” Event Action which shall reverse an Event’s Latch-Unlatch state: switching a Latched Event to an Unlatched Event and vice versa.

4) The SMS shall support a “Pulse” Event Action which shall cause an event to activate momentarily.

6. The SMS shall allow an operator to create a copy of an existing event from within the event editor.

7. Event Assessment:

a. The SMS shall provide an Event Assessment Feature which allows an operator to quickly view all objects associated with an event in a user defined Event Assess Application Layout.

b. The SMS shall not require the operator to navigate away from the event assessment window to review objects associated with the event.

c. The SMS shall provide an Event Editor “Assess Configuration” to allow an operator to configure the objects available during the assessment of an event in the Monitoring Station.

d. The Assess Event Application Layout shall have the following capabilities:

1) View any documents associated with the Event.

2) View live video associated with the Event.

3) View recorded video associated with the Event.

4) View Event details.

5) View a Map associated with the Event.

6) View a Journal Replay of the event, based on a query associated with the Event.

7) Use an Event Details Viewer with additional quick action buttons to process the Event.

e. Each event shall provide the ability to show the entire Event Assessment with a single mouse click via an icon.

f. The event assessment layout shall only be available for viewing by operators with appropriate privilege.

UU. Dual Phase Event Acknowledgement

1. The SMS shall have the capability of configuring user defined events (alarms) to require Dual Phase Acknowledgement. Dual Phase Acknowledgement shall provide a Pending Acknowledgment window and a Pending Clear event monitoring window in addition to the System Activity window. Each event in the SMS shall be configurable individually to use Dual Phase Acknowledgement. Once the event is acknowledged, it shall be removed from the Pending Acknowledgment window and shall appear in the Pending Clear event monitoring window. A monitoring station operator with the appropriate privilege to clear events can select the event from the pending clear event monitor window and click the clear event button to clear the event. Events that require clearing and are waiting to be cleared shall be configurable to require acknowledgement upon re-activation of the event.

2. Events configured for Dual Phase Acknowledgement shall have the following features:

a. The event shall be configurable to require a log message for alarm acknowledgement and or alarm clearing.

b. Predefined log messages shall be assignable to alarm acknowledgement and or alarm clearing.

c. The SMS shall support the configuration of an Operator’s monitoring station permissions to determine if the operator can only acknowledge events, only clear events, or can acknowledge and clear events.

d. Operators with acknowledge and clear privileges shall be able to acknowledge and clear events in a single action.

e. A Dual Phase Acknowledgement event shall be configurable so the acknowledging operator can’t clear the event. (In this configuration, clearing the event shall be required by a different operator.)

f. Events that are acknowledged or silenced shall be configurable to remain silent until cleared.

g. A user-defined timer can be configured to activate a second event if acknowledgement of an event, or clearing of an event, does not take place within the specified time frame. The timer shall start when the event is activated.

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VV. Sounds

1. The SMS shall include a Sound editor that allows an operator to create Sound objects to associate with 'Play Sound' Actions for Events. A single Sound object may be associated with multiple Events, rather than having to save an individual sound file multiple times—each associated with a single Event.
2. Sounds shall be saved in a Sound table in the SMS database.
3. Sounds shall replicate, on an enterprise system, but they will be Local Only.
4. The SMS shall support the ability to import and export Sounds in .WAV file format. The size of the .WAV files that are imported shall be enforced to be less than 1460000 bytes (1.39 MB).
5. Sounds shall be Privilege based.

WW. Journal Triggers

1. The SMS shall support a Journal Triggers editor that allows an operator to define Triggers to activate an Event when a specified Journal Message occurs. The Journal Trigger shall be a Query-like object that evaluates Journal Messages and pulses an Event when the criteria specified in the configured trigger is logged in the Journal.
2. The SMS shall support an Event Action that sends email notification with a description of the activation cause each time a Journal trigger is activated.
3. The SMS Monitoring Event Status screen shall display the reason a particular Event was pulsed by a Journal trigger.
4. The SMS shall support up to a maximum of 500 Journal Triggers.

XX. Audit Triggers

1. The SMS shall support an Audit Triggers editor that allows an operator to define Triggers to activate an Event when a specified Audit Log Entry occurs. The Audit Trigger shall be a Query-like object that evaluates Audit Log Entries and pulses an Event when the criteria specified in the configured trigger is logged in the Audit Log.
2. The SMS shall support up to a maximum of 500 Audit Triggers.

YY. Manual Action Challenge

1. The SMS shall support Manual Action Challenges. The Manual Action Challenge shall require a SMS operator to enter their login credentials (Username and password) when executing a manual action from within the SMS.
2. The Manual Action Challenge shall be available from both the Administration and Monitoring Applications.
3. The Manual Action Challenge shall be assigned to a Privilege and the Privilege shall be assigned to the SMS operator.

ZZ. Document Editor

1. The SMS shall support the ability to import multiple types of document objects to include:
   a. PDF, TXT, XML, DOC, XLS, JPG, GIF, PNG, TIF

2. The SMS shall have the ability to attach these object types to the following areas:
   a. Personnel records to provide additional information.
   b. Events as part of the Events Assessment Feature.
   c. A Guard Tour

AAA. Integrated Email

1. The SMS email system shall have the ability to interface directly to an SMTP-compliant email system supplied and configured by the user.
2. The email configuration shall support user authentication via a password and SSL encrypted communication to the email server.
3. The email system shall support the ability to send emails to Personnel Groups.

BBB. Import / Export

1. The SMS shall provide a means for manually importing and exporting selected data in XML format. This mechanism shall support the import and export of any and all classes or types of data in the system. Specific data validation and logging requirements shall be met.
2. The system shall also support importing from CSV files.

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3. The SMS shall provide an automated import mechanism (preferably XML-based). This mechanism shall support the import of most classes or types of data into the system. Specific data validation and logging requirements shall be met.
4. The SMS shall have the capability to perform automated imports from an Open Database Connectivity (ODBC) data source allowing the import of personnel data directly into the system database.
5. The system shall have the ability to connect to a directory service source via the Lightweight Directory Application Protocol (LDAP). The connection to the LDAP source shall be user-configurable directly from the SMS and shall not require custom code. The LDAP interface shall also support the automatic assignment of SMS clearances based on data contained in the LDAP record. The LDAP feature shall support the following features:
   a. LDAP server name and user-defined port number.
   b. A base distinguished name for the root of searches.
   c. A user-definable LDAP search filter to refine object search.
   d. User-defined mapping of attributes to SMS personnel fields.
   e. The use of a Distinguished Name (DN) entry for the SMS to authenticate to LDAP.
   f. Option to search all sub-levels of the directory from the base DN.
   g. Preview sample-data based on SMS LDAP import settings.
   h. Automatic roles-based SMS clearance(s) based on two fields of source data.
   i. Automatic import of directory entries from the LDAP source.
   j. Authentication via a user-definable LDAP user account and SSL.
   k. Automatic SMS clearance assignment.
6. The SMS shall provide a Data Mapping feature that provides field mapping information using the XSLT file based on the input data or an external XSLT file.
7. The SMS shall support Import and management of Operators with their respective Privilege Groups using XML and LDAP role-based templates.

CCC. Objects
1. Each object within the SMS shall be addressed by a unique operator-defined name. Object names shall be unique within object types.
2. The SMS shall provide the ability to add description text to each object definition.

DDD. Reports
1. The SMS shall support a Report Service that runs as a Windows Service. The Report Service shall operate in either 64 or 32 bit mode. The Report Service shall execute Reports that are either run on the Server by an Operator or configured to run automatically as an Event Action.
2. The SMS shall provide configurable data reports for database configuration, historical activity (Journal) and audit tracking. Pre-defined reports shall be available for download and import into the system.
3. The SMS report function shall perform the following:
   a. Create reports about any object.
   b. Create report templates to simplify report design.
   c. Run reports on demand.
   d. Save report results for sharing between different users of the application.
   e. Export reports into formats such as PDF, RTF, TXT, TIFF, Excel (XLS), and MHTML.
   f. Specify a query to select and filter the records on which to report.
   g. Specify the data fields to be included in a report.
   h. Specify a design for the report layout.
   i. Design a report form to be used as a layout for headers / footers for multiple reports.
   j. Access and use system pre-defined report forms.
   k. Select tabular, multi-line, or free form report layouts.
   l. Report on objects linked together with parent / child relations.
   m. Schedule reports to run automatically on a customized schedule.
   n. Send exported report files to the printer or to external recipients via e-mail.
4. The SMS shall support integration to The Business Intelligence Reporting Suite (BIRS). The suite shall offer web-based reporting as well as data warehousing of SMS historical and system data. The suite shall include multiple pre-written reports such as 24 Hour

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Journal Messages, 24 Hour Trouble Messages, Graphical Usage and Count of Door Group. The open system procedures shall allow the reports to be written and saved for repeat use.

5. The reporting suite shall provide an interactive user experience via any standard web browser, allowing the user to scrutinize the information without needing to print or review hard copies.
6. The reporting suite shall support connecting to one or more SMS systems. This shall provide data and reports across an enterprise solution to allow segregated reports that reflect both satellite application server data as well as master application server data.
7. The reporting suite shall allow an enterprise to share and blend data from other sources such as ERP and Time and Attendance systems to yield critical business information and reporting.
8. The reporting suite shall provide information delivery options such as email, CSV export, PDF export, XML data transfer, or database pool offerings. The suite shall also be a critical resource in system review and audit procedures such as system maintenance and performance.
9. The Reporting Suite shall:
    a. Provide Intuitive user interface and web-based reporting for SMS customers
    b. Share and blend data from other sources to yield critical business information
    c. Leverage Microsoft® Business Intelligence (BI) tools
    d. Include Reporting Service for report delivery and presentation
    e. Perform Reporting and processing from the SMS host
    f. Include Subscription options for automated delivery of reports
    g. Include Dashboard, graphical, and statistical reports, and reports customized by user
    h. Generate Reports on any PC with compatible Web browser without SMS Client software
    i. Offer and secure Data via Active Directory and SQL permissions
    j. Include Optional front end or other application integration including SharePoint

EEE. Dynamic Views

1. The system shall support a grid format displayable report that will be usable to display homogeneous lists of objects within the system. This display shall be configurable both at configuration time and also at run time.
2. The Dynamic views shall have the following features:
    a. Real-time updating and display of property values.
    b. The display shall be sortable.
    c. Can be grouped by any number of columns.
    d. Filterable based on user selectable criteria.
    e. Printable.
    f. Can be saved as a MS Excel file from the current view.
    g. Exportable in either XML or CSV file formats.
    h. The export file shall be viewable in Excel (Excel must be installed separately).
    i. The export file shall be able to be emailed.
    j. The user shall be able to add and remove columns from the grid at runtime to enhance the user experience even if displaying a preconfigured view.
    k. The view shall be capable of pre-configuration so that repeatable displays of objects are possible.
    l. The view shall support in-place editing of properties of the object.
    m. Bulk operations shall be performed via multi-selection. The operations shall consist of (but are not limited to) setting a property to a value and deletion.

FFF. Query

1. The SMS shall provide a Query engine to be useful for users without any knowledge of SQL or any other specific query language. It shall allow users to make requests against data sets with preconfigured relations between tables. The relations shall reflect the actual relations between database objects and the user shall be able to put conditions on any available field in the selected object type and its subordinate objects.
2. The users shall be able to construct a proper query expression selecting all available operations, column names, and table names from prompted lists. It shall eliminate the necessity to memorize any particular expression syntax. References to existing

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configuration objects shall also be prompted through a list of existing objects where applicable, eliminating the necessity of memorizing names. The Query feature also shall support complex logic, such as AND/OR.

3. Negative logic Queries using the new NOT IN operators
   a. The SMS shall support Query filters that perform AND/OR operations to narrow Query results. The SMS shall also support building complex query operations by use of block filters that perform AND/OR/AND NOT IN/OR NOT IN operations to further narrow Query results.
4. The SMS shall provide a Journal Query Assistant as a special method of the Query engine to query on XML fields within Journal Messages. This method shall allow the user to build queries on Journal messages. The Journal Query Assistant shall support Card Admitted, Card Rejected, Operator Login and Operator Activity message types, Area Activity, Object Changed State and Manual Action message types.

GGG. Guard Tour

1. The SMS shall support Guard Tours.
2. A Guard Tour shall consist of a series of predetermined Stops requiring a Guard to check-in at each Stop to complete the Tour within the specified time. The Guard Tour shall consist of any combination of Doors, Elevators, and Inputs.
3. The SMS shall support a maximum of two hundred Guard Tours.
4. The maximum number of Stops per Guard Tour shall be one hundred.
5. The SMS shall support up to a maximum of fifty simultaneous running Guard Tours.
6. The SMS shall support two types of Guard Tours: Sequential and Random requiring the Guard to check all Stops in sequence or in a random order.
7. A sequential tour shall be configured with a minimum and maximum time that a guard shall have between stops.
8. Each Tour shall be configured with a specific group of guards that shall be allowed to execute the Tour.
9. The following Tour states shall be available to activate preconfigured events in the SMS:
   a. Activated
   b. Started On Time
   c. Started Early
   d. Started Late
   e. Suspended
   f. Suspended too Long
   g. Resumed
   h. Cancelled
   i. Completed
   j. Completed Early
   k. Completed Late
   l. Inactive
   m. Not completed On Time
   n. Failed To Start
   o. Error Occurred
10. A guard Tour shall have the ability to be initiated from:
    a. The reader configured as the first Stop of the Tour
    b. An Event (Manually activated or on a Schedule)
    c. A manual Action from an Operator at the SMS Monitoring Workstation
11. The SMS shall support sending an email notification to a Guard of the impending start of the scheduled Tour.
12. A Guard shall be required to complete check-ins at all Guard Tour Stops before the maximum completion time expires and shall be required to spend at least the minimum amount of time on the Tour.
13. A Tour shall be canceled by either an error, event action or a manual action from an Operator at the SMS Monitoring Application.
14. Each Tour shall be able to be configured with a minimum and maximum time of completion.
15. The system shall indicate that a Tour Stop was reached early and started early if a guard checks in at the first stop before the minimum stop time expires.
16. The system shall indicate that a Tour Stop was reached late when a guard checks in at the first Stop after the maximum time expires.

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17. The System shall indicate that a Tour Stop was not reached on time when a guard has not checked in after the maximum Stop time expires.
18. In the SMS Monitoring Station Application, it shall be possible to display the details of all the Guard Tour Stops and the current status of the Tour.
19. Each Guard Tour shall have the ability to attach up to a maximum of ten documents explaining the details of the configured Guard Tour.
20. Each Guard Tour shall support Predefined Log Messages or Message Groups.
21. Tour status shall be available from the SMS Monitoring Station Application and shall provide the following information:
    a. Tour Type
    b. Last Tour Status
    c. Current Tour Status (Running/Not Running)
    d. Guard Name (if active)
    e. Last Completed Stop
    f. Percentage Completed.
22. The SMS shall provide the ability to configure an icon on an SMS MAP representing a Guard Tour. An Operator shall have the ability to start the Tour and manually assign a specific Guard responsible for completing the Tour from the MAP.
23. The icon representing the Tour shall change appearance based upon the current state of the tour.
24. The SMS shall provide the ability to run a Journal Report providing the details of any completed or active Tour including;
    a. Time scheduled
    b. Guard assigned
    c. Activation time
    d. Stop status

HHH. Handheld Reader

1. The SMS shall support a portable hand held reader that shall provide identity verification. The portable hand held reader shall support the following:
    a. The portable hand held reader shall work on an Android device
    b. This android device shall support Bluetooth communication to three types of Multi technology readers
    c. The readers shall be capable of reading:
        1) HID Proximity and iCLASS SE PACS data
        2) HID Proximity and custom MIFARE sector with key
        3) HID Proximity and Mifare, Desfire CSN
    d. Act as a single door controller much like a conventional door in online or offline modes. Offline modes shall support the following functions:
        1) Offline mode shall support 100,000 cardholders
        2) All card transactions shall be stored locally and uploaded to the SMS when the unit is placed online.
        3) Offline mode shall support storing 10,000 transactions
    e. Online mode shall support all cardholders in the SMS
    f. Shall securely communicate to the SMS using web services (encrypted using TLS) supporting (3G/4G or Wi-Fi)
    g. Allow Operators with appropriate permissions to log into the device using single sign on authentication
    h. Specific cardholders shall be downloaded to the device based on clearance assignment
    i. Shall have the ability to display
        1) access grant
        2) denial of access
        3) cardholders portrait
        4) card number
        5) three additional (selectable) personnel fields.
    j. It shall be possible to set the amount of time that the display shows the last card transaction
    k. Shall be available to download from the Google Play app store
    l. Shall support phones and tablets running Android OS 6.0 and higher
2. Roll Call

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a. The portable hand held reader shall be able to perform a Roll Call feature.
b. As cardholders present their cards at this mobile device, the SMS shall have the ability to remove the cardholder from their current area and place them in a muster area.
c. During a Roll Call, It shall be possible for an operator, from the SMS, to display a list of cardholders including their names and portraits in their respective areas.

3. Check Point
   a. The portable hand held reader shall support a Check Point feature.
   b. The Check Point feature shall be used to track cardholder access as checked in at hand held device. The feature shall also track cardholder access as checked out. The SMS shall log transactions as (In) and (out) access in the journal log database.
   c. Check Point feature shall support the following modes:
      a. Check In
      b. Check Out
      c. Validation Mode
   d. The Check Point feature shall support a report mechanism local to the hand held device displaying cardholders checked in. The report mechanism shall support exporting the report in pdf format.
4. Timed Antipassback
   a. The portable hand held reader shall support a Timed Antipassback feature.
   b. The Timed Antipassback feature shall support:
      1) APB Validity Duration up to 7 days.
      2) Up to 10 Card swipes within APB Duration.
5. Hand Held Reader Random Screening
   a. The portable hand held reader shall support a Random Screening feature.
   b. Random Screening feature shall support reject from 1 to 100 percent of card swipes.
6. Door Impersonation Mode
   a. The portable hand held reader shall support a Door Impersonation Mode.
   b. The portable hand held reader shall support the ability to impersonate a virtual door.

III. Random Screening
1. The SMS shall support a Random Screening feature.
2. The Random Screening feature shall allow SMS doors to be configured to randomly reject cardholders for the purpose of identity verification or baggage searches etc.
3. The SMS shall allow each door to be configured with a percentage value to define the frequency of the random screening action.
4. The SMS shall provide a Random Screening event for each door that shall be activated when a cardholder is rejected for Screening. The event shall be used for notifying the proper Personnel of the Screening activity.
5. The SMS shall log all Screening activity for reporting or auditing purposes.

JJJ. CCTV Integration / Digital Video
1. The SMS shall provide extensive integration with American Dynamics DVR/NVR solutions.
2. The SMS server shall be connected to the DVR/NVR during the configuration process enabling the SMS to query the DVR/NVR for setup information.
3. The SMS shall use tree controls to drag and drop video servers or cameras directly into the interface for intuitive and instantly active video integration.
4. The SMS shall provide live camera display during configuration.
5. The SMS shall provide the ability to drag cameras into tours.
6. The SMS shall provide the ability to identify and automatically configure all cameras on a controller.

KKK. General Purpose Interface
1. The SMS shall support a licensable General Purpose Bi-directional Serial Interface.
2. The General Purpose Interface shall be a programmable bi-directional communication protocol that shall provide a general mode of communication between the SMS General Purpose Interface driver and a third-party device.

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3. The third-party device shall send pure ASCII messages via a serial port (RS-232) or remotely via a TCP/IP port (via a Terminal Server) into the General Purpose Interface driver.
4. The SMS shall interpret messages in two ways:
   a. As journal messages recorded into the SMS historical journal.
   b. As any of five Monitoring Point status changes configured to trigger an SMS event.
5. The General Purpose Interface supports the following functionality:
   a. Input: where the input strings are sent from the device through the Serial/Network port to the SMS Server. The General Purpose Message Protocol object is used to define and parse the information.
   b. Output: where the output is an Action and requests a response from the device.
   c. Poll: where the poll is an action that requires a response from the device.

LLL. ID Badging System
1. The SMS shall include an embedded ID Badging Subsystem. The ID Badging subsystem shall utilize a common database with and be an integral part of the SMS. The ID Badging Subsystem shall provide the ability to capture cardholder images and design and print user-defined badge layouts. The Badging Subsystem shall support the following capabilities:
   a. Unlimited number of badge design layouts.
   b. WYSIWYG badge designer.
   c. Background color detection in the portrait image.
   d. Threshold level selection to apply to background detection.
   e. User-defined selection of background color.
   f. User-defined selection of replacement color or transparency setting.
   g. Edge-detection setting, to aid in replacing only the selected background and not any matching color within the portrait image.
   h. Capture, import, and display portraits.
   i. Capture, import, and display signatures.
   j. Capture and display fingerprints.
   k. Insert, import, and display foreground and background images.
   l. Print two-sided badges.
   m. Encode magnetic data onto personnel badges.
   n. Insert 1D or 2D bar codes.
   o. Insert or replace color and transparent effects for image and background display.
   p. Support a variety of image formats including .bmp, .jpg, .tif, and .wmf.
   q. Custom functions using the Expression builder.
   r. Multiple images per cardholder.
   s. Diagonal and Square borders. Each type of border shall support a user-defined width and height setting, and individual color settings for each border side.
   t. Proper Case (first letter in string is set to uppercase, all other characters set to lowercase).
   u. Year display (four- or two-digit).
   v. Month display (full or abbreviated name, or numeric).
   w. Day display (full or abbreviated name, or week/month numeric).
   x. Hour display (12 or 24 hour format).
   y. Minute display.
   z. Second display.

MMM. Visitor Management
1. The SMS shall support an optional, embedded Visitor Management feature. The SMS shall support the creation and management of visitor appointments. The Visitor Management feature shall serve as a replacement for paper-based visitor log books and shall support the organization and tracking of visitors. The Visitor Management feature shall support the following features:
   a. Keep track of visits (and Visitors) in progress
   b. Single-/multi-visitor group appointment scheduling
   c. Temporary credential issuance
   d. Visitor check-in/check-out
   e. Identify which workstation a visitor was checked in at

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f. Visit Templates
g. Visit Sites
h. e-mail notification of visitor arrivals
i. Manage unplanned visits and anonymous visitors
j. Manage the return of credentials at the end of a visit
k. Configure Instructions for the visit
l. Configure personnel as visit hosts
m. The capability to check-in and check-out visitors by presenting a valid card at a designated reader.
n. The ability to scan a license or a passport when adding a new visitor. Each field associated with a license or passport can be individually selected for import.
o. Run reports and queries on both scheduled or completed visits
p. Identify visitors on a Watchlist and activate events when a watch-listed visitor is checked in or added to a visit.

2. The SMS shall provide assistance alerts in the form of a button on the visitor check-in screen for the operator to request assistance from another operator via an event activation.
3. The SMS shall provide the ability to schedule a nightly event that shall perform an automatic checkout of all visitors per partition.
4. The SMS shall support an optional Visitor Management Web portal that shall allow a host to create and manage visits and visitors via a standard web browser. The initial browser logon shall allow customization to display a unique name.
5. The SMS shall support an optional Receptionist Web portal that shall allow a non-SMS Operator to create and manage visits and visitors via a standard web browser. Receptionist Web portal users can view future visitors, check-in and check-out registered and unregistered visitors, assign credentials to visitors, print visitor badges and assign and return visitor badges.
6. The SMS Visitor Management and Receptionist Web portals shall support the following Web Browsers:
   a. Internet Explorer
   b. Chrome
   c. FireFox
   d. Safari on IOS and iPAD OS
7. An SMS Operator shall be able to perform the following Visit Site functions:
   a. Create and Configure Visit sites
   b. Customize the Portal for each visit site
   c. Assign a custom image that represents the visit site
   d. Assign the visit site to a partition
   e. Create and configure visitor templates for a site (which can include Clearances for the Visit)
   f. Create and configure a Visit Template for a site
   g. Specify what fields are to be used when creating a new visitor in a site
   h. Individually select which fields are mandatory
   i. Add additional details to a visit site including user definable fields
   j. Designate which hosts can access a site to create a visit
   k. Assign a document to a visit site
   l. Configure the details for the welcome Email to hosts
   m. Configure a Visitor Management Door Action for card swipe check-in and checkout
8. A Host using the Visitor Management Web portal shall be able to do the following:
   a. Create, edit and delete Visits
   b. Utilize Visit Templates to create Visits
   c. Search for existing Visits
   d. Add Visitor instructions for the visit
   e. Add Host instructions for the Visit
   f. Attach pertinent documents to the Visit
   g. Add additional Hosts to a Visit
   h. Create New Visitor records and add Visitors to Visits
   i. Bulk add up to 5000 Visitors to a visit via .csv or .txt files
   j. Email all visitors and hosts associated with the created visit
9. A Receptionist using the Visitor Management Receptionist portal shall be able to do the

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following:

a. View, modify and manage visits/visitors created by all hosts for the visit site
b. Select from a calendar view which days visits to display
c. Sort the list of visitors using column headers in both ascending and descending order
d. Allow the adding or removing of specific columns from the display
e. Create new unscheduled visits with support for visit templates
f. Search for existing visits by visitor name or visit number
g. Check-in/Check-out selected visitors
h. Issue and return temporary credentials
i. Print visitor labels
j. View SMS visit activity for a visitor
k. Accept a QR code. The QR code shall be emailed to a visitor prior to the scheduled visit. Presentation of the QR code at the Receptionist portal shall expedite the visitor check-in process.
l. Display a visitor dashboard denoting the following quantities:
    1) Total visitors
    2) Expected visitors
    3) Checked-in visitors
    4) Checked-out visitors
    5) Late visitors
    6) Overstayed visitors
m. Switch to a different Check-in site without exiting the application
n. Request assistance from another operator using the Assist button

10. The SMS shall support a Kiosk for self-visitor check-in
    a. The SMS system shall support an unlimited number of Check-in sites. Each Check-in site shall be configured with a Kiosk application that operates on an iPad. This Kiosk application shall be used to allow a visitor to self-check-in as a new or pre-enrolled visitor. Each site shall have the ability to customize how the Kiosk Check-in application works. The Kiosk shall provide the following features:
    b. The Kiosk shall provide the ability to print a paper visitor badge on a supported Air Printer.
    c. Each Kiosk shall support the creation of custom messages for each check-in site:
        1) Welcome message
        2) Visitor not found message
        3) Check-in complete message
        4) Registration complete message
    d. The Kiosk shall have the ability to accept a QR code. The QR code shall be emailed to a visitor prior to the scheduled visit. Presentation of the QR code at the Kiosk shall expedite the visitor check-in process.
    e. The Kiosk shall have the ability to accept unregistered visitors (Optional) via the following steps:
        1) Enter a new visit (First, Last, Email)
        2) Take a picture
        3) Enter and assign Host via context sensitive lookup that shall show the host name and image as you type
        4) Require acknowledgement of an NDA or other document (Optional)
        5) Automatically email host when check-in is complete
        6) Automatically check-in visitor (optional)
    f. The Kiosk shall have the ability to support multiple languages that shall be available to the Visitor upon check-in.
    g. The Kiosk shall have the ability to add a Pre-enrolled visitor via the following steps:
        1) Find visitor by either Email Address or First/ Last Name via context sensitive lookup
        2) Take a picture
        3) Require acknowledgment of an NDA or other document (Optional)
        4) Automatically email host when check-in is complete
        5) Automatically check-in visitor (optional)
        6) Check-out visitors

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NNN. Access Management Workflow

1. The SMS shall support an Access Management Workflow feature utilizing a Web Portal. This workflow shall allow different types of requests and approvals to automate the assignment of clearances. The following features shall be supported by the Access Management Workflow feature:
    a. The creation of an unlimited number of Access Request Sites
    b. Each access request site shall be uniquely configurable with the following:
        1) Show selected personnel fields from requesters
        2) Display General site information
        3) Show additional user definable fields
        4) Select authorized requesters
        5) Select available clearances
        6) Select Personnel for access request assignment
    c. The Access web portal shall support the following:
        1) Customized portal name display
        2) Single Sign on authentication
        3) Creation of Access requests, which shall provide the following:
            - Name of the request
            - Available site clearance selection
            - Justification statement
            - Request Status
            - Personnel associated with the request
            - Attach a document relative to the request
            - Ability to save the request without submittal
            - Ability to submit the request
            - Auto send email notifications upon request completion
        4) Access approval with the following capabilities:
            - List the assigned, submitted pending requests
            - Show all details pertaining to the request
            - Ability to approve or deny the request
            - Provide comments on the reason for the approval/denial
            - Review the history (audit) of previously submitted requests
            - Provide the ability to revoke a previously approved request
    d. The SMS shall provide the following Internal Request features:
        1) Clearances shall be configurable with the following approval rules:
            - Auto approve
            - Any approver from a partition
            - Any selected approvers
            - Any selected approvers in numeric order
            - Only allow assignment via approved request
        2) Clearances shall support a review process allowing assigned clearances to be reviewed at a later date with the following properties:
            - Clearance assignment reviewer rules:
                - No review needed
                - Approval rule required
                - Any reviewer available from a selected partition
                - Any selected reviewer can review the clearance assignment
            - Review Timing:
                - Next review due by date
                - Subsequent scheduled review by date
            - The SMS shall support a notification when the scheduled review is overdue and shall include a user configurable list of Personnel to be notified via email. The number of days before the notification shall be sent is user definable and shall be between 1 and 365 days. The default value shall be 14 days.
        3) Door activity shall also provide the ability to automatically generate an approval request which shall be:
            - Subject to a schedule
            - Subject to direction of the swipe (in/out)
2. All generated requests shall be viewable within the SMS showing current status and

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details.

OOO. Smart Card / Proximity Card Enrollment

1. The SMS shall provide a smart card enrollment feature as part of the ID Badging Subsystem. The smart card enrollment feature shall allow a user to enroll DESFire EV1/2, MIFARE or iCLASS cards utilizing a USB wedge reader or a Manufacturer-approved badge printer.
2. The SMS shall provide a proximity card enrollment feature as part of the ID Badging Subsystem. The proximity enrollment feature shall allow a user to enroll the card number of proximity cards on a Fargo HDP 5000 printer that is equipped with an OMINKEY CardMan 5x25 encoder.
3. The ID Badging Subsystem shall support the creation of Smart Card Templates to define the smart card configuration. Templates shall be used to define the data transfer between the physical card and the Personnel Record. Templates shall define the card type as DESFire EV1/2, MIFARE or iCLASS. When programming a card, the system shall be able to read and write to all relevant data such as personnel fields, card fields or card formats. The Badging Subsystem shall provide the ability to Enroll DESFire EV1/2, MIFARE or iCLASS. The Badging Subsystem shall provide the ability to Program and Enroll MIFARE.
4. Templates shall also be utilized to define the Security Keys needed to access the data on the smart card. Templates shall be assignable to the enrollment device (wedge reader or printer).
5. The ID Badging Subsystem shall support both the enrollment (reading of data from the card) and programming (writing of data to the card) for MIFARE cards. The ID Badging Subsystem shall support the enrollment of DESFire cards and shall support Card Serial Number data only. The ID Badging Subsystem shall support the enrollment of iCLASS cards and shall support Card Serial Number data only.
6. The ID Badging Subsystem shall support the creation of Custom read/write Keys. Custom Keys are private keys supplied by a third party. Custom Keys shall be assigned to Software House Readers via Program Cards supplied by the Manufacturer.

PPP. System Parameters (based on a single credential per cardholder)

1. The SMS shall have a maximum capacity of:
   a. 5,000 online readers
   b. 20,000 online inputs
   c. 20,000 online outputs
   d. 500,000 enabled Personnel Records
   e. 256 Simultaneous Clients (256 is a design capability while the tested limit is 100)
2. The SMS shall support a Master Application Server (Enterprise Architecture) with maximum capacity of:
   a. 40 Satellite Application Servers (tested limit)
   b. 500,000 Global enabled Personnel Records
   c. 100 Simultaneous Clients
3. The SMS shall support an Enterprise Architecture (based on 40 SAS) with a maximum capacity of:
   a. 200,000 online readers
   b. 800,000 online inputs
   c. 800,000 online outputs
   d. 20,000,000 local enabled Personnel Records
   e. 500,000 Global enabled Personnel Records
   f. 20,500,000 Total enabled Personnel Records

2.04 OPERATION

A. The SMS shall provide the following operational functionality:

1. The system shall control access to a designated area.
2. The system shall validate cardholder credentials by use of downloaded personnel records, card formats, PINs, biometric enrollment and multiple active cards. The system shall compare the time, location, and unique credential number of an attempted entry with information stored in memory.
3. Access to a designated area will be validated only when a user's credential has a valid number for its facility and the number is valid for the current time and for the reader where

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it is used.

4. The system shall access the hardware that validates the person and monitor the security of a building by use of controllers, doors, readers, elevators, inputs and outputs. When access has been validated, a signal to the door locking device shall be activated to enable alarm-free access at that location.
5. The system shall configure itself as required by use of an Administrative application, and shall provide Configuration templates.
6. The system shall monitor access control activities by use of Monitor Station, Alarm configuration, NetVue, CCTV, and dynamic Graphical Maps display of alarm, door, and event activity (Maps based on CAD data).
7. The system shall restrict administrative and Monitoring Station activity by use of Privileges and Authentication (User Password) using Microsoft Windows OS Password Function.
8. The system shall report on various aspects of the system by use of Reports (canned and configurable). Reports shall be able to export to a printer.
9. The system shall have the capability to report off-normal security device conditions both audibly and visually.
10. The system shall control hardware from the monitoring station by use of Manual actions, Events, and cause lists.
11. The system shall provide Record and Data Management by use of Historical Journal (archive and replay), Full Audit Trail and automated and manual import and export (data and images).
12. The system shall allow for data to be imported from other products by use of database Migration tools (Card Holder data and configuration data) from, C·CURE 800/8000 and 3rd party applications via XML formatted data exchange.

2.05 EQUIPMENT

A. Server Requirements
   1. The SMS Server shall meet or exceed the SMS Manufacturers requirements for the current version and series of the SMS software.

B. Client Workstation Requirements
   1. The SMS client workstation shall meet or exceed the SMS Manufacturers requirements for the current version of the SMS software.

C. Badging Station Requirements
   1. The SMS badging workstation shall meet or exceed the SMS Manufacturers requirements for the current version of the SMS software.

D. Controllers
   1. The SMS shall support the following controller hardware:
      a. Software House iSTAR Classic
      b. Software House iSTAR Pro
      c. Software House iSTAR eX
      d. Software House iSTAR EDGE
      e. Software House iSTAR Ultra/Ultra SE/ULTRA LT
      f. Software House apC, apC/8X, apC/L
   2. Note: For additional information, please refer to individual A&E specifications for the controllers listed above.

E. Clustering
   1. The SMS shall support a user-defined grouping of iSTAR controllers defined as a cluster. iSTAR controllers within a cluster shall be able to communicate in a peer-to-peer scheme should the SMS server lose communication with the cluster.
   2. Clustering shall support the following features:
      a. Assignment of Master controllers for cluster communication to the SMS server
      b. Primary and backup communication paths to the SMS server
      c. Up to 16 controllers per cluster
      d. Logical event linking between controllers in a cluster independent of SMS server communication
      e. Antipassback control within a cluster shall be independent of SMS server

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communication

f. Asynchronous communication via TCP/IP (Polled devices shall not be acceptable)

g. Dialup Communications. Dialup shall only be supported on iSTAR Pro and iSTAR Ultra SE (in Pro Mode)

h. Encrypted communications

3. The SMS shall support iSTAR clusters in two types: Encrypted and Non-Encrypted. Encrypted clusters shall support iSTAR Edge/eX/Ultra controllers. Unencrypted clusters shall support iSTAR Classic/ iSTAR Pro/unencrypted Ultra controllers.

4. Network communications between a cluster master and the host, and between a cluster master and cluster members, shall be done using AES 256 bit symmetric encryption, tested and verified by an independent lab and listed for FIPS 197.

5. Encrypted iSTAR controllers shall be listed for FIPS 140-2, which meets the necessary physical, operational, and cryptographic requirements for a cryptographic module for the National Institute of Standards (NIST).

PART 3 - EXECUTION

3.01 TESTING

A. The software shall be entered into the SMS computer systems and debugged. The Contractor shall be responsible for documenting and entering the initial database into the system. The Contractor shall provide the necessary blank forms with instructions to fill in all the required data information that will make up the database. The database shall then be reviewed by the Contractor and entered into the system. Prior to full operation, a complete demonstration of the computer real-time functions shall be performed. A printed validation log shall be provided as proof of operation for each software application package. In addition, a point utilization report shall be furnished listing each point, the associated programs utilizing that point as an input or output and the programs which that point initiates.

B. Upon satisfactory on line operation of the system software, the entire installation including all subsystems shall be inspected. The Contractor shall perform all tests, furnish all test equipment and consumable supplies necessary and perform any work as required to establish performance levels for the system in accordance with the specifications. Each device shall be tested as a working component of the completed system. All system controls shall be inspected for proper operation and response.

C. Tests shall demonstrate the response time and display format of each different type of input sensor and output control device. Response time shall be measured with the system functioning at full capacity. Computer operation shall be tested with the complete data file.

D. The Contractor shall maintain a complete log of all inspections and tests. Upon final completion of system tests, a copy of the log records shall be submitted as part of the as-built documentation.

3.02 TRAINING

A. The Contractor shall provide a competent trainer who has extensive experience on the installed systems and in delivering training to provide the instruction. As an alternative, the Contractor may propose the use of factory training personnel and coordinate the number of personnel to be trained.

3.03 MAINTENANCE

A. The Contractor shall offer a Software House Software Support Agreement (SSA) in order for Software House Technical Support Specialists to reactively troubleshoot system problems.

B. As part of the agreement, 5x9 telephone support (Standard and Enhanced SSA) will be provided to the Contractor by Certified Technicians. An option of 7x24 Standby telephone support (Enhanced SSA) shall be offered.

C. As part of the agreement, Flashable and Non-Flashable (Chips) firmware and documentation shall

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be provided.

D. As part of the agreement, access to SMS patches and software release updates shall be provided.

E. The SSA shall cover the current SMS release one full version back, and associated controller hardware.

END OF SECTION

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GENERAL RENOVATION/DEMOLITION NOTES:

1. ELECTRICAL DRAWINGS ARE BASED ON THE BEST INFORMATION AVAILABLE. FOR AREAS BEING REMODELED, WORK SHOWN REFLECTS INFORMATION SHOWN ON AS-BUILT PLANS AND FIELD OBSERVATION; IT IS NOT GUARANTEED 100% ACCURATE. THIS CONTRACTOR MUST FIELD VERIFY CONDITIONS AND MAKE NECESSARY ADJUSTMENTS WITHOUT EXTRA COSTS TO THE PROJECT TO SUIT ACTUAL NEEDS.

2. THE CONTRACTOR SHALL REWIRE/REROUTE/RELOCATE, AS REQUIRED DUE TO CONSTRUCTION, ALL EXISTING CIRCUITS AND EQUIPMENT WHICH ARE TO CONTINUE IN OPERATION.

3. MAINTAIN THE INTEGRITY OF ALL SYSTEMS AFFECTED BY THE REMOVAL OR ADDITION OF ELECTRICAL DEVICES AND CONTROLS IN REMODELED AREAS.

4. ALL ELECTRICAL PANELS SHALL REMAIN IN PLACE AS IS.

5. PROVIDE COMPLETE UPDATED DIRECTORIES FOR ALL PANELS AFFECTED BY CONSTRUCTION.

6. CIRCUITS INDICATED ARE INTENDED TO DENOTE WHICH DEVICES/FIXTURES ARE TO BE WIRED TO A COMMON CIRCUIT BREAKER, AND NOT ITS POSITION IN THE PANEL. UTILIZE RELIEVED/SPARE CIRCUIT BREAKER MOUNTING SPACES, PROVIDE CIRCUIT BREAKERS AS REQUIRED.

7. ALL NEW DEVICES AND COVER PLATES SHALL MATCH EXISTING UNLESS OTHERWISE DIRECTED BY A/E.

8. ALL REMOVED DEVICES AND NOT REPLACED IN ANY WAY EXPOSING AN EMPTY BACK BOX, THE CONTRACTOR SHALL PROVIDE A STAINLESS STEEL COVER PLATE.

9. ELECTRICAL RACEWAYS AND BOXES SHALL BE CONCEALED IN CEILING CAVITY OR IN WALLS. EXPOSED RACEWAYS ARE NOT ACCEPTABLE UNLESS SPECIFICALLY INDICATED AND/OR APPROVED BY A/E.

10. INCLUDE FISH WIRE IN ALL NON-POWER CONDUITS.

11. REMOVE AND REPLACE EXISTING CEILING TILE REQUIRED FOR INSTALLATION OF CONDUITS AND CABLES.

12. FIRE AND/OR SMOKE RATINGS OF WALLS, FLOORS AND CEILINGS SHALL BE MAINTAINED. IF THE INTEGRITY IS SACRIFICED THEN THE BARRIER SHALL BE REPAIRED TO ITS ORIGINAL RATING. ALL PENETRATIONS SHALL BE PROPERLY SEALED.

13. COORDINATE CABLE TYPES AND INSTALLATIONS FOR WORK ABOVE CEILING WITH HVAC FOR PLENUM VS. NON-PLENUM RATING OF CEILING SPACE. INSTALLATION SHALL FOLLOW GUIDELINES FOR RATINGS OF CEILING CAVITY.

14. THE CONTRACTOR SHALL NOTE THAT THE EXISTING BUILDING WILL REMAIN IN SERVICE DURING CONSTRUCTION. AREAS OF THE BUILDING WILL BE VACATED AS REQUIRED TO FACILITATE CONSTRUCTION. PROCEED WITH THE COMPLETION OF THE WORK IN SUCH A MANNER AS TO CAUSE THE LEAST POSSIBLE INTERFERENCE WITH OWNER'S OPERATION. ALL WORK SHALL BE DONE IN A MANNER AND TIME ACCEPTABLE TO OWNER.

15. ANY EXISTING CODE VIOLATIONS CONCEALED DURING PRE-BID WALK THROUGH SHALL BE BROUGHT TO A/E'S ATTENTION FOR EVALUATION. ANY EXISTING CODE VIOLATIONS EXPOSED TO VIEW SHALL BE THE RESPONSIBILITY OF THE E.C. TO CORRECT AT NO ADDITIONAL CHARGE TO OWNER.

16. PLASTIC TIE WRAPS SHALL NOT BE USED TO SUPPORT ANY RACEWAYS OR OPEN AIR WIRING.

17. ALL NEW CIRCUIT BREAKERS BEING INSTALLED IN EXISTING PANELS SHALL MATCH EXISTING BREAKERS INCLUDING AIC RATINGS.

GENERAL NOTES:

1. THIS PROJECT SHALL NOT BE BID AS A LUMP SUMP, INSTEAD, BID EACH INDIVIDUAL BUILDING AS A LUMP SUMP.
2. ALLOCATE AN ALLOWANCE OF $800 FOR EACH BUILDING FOR CUTTING, PATCHING AND TOUCH-UP WORK. THE ACTUAL TIME AND MATERIALS WILL NEED TO BE TRACKED BY THE EC AND BILLED ACCORDINGLY.

ABBREVIATIONS

A/E	ARCHITECT/ENGINEER
AF	AMP FUSE
AFC	AVAILABLE FAULT CURRENT
AFF	ABOVE FINISHED FLOOR
ARCH	ARCHITECT
AFG	ABOVE FINAL GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AR	AS REQUIRED
AS	AMP SWITCH
ATS	AUTOMATIC TRANSFER SWITCH
BKR	BREAKER
BFG	BELOW FINAL GRADE
C	MOUNTED 8" ABOVE COUNTER
CAB	CABINET
CB	CIRCUIT BREAKER
cd	CANDELA
CKT	CIRCUIT
CLG	CEILING
CONC	CONCRETE
CP	CONTROL PANEL
CS	COMBINATION STARTER/DISC. SWITCH
D	DISCONNECT SWITCH
DISC	DISCONNECT SWITCH
DLS	DUAL LEVEL SWITCH
DN	DOWN
DNLT	DOWN LIGHT
EWC	ELECTRIC WATER COOLER
E.C	ELECTRICAL CONTRACTOR
ELEV	ELEVATION
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
EP	EXPLOSION PROOF
ER	EXISTING TO BE REMOVED
EXP	EXPOSED
EXR	EXISTING IN NEW LOCATION
EX	EXISTING TO REMAIN
EXT	EXISTING TO BE RELOCATED
F	FURNISHED
FBO	FURNISHED BY OTHER
FIXT	FIXTURE
FLUOR	FLUORESCENT
G.C.	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTING
GRC	GALVANIZED RIGID CONDUIT
GYP	GYPSUM BOARD
HOA	HAND-OFF-AUTO SELECTOR SWITCH
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AND
HV	AIR CONDITIONING CONTRACTOR
HW	HEAVYWALL
IMC	INTERMEDIATE METAL CONDUIT
I	INSTALLED
IU	INTEGRAL TO UNIT
JB	JUNCTION BOX
KW	KILOWATT
LIG	LAY-IN GRID
LOC	LOCATION
LTG	LIGHTING
MAG	MAGNETIC STARTER
MAN	MANUAL STARTER
MC	MECHANICAL CONTRACTOR
M.O	MAIN LUGS ONLY
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
NU	NEAR UNIT
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
O	OTHERS
OC	ON CENTER
ORS	OVER RIDE SWITCH
OU	ON UNIT
P	POLE
PC	PHOTOCELL
PEND	PENDANT
PLBG	PLUMBING CONTRACTOR
PNL	PANEL
PB	PUSH-BUTTON
R	RECEPTACLE
RAI	REMAIN AS IS
REC	RECESSED
SS	SWITCH STATION
SURF	SURFACE
SUSP	SUSPENDED
SW	SWITCH
TC	TIME CLOCK
TCC	TEMPERATURE CONTROL CONTRACTOR
TYP	TYPICAL
UM	UNIT MANUFACTURER
VER	VERIFY
VFD	VARIABLE FREQUENCY DRIVE
W	WIRED
WP	WEATHERPROOF
XFMR	TRANSFORMER

SYMBOLS LIST NOTE:

ANY SYMBOLS UTILIZED ON THE FLOOR PLANS NOT OTHERWISE ON THE SYMBOLS LIST SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEERS PRIOR TO BIDDING FOR CLARIFICATION.

POWER & DIAGRAMS

DUPLEX RECEPTACLE - MOUNTED 18" AFF.

QUADRUPLEX RECEPTACLE - TWO DUPLEX RECEPTACLES UNDER A COMMON COVERPLATE.

COMMUNICATIONS

DATA OUTLET - MOUNTED AT 18" AFF
# INDICATES QUANTITIES OF CABLES

EX — ELECTRICAL DISTRIBUTION PANEL - EXISTING

SECURITY SYSTEMS

SECURITY SYSTEM PANEL

SECURITY SYSTEM

SECURITY SYSTEM - DOOR STRIKE

SECURITY SYSTEM - DOOR MONITOR

SECURITY SYSTEM - TOUCH PAD

SECURITY SYSTEM - CARD READER

SECURITY SYSTEM - DOOR SWITCH - MAGNETIC

SECURITY SYSTEM - SHUNT SWITCH

EXISTING CARD ACCESS DOOR

NEW CARD ACCESS DOOR

MISCELLANEOUS SYMBOLS

INDICATES DETAIL NUMBER

SEE DETAIL

INDICATES SHEET NUMBER

INDICATES NOTE NUMBER

SEE NOTE

INDICATES SHEET NUMBER

CIRCUIT DESIGNATIONS

BRANCH CIRCUIT - COMMON CONTROL, INCLUDES GREEN GROUND WIRE, NEUTRAL AND PHASE WIRES.

BRANCH CIRCUIT - SEPARATE CONTROL, INCLUDES GREEN GROUND WIRE, NEUTRAL AND PHASE WIRES.

E — EMERGENCY BRANCH CIRCUIT - COMMON CONTROL, INCLUDES GREEN GROUND WIRE, NEUTRAL AND PHASE WIRES.

E — EMERGENCY BRANCH CIRCUIT - SEPARATE CONTROL, INCLUDES GREEN GROUND WIRE, NEUTRAL AND PHASE WIRES.

G — EMERGENCY BRANCH CIRCUIT - COMMON CONTROL, INCLUDES GREEN GROUND WIRE AND TWO PHASE WIRES.

F — FIRE ALARM SIGNAL CIRCUIT.

I — INTERCOM CIRCUIT

SHEET INDEX

EL	SYMBOLS, ABBREVATIONS, NOTES AND SCHEDULES
E1.0	ACCESS CONTROL - CITY HALL - GROUND FLOOR
E1.1	ACCESS CONTROL - CITY HALL - FIRST FLOOR
E2.0	ACCESS CONTROL - COMMUNITY CENTER
E3.0	ACCESS CONTROL - LIBRARY - FIRST FLOOR
E3.2	ACCESS CONTROL - LIBRARY - SECOND FLOOR
E3.3	ACCESS CONTROL - LIBRARY - BASEMENT
E5.0	ACCESS CONTROL - POLICE DEPARTMENT - LOWER LEVEL
E5.1	ACCESS CONTROL - POLICE DEPARTMENT - MAIN FLOOR
E6.0	ACCESS CONTROL - FIRE STATION #1
E7.0	ACCESS CONTROL - FIRE STATION #2
E8.0	ACCESS CONTROL - FIRE STATION #3
E9.0	ACCESS CONTROL - FIRE STATION #4
E10.0	ACCESS CONTROL - PARKS GARAGE

HARWOOD ENGINEERING CONSULTANTS, LTD

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Building Designator	Floor	Door Number	Sheet	Type Door	Name	Building	C-Cure ID	Existing Version	Existing Build	Manuf. = HID New RPK40 Reader	Manuf. = HID Existing SERPK40 Keypad Reader	Manuf. = HES New 9600 RIM Surface Mount Electric Strike	Manuf. = HES New 1006 Flush Mount Door Strike	Existing Strike	Manuf. = Schlage M450 Electro Magnetic Single Door Lock	Manuf. = XX New Outdoor Pedestal	Tie Contact To Existing OHD
"CH"	G	001	E1.0	Existing	1 FL - Receiving Entrance	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	G	002	E1.0	Existing	1 FL - Finance Entrance	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	G	003	E1.0	Existing	Main Entrance	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	G	004	E1.0	Existing	1 FL - Council Chamber	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	G	005	E1.0	Existing	1 FL - Mayor's Entrance	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	1	006	E1.1	Existing	2 FL - Outside Planning Entrance	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	1	007	E1.1	Existing	2 FL - Outside HR Entrance	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	G	008	E1.0	Existing	1 FL - HR / Mayor Lobby	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	G	009	E1.0	Existing	1 FL - HR / Lobby Strike Only	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	G	010	E1.0	Existing	1 FL - Computer Room	City Hall	3.1	2.90 SP1	1134.1134	✓				ETR			
"CH"	G	011	E1.0	Existing	1 FL - Computer Room West	City Hall		2.90 SP1	1134.1134	✓				ETR			
"CH"	1	012	E1.1	Existing	CAD Room Keypad	City Hall	2.1	2.90 SP1	1134.1134	✓				ETR			
"CH"	G	013	E1.0	Existing	Clerk's Keypad	City Hall	2.2	2.90 SP1	1134.1134	✓				ETR			
"CH"	1	014	E1.1	Existing	East Lobby Keypad	City Hall	2.3	2.90 SP1	1134.1134	✓				ETR			
"CH"	1	015	E1.1	Existing	West Lobby Keypad	City Hall	2.4	2.90 SP1	1134.1134	✓				ETR			
"CH"	1	016	E1.1	Existing	Planning Keypad	City Hall	2.5	2.90 SP1	1134.1134	✓				ETR			
"CH"	1	017	E1.1	Existing	Engineering Keypad	City Hall	2.6	2.90 SP1	1134.1134	✓				ETR			
"CH"	1	018	E1.1	Existing	Hallway Keypad	City Hall	2.8	2.90 SP1	1134.1134	✓				ETR			
"CH"	1	019	E1.1	Existing	HR Main Entrance	City Hall	2.9	2.90 SP1	1134.1134	✓				ETR			
"CH"	1	020	E1.1	Existing	HR Hallway Entrance	City Hall	2.10	2.90 SP1	1134.1134	✓				ETR			
"CH"	1	021	E1.1	Existing	HR Stairway Entrance	City Hall	2.11	2.90 SP1	1134.1134	✓				ETR			
"CH"	G	022	E1.0	New		City Hall				✓			✓				
"CH"	G	023	E1.0	New		City Hall				✓			✓				
"CH"	G	024	E1.0	New		City Hall				✓			✓				
"CH"	G	025	E1.0	New		City Hall				✓			✓				
"CH"	G	026	E1.0	New		City Hall				✓			✓				
"CH"	G	027	E1.0	New		City Hall				✓			✓				
"CH"	G	028	E1.0	New		City Hall				✓			✓				
"CH"	G	029	E1.0	New		City Hall				✓		✓					
"CH"	1	030	E1.1	New		City Hall				✓			✓				
"CH"	1	031	E1.1	New		City Hall				✓			✓				
"CH"	1	032	E1.1	New		City Hall				✓			✓				
"CH"	1	033	E1.1	New		City Hall				✓			✓				
"CH"	1	034	E1.1	New		City Hall				✓			✓				
"CH"	1	035	E1.1	New		City Hall				✓			✓				
"CH"	1	036	E1.1	New		City Hall				✓			✓				
"CH"	1	037	E1.1	New		City Hall				✓			✓				
"CH"	1	038	E1.1	New		City Hall				✓			✓				
"CC"	1	001	E2.0	Existing	Cleveland Room	Community Center	1.04	2.90 SP1	1134.1134	✓				ETR			
"CC"	1	002	E2.0	Existing	Hall To Courtside & Parkview	Community Center	1.05	2.90 SP1	1134.1134	✓				ETR			
"CC"	1	003	E2.0	Existing	Courtside Entry	Community Center	1.06	2.90 SP1	1134.1134	✓				ETR			
"CC"	1	004	E2.0	Existing	Parkview Entry	Community Center	1.07	2.90 SP1	1134.1134	✓				ETR			
"CC"	1	005	E2.0	Existing	Main Entry South	Community Center	1.01	2.90 SP1	1134.1134	✓				ETR			
"CC"	1	006	E2.0	Existing	Main Entry North	Community Center	1.02	2.90 SP1	1134.1134	✓				ETR			
"CC"	1	007	E2.0	Existing	Praire Trailside Lions Kitchen	Community Center	1.03	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	001	E3.0	Existing	Main Entrance North	Library	4.01	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	002	E3.0	Existing	Door By Elevator	Library	4.02	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	003	E3.0	Existing	North Meeting Room - West Door	Library	4.03	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	004	E3.0	Existing	Stair 3 Exterior Door	Library	4.04	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	005	E3.0	Existing	Stair 3 First Floor Interior Door	Library	4.05	2.90 SP1	1134.1134	✓				ETR			
"LB"	2	006	E3.2	Existing	Stair 3 Second Floor Door	Library	4.07	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	007	E3.0	Existing	Elevator Car	Library	4.09	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	008	E3.0	Existing	Vestibule 1023 South Entrance	Library	4.1	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	009	E3.0	Existing	South Wing West Door 1	Library	4.11	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	010	E3.0	Existing	Stair 3 Basement Door	Library	4.12	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	011	E3.0	Existing	Stair 2 Exterior Door	Library	4.13	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	012	E3.0	Existing	Vestibule Door	Library	4.14	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	013	E3.0	Existing	West Wing	Library	4.15	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	014	E3.0	Existing	North Meeting Room	Library	4.16	2.90 SP1	1134.1134	✓				ETR			
"LB"	1	015	E3.0	New	Stair #2 Access	Library				✓			✓				
"LB"	1	016	E3.0	Existing	South Wing West Door 2	Library	4.10	2.90 SP1	1134.1134	✓				ETR			

Building Designator	Floor	Door Number	Sheet	Type Door	Name	Building	C-Cure ID	Existing Version	Existing Build	Manuf. = HID New RPK40 Reader	Manuf. = HID Existing SERPK40 Keypad Reader	Manuf. = HES New 9600 RIM Surface Mount Electric Strike	Manuf. = HES New 1006 Flush Mount Door Strike	Existing Strike	Manuf. = Schlage M450 Electro Magnetic Single Door Lock	Manuf. = XX New Outdoor Pedestal	Tie Contact To Existing OHD
"CH"	G	001	E1.0	Existing	1 FL - Receiving Entrance	City Hall		2.90 SP1	1134.1134	✓				ETR			
"SB"	1	001	E5.1	Existing	South Exterior Door	Safety Building	1.01	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	002	E5.1	Existing	South Interior Door	Safety Building	1.02	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	003	E5.1	Existing	MDF Room	Safety Building	1.03	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	004	E5.1	Existing	Court Room Door	Safety Building	1.04	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	005	E5.1	Existing	Training Room Door	Safety Building	1.05	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	006	E5.1	Existing	Employee Entrance Door	Safety Building	1.06	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	007	E5.1	Existing	Lobby / Police Door	Safety Building	1.07	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	008	E5.1	Existing	Lobby / Fire Door	Safety Building	1.08	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	009	E5.1	Existing	Lobby / Investigation Door	Safety Building	2.01	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	010	E5.1	Existing	East Fire Vestibule Door	Safety Building	2.02	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	011	E5.1	Existing	East Entrance Door	Safety Building	2.03	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	012	E5.1	Existing	Booking Door PD	Safety Building	2.04	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	013	E5.1	Existing	North Booking Door - In/Out	Safety Building	2.06	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	014	E5.1	Existing	South Booking Door - In/Out	Safety Building	2.09	2.90 SP1	1134.1134		ETR			ETR			
"SB"	1	015	E5.1	Existing	Sallyport IN Door	Safety Building	2.11	2.90 SP1	1134.1134		ETR						✓
"SB"	1	016	E5.1	Existing	Sallyport OUT Door	Safety Building	2.12	2.90 SP1	1134.1134		ETR			ETR			
"SB"	L	017	E5.0	Existing	Fire Police Door	Safety Building	2.13	2.90 SP1	1134.1134		ETR			ETR			
"SB"	L	018	E5.0	Existing	Garage Door	Safety Building	2.15	2.90 SP1	1134.1134		ETR						✓
"SB"	L	019	E5.0	New	West Ramp Garage Door	Safety Building				✓						✓	✓
"SB"	L	020	E5.0	New	West Ramp Exit	Safety Building				✓		✓					
"SB"	L	021	E5.0	New	Stair "A"	Safety Building				✓			✓				
"SB"	L	022	E5.0	New	Elevator	Safety Building				✓			✓				
"SB"	L	023	E5.0	New	Bulk Storage	Safety Building				✓			✓				
"SB"	L	024	E5.0	New	Evidence Lab	Safety Building				✓			✓				
"SB"	L	025	E5.0	New	Large Evidence Storage	Safety Building				✓			✓				
"SB"	L	026	E5.0	New	Small Evidence Storage	Safety Building				✓			✓				
"SB"	L	027	E5.0	New	Building Storage - 018	Safety Building				✓			✓				
"SB"	L	028	E5.0	New	Lockers	Safety Building				✓			✓				
"SB"	L	029	E5.0	New	East Ramp Exit	Safety Building				✓		✓					
"SB"	L	030	E5.0	New	Building Storage - 023	Safety Building				✓			✓				
"SB"	L	031	E5.0	New	Stair "C"	Safety Building				✓			✓				
"SB"	1	032	E5.1	New	Communications	Safety Building				✓			✓				
"SB"	1	033	E5.1	New	Corridor 120	Safety Building				✓			✓				
"SB"	1	034	E5.1	New	Vestibule 108	Safety Building				✓		✓					
"SB"	1	035	E5.1	New	Courtroom (Two Leafs)	Safety Building				✓					x2		
"SB"	1	036	E5.1	New	Court Clerk	Safety Building				✓			✓				
"SB"	1	037	E5.1	New	Training Room 105	Safety Building				✓			✓				
"SB"	1	038	E5.1	New	Patrol Equipment	Safety Building				✓			✓				
"SB"	1	039	E5.1	New	Armory	Safety Building				✓			✓				
"SB"	1	040	E5.1	New	Int.	Safety Building				✓			✓				
"SB"	1	041	E5.1	New	Women's Bathroom	Safety Building				✓			✓				
"SB"	1	042	E5.1	New	Men's Bathroom	Safety Building				✓			✓				
"SB"	1	043	E5.1	New	Men's Locker	Safety Building				✓			✓				
"SB"	1	044	E5.1	New	Corridor 173	Safety Building				✓			✓				
"SB"	1	045	E5.1	New	Social Worker	Safety Building				✓			✓				
"SB"	1	046	E5.1	New	Lobby Storage	Safety Building				✓			✓				
"SB"	1	047	E5.1	New	Investigation North	Safety Building				✓			✓				
"SB"	1	048	E5.1	New	North East Exit	Safety Building				✓			✓				
"SB"	1	049	E5.1	New	Maint. Garage West	Safety Building				✓			✓				
"SB"	1	050	E5.1	New	Maint. Garage East	Safety Building				✓			✓				
"SB"	1	051	E5.1	New	Investigation South	Safety Building				✓			✓				
"SB"	1	052	E5.1	New	Fire East Entrance	Safety Building				✓			✓				
"F1"	1	001	E6.0	Existing	Main Entry	Fire Station #1		2.90 SP1	1134.1134	✓				ETR			
"F1"	1	002	E6.0	Existing	West Door	Fire Station #1		2.90 SP1	1134.1134	✓				ETR			
"F1"	1	003	E6.0	Existing	East Door	Fire Station #1		2.90 SP1	1134.1134	✓				ETR			
"F2"	1	001	E7.0	Existing	North Door	Fire Station #2		2.90 SP1	1134.1134	✓				ETR			
"F2"	1	002	E7.0	Existing	South Door	Fire Station #2		2.90 SP1	1134.1134	✓				ETR			
"F2"	1	003	E7.0	New	East Entrance	Fire Station #2				✓			✓				
"F3"	1	001	E8.0	Existing	Vestibule Door	Fire Station #3	1.01	2.90 SP1	1134.1134	✓				ETR			
"F3"	1	002	E8.0	Existing	South East Door	Fire Station #3	1.02	2.90 SP1	1134.1134	✓				ETR			
"F3"	1	003	E8.0	Existing	North East Door	Fire Station #3	1.03	2.90 SP1	1134.1134	✓				ETR			
"F3"	1	004	E8.0	New	West Entrance	Fire Station #3				✓				ETR			
"F3"	1	005	E8.0	New	Telecom Room	Fire Station #3				✓			✓				
"F4"	1	001	E9.0	Existing	Kitchen	Fire Station #4		2.90 SP1	1134.1134	✓				ETR			
"F4"	1	002	E9.0	Existing	South Door	Fire Station #4		2.90 SP1	1134.1134	✓				ETR			
"F4"	1	003	E9.0	New	West Entrance	Fire Station #4				✓			✓				
"PG"	1	001	E10.0	Existing	North Door	Parks Garage		2.90 SP1	1134.1134	✓				ETR			
"PG"	1	002	E10.0	Existing	South Door	Parks Garage		2.90 SP1	1134.1134	✓				ETR			
"PG"	1	003	E10.0	Existing	East Door	Parks Garage		2.90 SP1	1134.1134	✓				ETR			

1. ETR = Existing To Remain
2. Verify Strike Finishes With Owner Prior To Purchase
3. Strikes to be variable power selectable
4. Strikes to be variable fail safe and fail secure selectable
5. New Strikes That Are Mounted To Exterior Frames Shall Be Outdoor Rated
6. Provide/Install all software, hardware, power supplies, batteries, controllers, readers, cabling, FOBS and Programming for a complete working system.
7. Card Access Cabling To be run free air Plenum above accessable ceilings.
8. All 120V circuits to be installed in EMT Conduit. 3/4" minumum.
9. It is expected that all card access conductors be installed inside hollow door frames where possible.
10. EMT conduit to be used for exposed card access conductors longer than 2 feet.
11. MC cable can be used for exposed card access conductors shorter than 2 feet.
12. OHD = Overhead Door

Revisions

Sheet
SYMBOLS, ABBREVIATIONS, NOTES AND SCHEDULES

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
EL

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (2-#12AWG, #12 GND., 1/2"C.)

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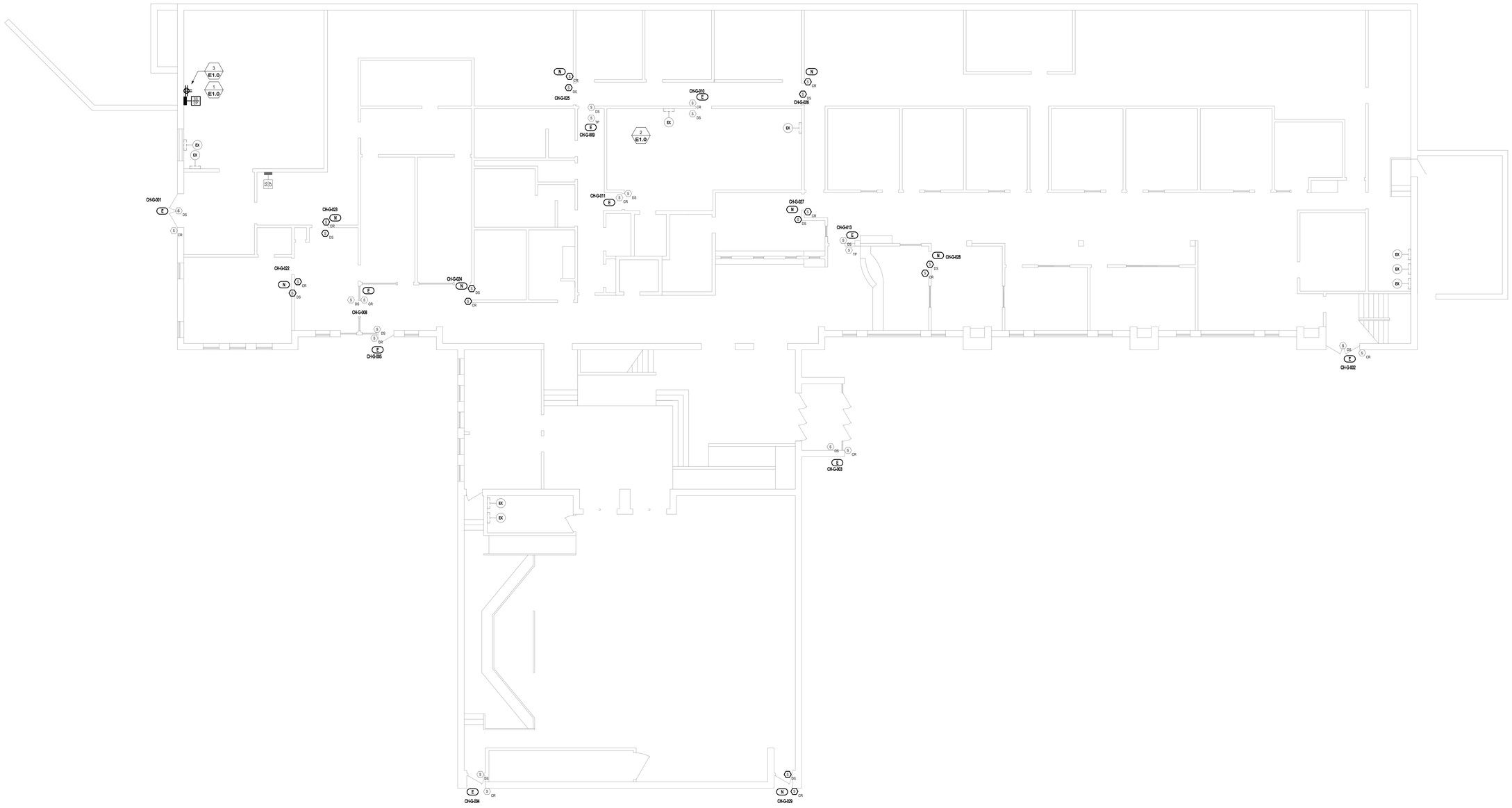

1 ACCESS CONTROL - CITY HALL - GROUND FLOOR
1/8" = 1'-0"

Revisions

Sheet
ACCESS CONTROL - CITY HALL - GROUND FLOOR

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

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E1.0

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (2-#12AWG, #12 GND., 1/2"C.)

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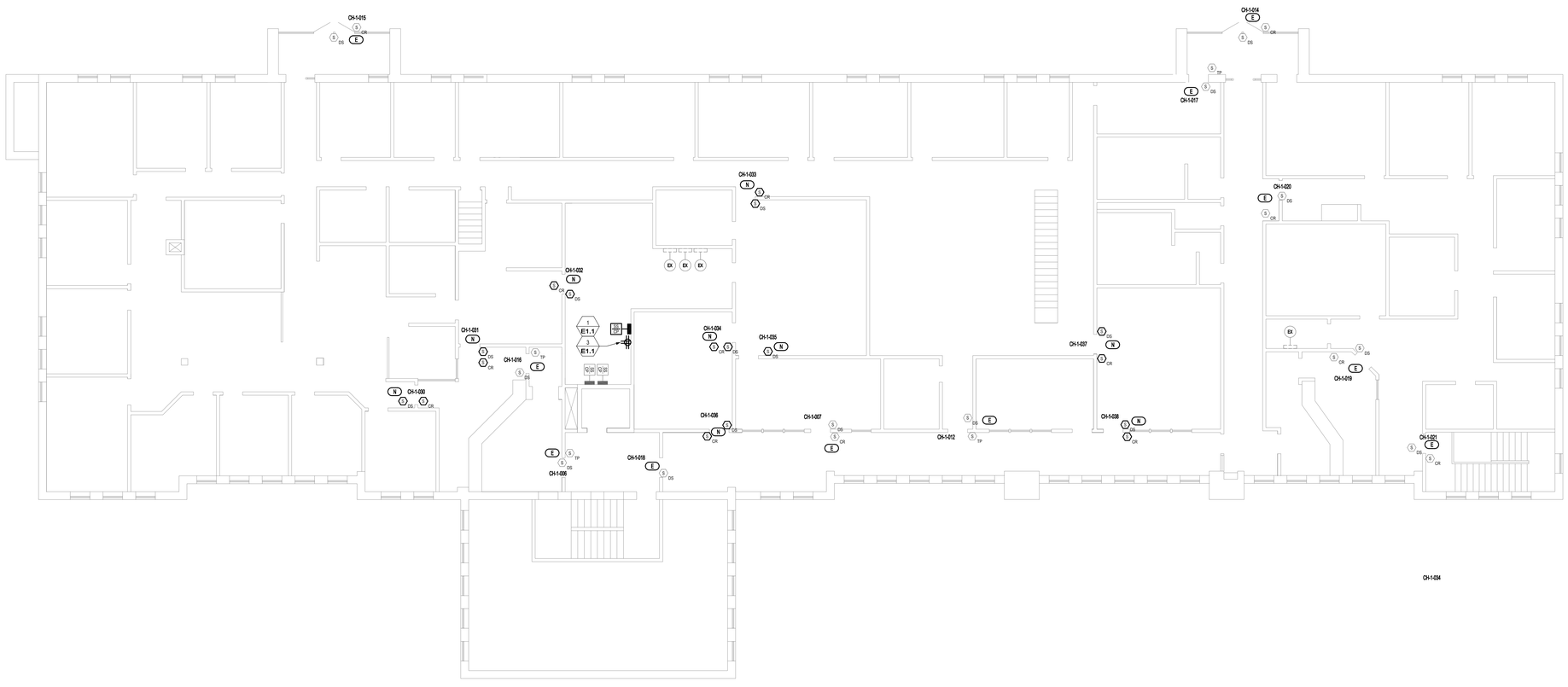

1 ACCESS CONTROL - CITY HALL - FIRST FLOOR
1/8" = 1'-0"

Sheet
ACCESS CONTROL - CITY HALL - FIRST FLOOR

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

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E1.1

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (2#12AWG, #12 GND., 12"C.)

1 ACCESS CONTROL - COMMUNITY CENTER
1/8" = 1'-0"

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Revisions

Sheet
ACCESS CONTROL - COMMUNITY CENTER

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

Project
ACCESS CONTROL UPGRADES

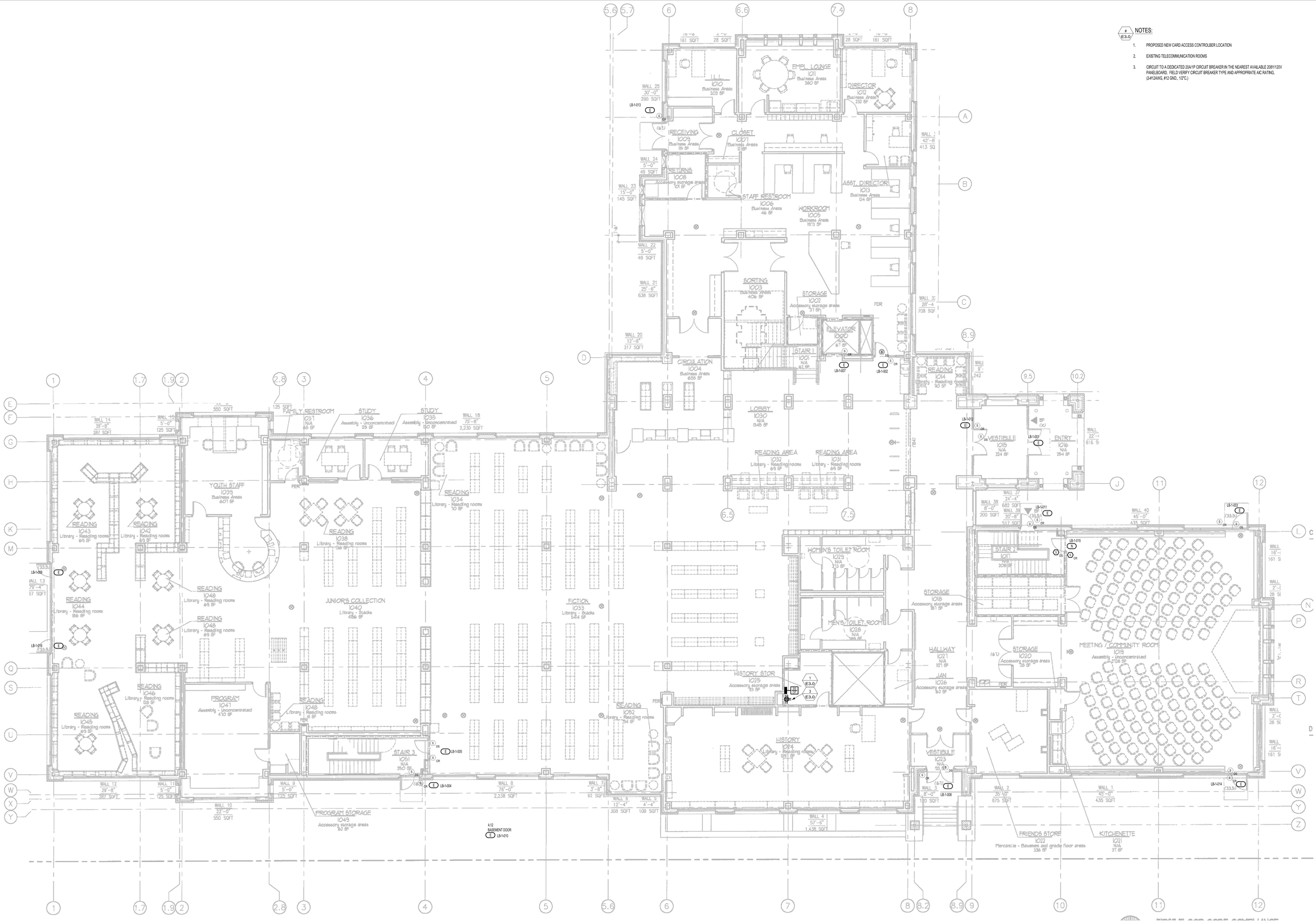
Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E2.0

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLBER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (2#12AWG, #12 GND, 1/2"C.)



1 ACCESS CONTROL - LIBRARY - FIRST FLOOR
1/8" = 1'-0"

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Revisions

Sheet
ACCESS CONTROL - LIBRARY - 1ST FLOOR

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

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E3.0

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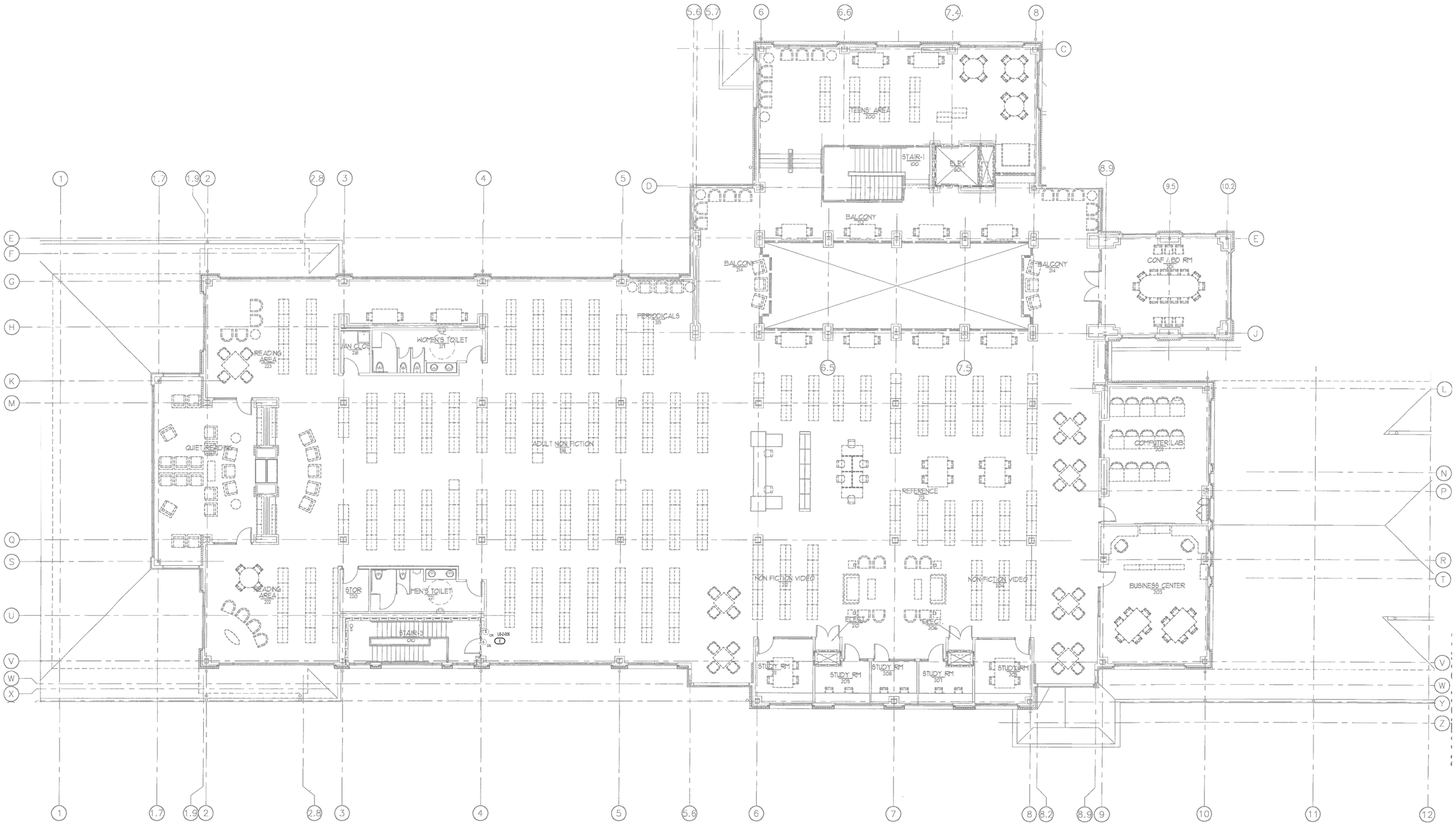


1 ACCESS CONTROL - LIBRARY - SECOND FLOOR
1/8" = 1'-0"

Revisions

Sheet
ACCESS CONTROL - LIBRARY - SECOND FLOOR

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

Project
ACCESS CONTROL UPGRADES

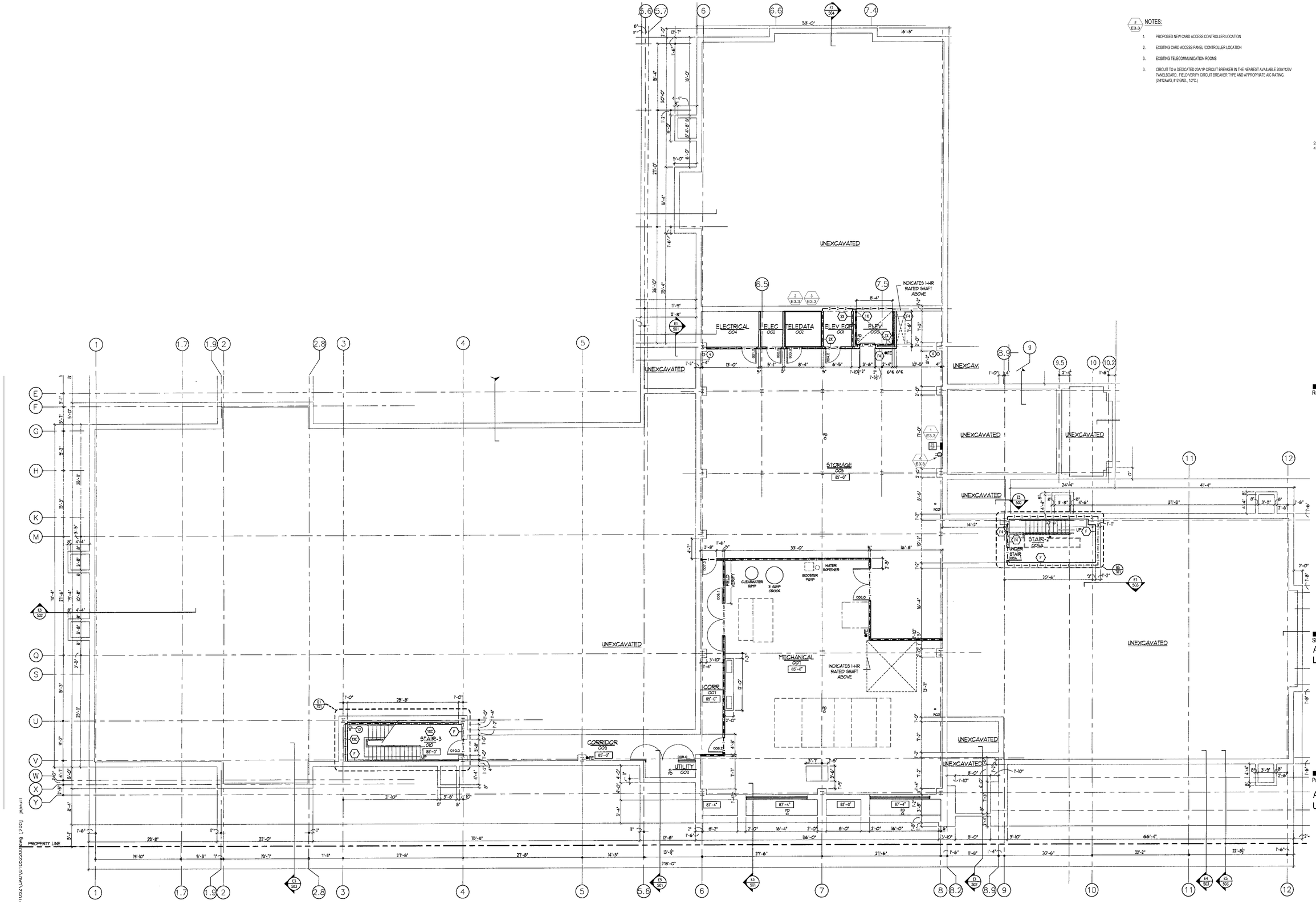
Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E3.2

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING CARD ACCESS PANEL /CONTROLLER LOCATION
3. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (2#12AWG, #12 GND., 1/2"C.)



1 ACCESS CONTROL - LIBRARY - BASEMENT
1/8" = 1'-0"

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Revisions

Sheet
ACCESS CONTROL - LIBRARY - BASEMENT

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

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E3.3

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 30A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (3-#12AWG, #12 GND., 1/2"C.)

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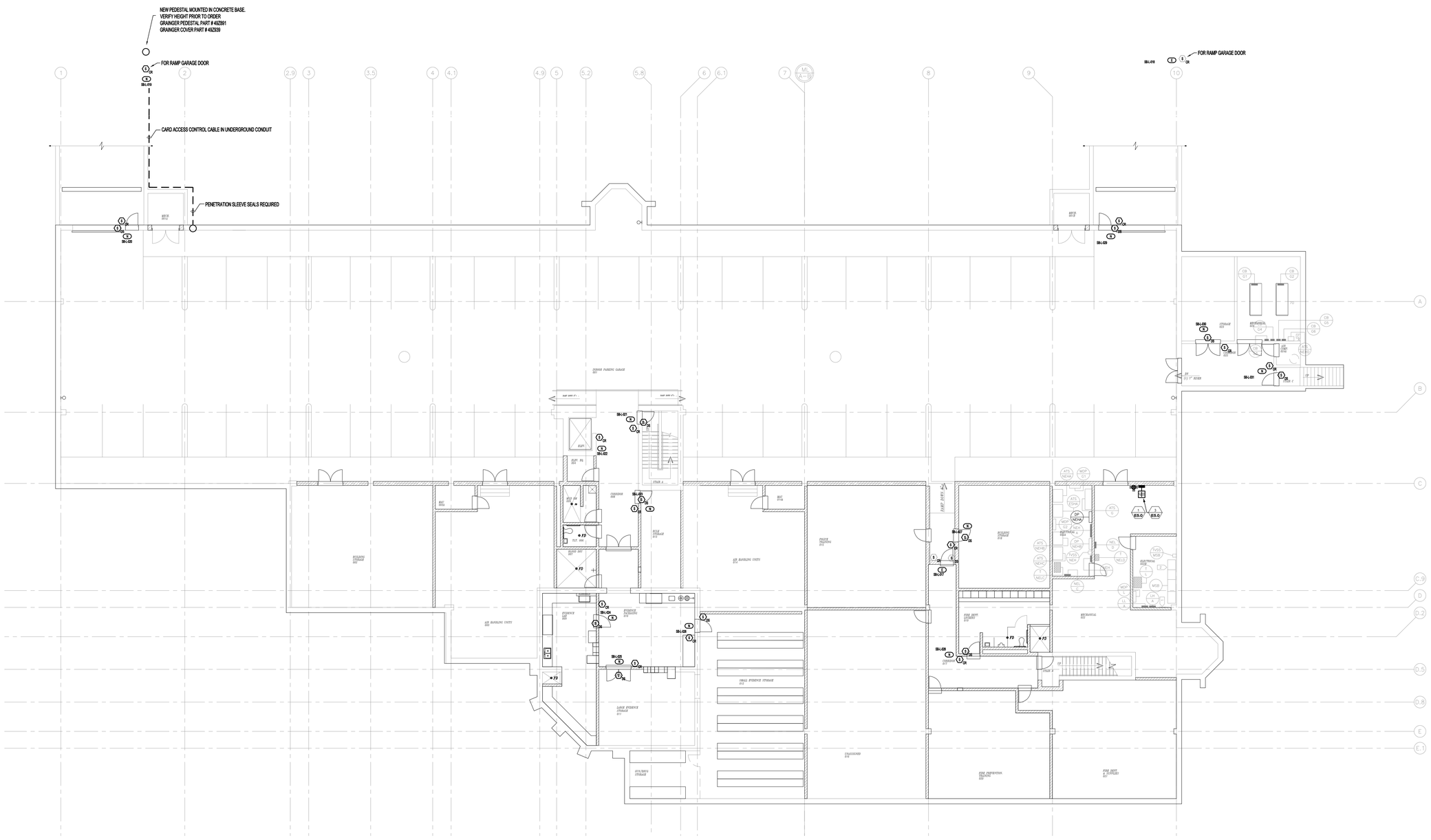

1 ACCESS CONTROL - POLICE DEPARTMENT - LOWER LEVEL
3/32" = 1'-0"

Revisions

Sheet
ACCESS CONTROL - POLICE DEPARTMENT - LOWER LEVEL

PLAN
NORTH SCALE: 3/32" = 1'-0"

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E5.0

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (HF/GFMG, IFD GMG, 10FC)

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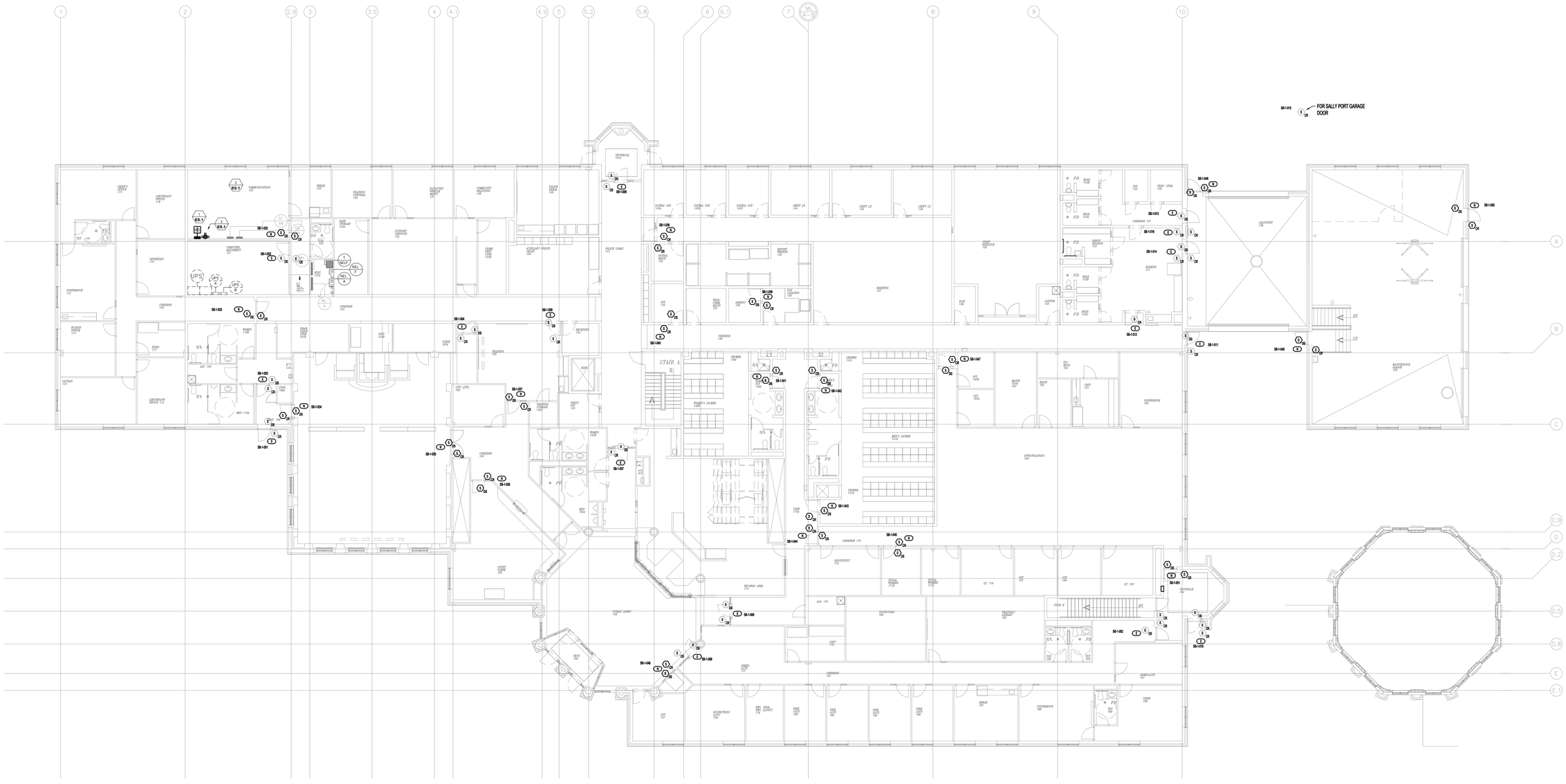


1 ACCESS CONTROL - POLICE DEPARTMENT - MAIN FLOOR
3/32" = 1'-0"

Revisions

Sheet
ACCESS CONTROL - POLICE DEPARTMENT - MAIN FLOOR

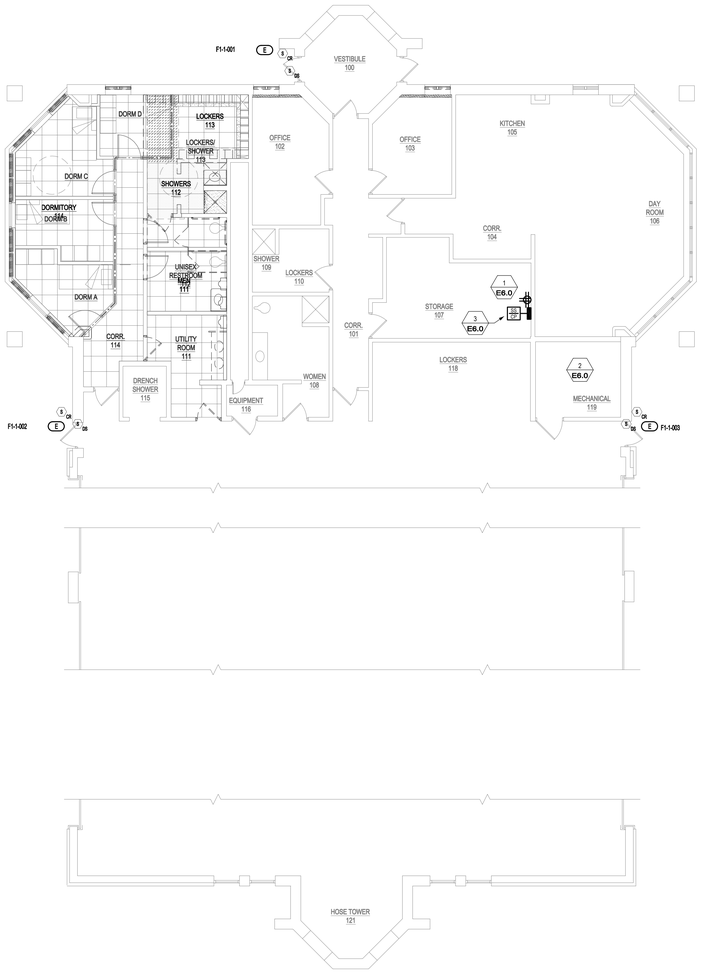
PLAN
NORTH
SCALE: 3/32" = 1'-0"

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E5.1



1 ACCESS CONTROL - FIRE STATION #1
1/8" = 1'-0"

E6.0 NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (3-#12AWG, #12 GND, 1/2"C.)

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Revisions

Sheet
ACCESS CONTROL - FIRE STATION #1

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

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E6.0

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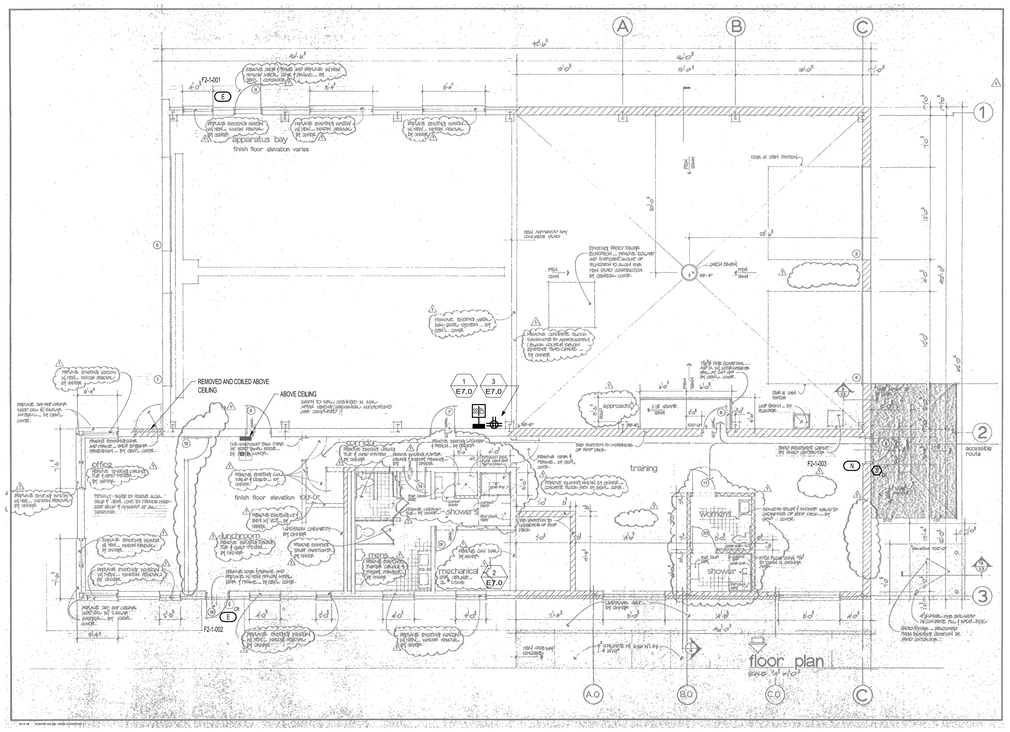
8
E7.0

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (2#12AWG, #12 GND, 1/2"C.)



1 ACCESS CONTROL - FIRE STATION #2
1/8" = 1'-0"

Revisions

Sheet
ACCESS CONTROL - FIRE STATION #2

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

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E7.0

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8
E8.0

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (2-#12AWG, #12 GND., 1/2"C.)

1 ACCESS CONTROL - FIRE STATION #3
1/8" = 1'-0"

Revisions

Sheet
ACCESS CONTROL - FIRE STATION #3

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

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E8.0

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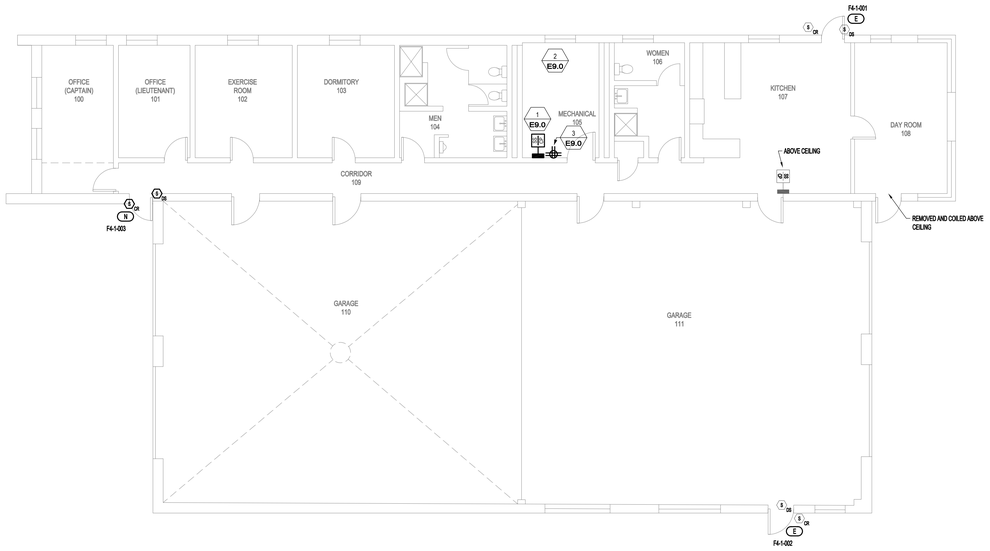
NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
2. EXISTING TELECOMMUNICATION ROOMS
3. CIRCUIT TO A DEDICATED 20A/1P CIRCUIT BREAKER IN THE NEAREST AVAILABLE 208Y/120V PANELBOARD. FIELD VERIFY CIRCUIT BREAKER TYPE AND APPROPRIATE AIC RATING. (2-#12AWG, #12 GND., 1/2"C.)



1 ACCESS CONTROL - FIRE STATION #4
1/8" = 1'-0"

Revisions

Sheet
ACCESS CONTROL - FIRE STATION #4

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

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E9.0

NOTES:

1. PROPOSED NEW CARD ACCESS CONTROLLER LOCATION
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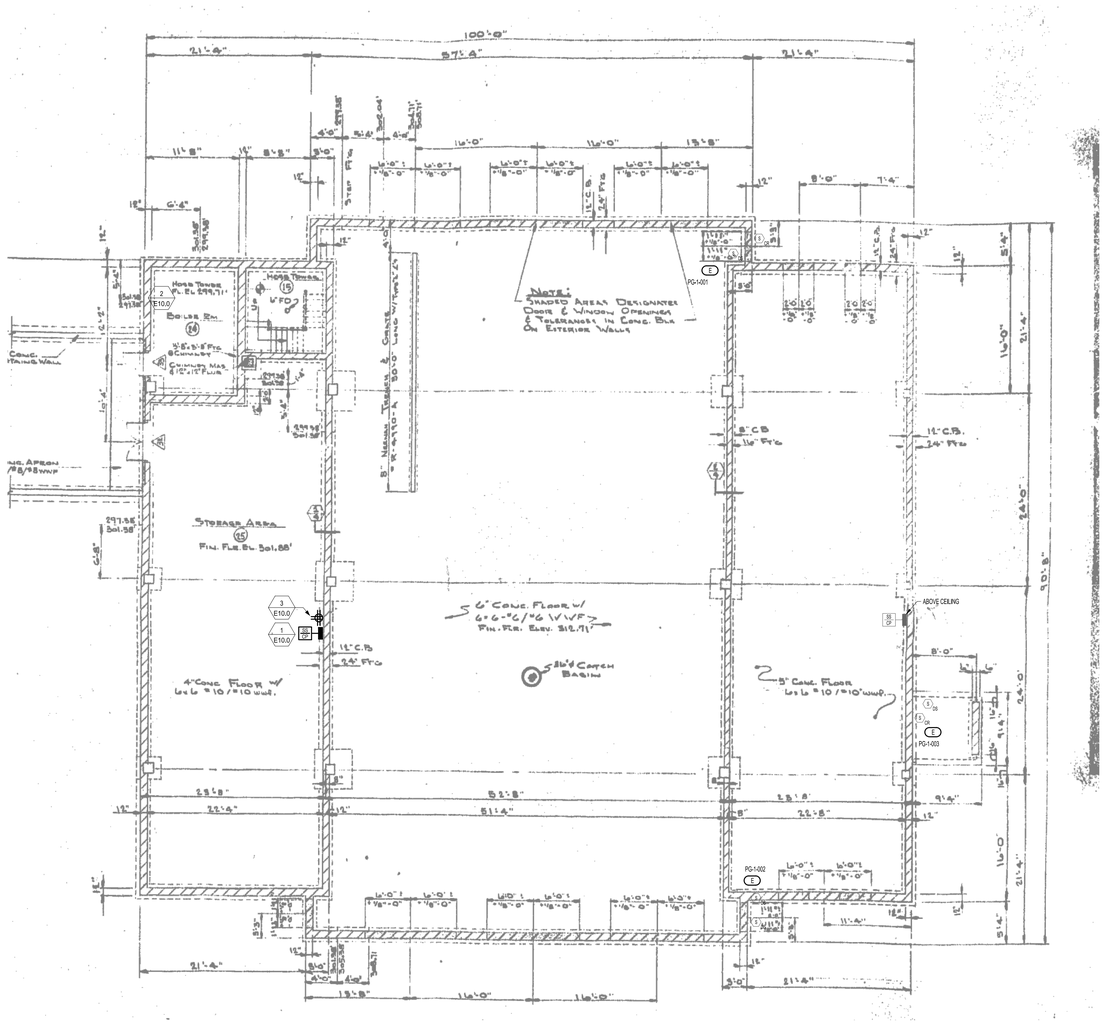

1 ACCESS CONTROL - PARKS GARAGE
1/8" = 1'-0"

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Revisions

Sheet
ACCESS CONTROL - PARKS GARAGE

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

Project
ACCESS CONTROL UPGRADES

Date
JANUARY 05, 2024

Project No.
019-1011.20

Sheet No.
E10.0

City of New Berlin

3805 South Casper Drive • New Berlin, Wisconsin 53151-0921 • (262) 786-8610 • Fax (262) 786-6121 • www.newberlin.org

REQUESTED ACTION STATEMENT

DATE: February 1, 2024

TO: Mayor
Common Council
Parks, Buildings and Grounds Commission

FROM: Josh Radomski – Director of Public Works

ISSUE: City Hall Window Replacement Project

REQUESTED:

Recommend Council to award the City Hall Window Replacement project to the lowest, responsive and responsible bidder, B&D Contractors, Inc. This work will not include Alternative 1 or Alternative 2.

FISCAL IMPACT:

Monies to come from the Window Upgrade – City Hall Account#04251300-61510-C2024 for the contract amount of $438,000 with a 14% Contingency of $62,000 for a total construction cost of $500,000.

RATIONALE:

B&D Contractors, Inc. was the lowest, responsive and responsible bidder.

City Hall Window Project

Company	Base Bid	Alternative 1	Alternative 2
B&D Contractors	$438,000	$85,000	$60,000
The Wilson Group, Inc.	$618,773	$132,020	$46,726

Alternate 1	Provide GL-22 Insulating Vision Glass instead of GL-21
Alternate 2	Provide new hollow metal doors and frames

New Berlin City Hall Window Replacement
Quest CDN – 8893465
3805 S. Casper Dr., New Berlin, WI 53151

BID FORM

1. GENERAL DIRECTIONS TO BIDDERS

A. All Bids must be submitted on these standard form sheets inclusive without modification. Fill out all blanks on the Bid Form by typing or writing in ink. Sign in ink. Erasures or other changes in Bid must be explained or noted over signature of Bidder. Enter Bid amount in both written words and printed figures in spaces provided on Bid Form. In case of conflict, amount given in written words will govern.

B. Base Bid(s) must be for Work bid in strict accordance with the Drawings and Specifications. **INCLUDE BOND COSTS IN THE BASE BID(S).** Bid all requested Alternates. If no change to the Base Bid applies, enter "No Change."

C. Bid Forms containing qualifications, conditions, omissions, unexplained erasures, alterations or items not called for in Bid Form or other irregularities of any kind may be rejected at the discretion of the Owner.

D. Bidders shall examine the provisions of the Project Manual thoroughly to ensure compliance with all bidding requirements.

E. Bidders shall only submit the Bid Forms included in the Project Manual – DO NOT return the Project Manual.

F. Bidders shall ensure that all items in the Bid Form such as Work Schedule, Bidders Official Title and Signature, and Proof of Responsibility are properly executed.

G. A bid must be accompanied by a bid security made payable to Owner in an amount of 5% of bidder's maximum bid price (determined by adding the base bid and all alternates), and in the form of a certified check, bank money order or a bid bond issued by a surety acceptable to the City. The bid security will be retained by the City until the City awards the contract to such bidder and such bidder has executed the contract documents and met the other conditions of the Notice of Award, where upon the bid security will be released. If the successful bidder fails to execute and deliver the contract documents and furnish the requirements contract security within 15 days after the Notice of Award, the Owner may consider the bidder to be in default and anull the Notice of Award and the bid security of that bidder will be forfeited. Such forfeiture shall be the Owner's exclusive remedy if the bidder defaults.

H. The Bidder shall be required to identify any subcontractor, suppliers, individuals or entities to be submitted to the Owner 14 days in advance of the

City's acceptance of the agreement. The apparent successful bidder shall, within 5 days after the bid opening, submit to the Owner a list of all such subcontractors, suppliers, individuals or other entities that will be utilized in the completion of the work. An experience statement with pertinent information regarding similar projects and other evidence of qualification for the work that the subcontractor will be performing is required. If the Owner, after review of such information, determines, in its sole discretion, that such subcontractor, supplier, individual or entity is not satisfactory, the Owner, prior to the Notice of Award, shall give notice to the successful bidder requiring that an acceptable substitute be provided. In the event there is any adjustment to the cost as a result of said substitution, Owner may take that into consideration in making the contract award. In the event that the contractor fails to make the substitution requested, the Owner may award the contract to the next lowest responsive responsible bidder.

I. Bids not conforming to the above directions may be declared irregular and are subject to disqualification at the discretion of the Owner.

THE BIDDER HEREBY AGREES THAT THIS BID IS INVALID WITHOUT BIDDER'S SIGNATURE APPEARING IN THE SIGNATURE BLOCK ON THE LAST PAGE OF THIS BID FORM.

2. BID SUBMITTAL PROCEDURE

In submitting a Bid, the Bidder represents that:

- He/She thoroughly reviewed and understood the Bidding and Contract Documents and the Bid is made in full accordance with these documents and amendments issued thereto.

- He/She has thoroughly reviewed and understands the Bidding and Contract Documents related to the Work of other portions of the Project, if any, being bid concurrently or presently under construction.

- He/She has thoroughly reviewed informational reports and documents available to him/her, visited the project site, become familiar with actual local conditions under which the Work is to be performed and has correlated his/her evaluations and personal observations with the requirements of the Bidding and Contract Documents.

- The contract for the work, if awarded, will be on the basis of materials and equipment specified or described in the bidding documents, and those or equal or substitute or materials and equipment subsequently approved by the Owner prior to the submittal of bids and identified by addendum. No item of material or equipment will be considered by Owner as an or equal or substitute unless written requests for approval has been submitted by the bidder and has been received by the Owner at least 10 days prior to the date of receipt of bids in the case of a proposed substitute. The burden of proof on the merit of the proposed item is upon the bidder. The Owner's decision of approval or disapproval of a proposed item will be final. If the Owner approves any such proposed items, such approval will be set forth as an addendum issued to all perspective bidders. Bidder shall not rely upon approvals made in any other manner. All prices that Bidder sets forth in this bid shall be based on the presumption that the contractor will furnish the materials and equipment specified or described in the bidding documents as supplemented by any addenda.

A. After Bid Forms are completed, place one (1) set of signed originals and the Bid Bond in a sealed envelope. Oral, telephonic, e-mailed, or faxed Bids are invalid and will not be considered.

B. Address the envelope to:
City Clerks Department
New Berlin City Hall Window Replacement
Buildings and Grounds
3805 S Casper Dr
New Berlin, WI 53151

C. Bidders shall affix their name and address to the front upper left-hand corner of the envelope with the words "Sealed Bid Enclosed" written on the outside. Identified in lower left corner should be: Bid number, project name and opening date.

3. BID CLOSING

A. Bids must be received on or before 9:00 a.m. on January 31, 2024. The Bidder assumes full responsibility for timely delivery at the location designated for receipt of Bids. **Bids received after the time and date for receipt of Bids will be rejected and returned unopened.**

4. BID OPENING

A. Bids will be publicly read at 9:00 a.m. on January 31, 2024 in the New Berlin City Hall – Common Council Chambers.

(a corporation)

We B+D Contractors, Inc (~~a partnership~~) (~~an individual~~)
(Cross out inapplicable)

Of 17020 W. Rogers Dr, New Berlin, Waukesha, WI, 53151
Street City County State Zip

hereby agree to execute the proposed Contract and to furnish a satisfactory Public Improvement Performance/Labor and Material Payment Bond, in the amount of one hundred percent (100%), and to provide all labor and material required for the construction of the designated Work, for the prices hereinafter set forth, in strict accordance with the Construction Documents released by: **City of New Berlin**, address: 3805 S. Casper Dr, New Berlin, WI.

Including Amendment Nbr(s). 1 **dated** 1/11/24.
2 (1 w/plans) 1/17/24
3 3/1/23 - 1/24/24

5. BASE BID

Base Bid includes all work required to complete the Project, including Building Permits, General Conditions, overhead, profit, insurance, bonds, taxes, and all other expenses. Bid Guarantee ten percent (10%) Bid Bond Cost, Public Improvement Performance Bond and Labor and Materials Payment Bond Cost one hundred percent (100 %) for the sum of:

Four hundred thirty eight thousand Dollars ($ 438,000-)

Alternate 1: This represents all work consisting of providing GL-22 Insulating Vision Glass with UV Bird Collision Mitigation Coating Instead of GL-21. (Whole Building Only) as listed in the plans.

Eighty Five thousand Dollars ($ 85000-)

Alternate 2: This represents all work for Alternative 2 (Provide new hollow metal doors and frames) as listed in the plans.

Sixty thousand Dollars ($ 60,000-)

10. SCHEDULE OF VALUES

A. Submit schedule of standard rates for all personnel, including personnel of subcontractors, involved with project.

B. Include schedule of standard markups.

11. COMMENCEMENT, PROGRESS AND COMPLETION OF WORK

A. If written Notice of Intent to Award Contract is issued not later than February 14, 2024 with a Project commencement of February 21, 2024, can you complete the Work in compliance with the requirements of the Contract Documents by July 26, 2024, in full cooperation and coordination with other Contractors, if any.
Yes ✓ No __ .

If "No", state additional calendar days required _____.

B. The undersigned understands that time is of the essence and agrees that the specified time period for completion stated above is a reasonable time for the completion of the Work. All time limits shall be binding.

12. BID ACCEPTANCE:

A. All Bids as stated above are effective and open for acceptance by the Owner for a period of ninety (90) days after date set for opening of Bids.

FIRM NAME B + D Contractors, Inc.

BY SIGNATURE

TITLE Vice President

DATED 1/30/2024

TELEPHONE 262-784-9393

FAX NBR 262-784-9093

EMAIL ADDRESS:

If a corporation, answer the following:

Incorporated under laws of what state?

SEAL WI (If Bid is by Corporation)

PROJECT MANUAL

City of New Berlin
City Hall Window Replacement

3805 S. Casper Dr.
New Berlin, Wisconsin 53151

Quest CDN - 8893465
City of New Berlin Project Number: BG-2023-02
January 10, 2024

INVITATION TO BID

Project: City Hall Window Replacement
3805 S. Casper Dr.
New Berlin, WI 53151
Quest CDN – 8893465

1. Bids will be prepared in accordance with Contract Documents prepared by Hammel, Green, Abrahmson, Inc. 333 East Erie Street, Milwaukee, WI 53202-6005, Ph 414-278-8200 ***and*** dated January 4, 2023.

2. Notice is hereby given that sealed Bids are due in the New Berlin City Hall – City Clerk office, by 9:00 a.m. CST/CDT on January 31, 2024. (Reference Bid Form, Item 2)

3. Bids will be publicly read at 9:00 a.m. on January 31, 2024 in the New Berlin City Hall – Common Council Chambers.

4. Oral, faxed or e-mailed Bids will be rejected.

5. All blanks on the Bid Form shall be filled in by typewriter print or manually in ink. If the filled areas are illegible, the Bid shall be rejected. The Bidder shall make no additional stipulations on the Bid Form or qualify the Bid in any manner.

6. Where so indicated on the Bid Form, the values shall be expressed in both words and figures. In the event of discrepancy between the words and figures, the amount written in words shall govern.

7. Bids will be submitted using the Bid Forms provided herein. Bid security shall be by a qualified surety in the form of a bid bond, in the amount of ten percent (10%) of Bid amount, and shall be submitted with the Bid. Bidders shall agree to not withdraw the Bid for a period of ninety (90) days after due date of Bids.

8. Accepted Bidders will be required, as a condition precedent to award of Contract, to furnish in the amount of 100% of the contract prices, satisfactory Performance Bond, Labor and Material Payment Bond and Certificate of Insurance.

9. Bidding Documents will be available on or after January 10, 2024. Second advertisement on January 17, 2024. Bidders may obtain Bidding Documents only from the following site: Quest ebid doc #8893465 – Bid/RFP Listing. Documents will available for download. Documents will not be mailed. **It is the responsibility of prospective Bidders to check this website for any future amendments, questions, revisions, etc., prior to the opening date. All addenda must be**

acknowledged on the signature page in the area provided. Failure to do so may result in your response being rejected.

10. Mandatory Pre-bid meeting and walkthrough on January 24, 2024, at 9:00 AM. Meeting location is New Berlin City Hall, 3805 S. Casper Dr, New Berlin, WI 53151. Meeting will begin in the front lobby of City Hall. **Please be on time as no accommodations will be made for late arrivals. NOTE: This will be the only opportunity for a walk through with City Staff, therefore, be sure to bring all potential subcontractors. Vendors are also reminded to review all Bid Documents, etc. prior to arrival.**

12. The right to reject any or all Bids, either in whole or in part, or to waive any informalities or irregularities is reserved by City of New Berlin.

Published by Order of:
City of New Berlin
Buildings and Grounds
(262) 786-8610
3805 S Casper Dr
New Berlin, WI 53151

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

GENERAL:

Carefully review Project Manual, including Bidding Requirements, General Requirements, Specifications, Alternates, and Amendments, all of which contain provisions applicable to all Bidders. Successful Bidder will be required to execute all Work belonging to their Contract which is stated in the Specifications, or reasonably implied as necessary to complete their Contract, including removal of existing work and preparing present work to receive new, if such be the requirements of actual job conditions.

Visit site to become acquainted with: Adjacent areas; means of approach to the site; present conditions of project site; and facilities for delivering, storing, placing and handling of materials and equipment. Compare Specifications with existing work in place, inspect demolition requirements and inform yourself of all conditions affecting execution of Work, including other new work, if any, being performed.

WORKSITE AVAILABLILITY:

A specific window of opportunity exists for completion of the Work, therefore Work shall commence on the date noted in the Bid Form. Construction activities may take place between **7:00 AM and 5:00 PM Monday through Friday. Work after hours must be coordinated with City of New Berlin Buildings and Grounds Department.**

DOCUMENTS:

Bidders shall be familiar with all Bidding Requirements and proposed Contract Documents. See General Conditions for definition of Contract Documents.

BID FORM:

Alterations of or amendments to Bid Form, attachments thereto, or inclusion of any correspondence, or other written or printed matter or details of any nature other than that specifically called for may disqualify Bid. No e-mailed alterations to the Bid will be accepted.

Only Bids which are made on regular Bid Form will be considered. No Bids for any arbitrary subdivision or sub classification of Work required by requested Bid(s) will be accepted.

Requirements of Signing: Include with each Bid full business address of Bidder. Bids by corporations shall be executed in the full legal name of the corporation, giving State of incorporation and be signed by an authorized officer or officers, who shall, in each case, type or print name and corporate title beneath the signature. Partnership Bids shall state the full name of all partners, e.g., “Smith and Jones, a partnership of John S. Smith and William B. Jones”. Such Bids must also be signed by an authorized partner or other representative, typing or printing the name and title of the signer beneath the signature. Individuals operating as a business shall sign Bids, typing or printing the individuals name followed by the words “Sole Proprietor” beneath the signature. When requested by Owner, furnish satisfactory evidence of agency or authority of any person signing on behalf of another.

Submission of Bids: Reference Bid Form, Section 2.

CONTRACT AND CONTRACT DOCUMENTS:

The Contract into which successful Bidder will be required to enter is based on City of New Berlin General Terms and Conditions of Service (as modified by Owner). Familiarize yourself with the provisions of this document.

ACCEPTANCE OF BID (AWARD):

It is the intent of the Owner to award a Contract or accept any Bid which will be in the best interests of the Owner, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner reserves the right to waive informalities or irregularities in a Bid received and to accept the Bid, which in the Owner's judgment, is in the Owner's best interests.

The Owner reserves the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsible Bidder on the basis of the Base Bid and Alternates accepted.

WITHDRAWAL OF BIDS:

Matters pertaining to the withdrawal of a Bid and to claims of error, omission or mistake in preparing or submitting a Bid shall be governed by Section 66.0901 of the Wisconsin Statutes.

All Bids shall be effective and open for acceptance for a period of ninety (90) days after date set for opening of Bids.

RESERVATION:

Owner reserves the right to: reject any or all Bids, reject a Bid not accompanied by a required bid security or by other data required by the Bidding Documents, reject a Bid which is in any way incomplete or irregular, waive any irregularities in any Bid, accept any Bid which will be in best interests of Owner.

INADEQUACIES AND OMISSIONS:

Failure to request timely clarification or interpretation of Bidding Documents shall not relieve Bidder/Contractor of responsibility to execute the Work in accordance with the intent of the Contract Documents. Signing of Contract means that the Contractor has thorough comprehension of full intent and scope of Contract Documents.

The Owner and his consultants are not responsible for oral instructions.

INTERPRETATIONS AND CORRECTIONS:

Carefully review and compare all parts of the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is being submitted. Examine the site and local conditions, and immediately report to the Owner errors, inconsistencies or ambiguities discovered.

Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall submit a written request to the Owner, received in Owner's office at least seven (7) days prior to the date set for receipt of Bids.

Interpretations and corrections of and changes to the Bidding Documents will be made in writing by Addendum only. Interpretations and corrections made in any other manner are not binding. Bidders shall not rely upon verbal instructions or information.

POWER OF ATTORNEY AND BOND REQUIREMENTS:

Submit with each Bid a bond executed by an attorney-in-fact, including a certified and effectively dated copy of his power of attorney. Where the certification is by facsimile, or otherwise does not bear an original signature, the bonding company must be qualified for recognition under facsimile execution.

New Berlin City Hall Window Replacement
Quest CDN – 8893465
3805 S. Casper Dr., New Berlin, WI 53151

BID FORM

1. GENERAL DIRECTIONS TO BIDDERS

A. All Bids must be submitted on these standard form sheets inclusive without modification. Fill out all blanks on the Bid Form by typing or writing in ink. Sign in ink. Erasures or other changes in Bid must be explained or noted over signature of Bidder. Enter Bid amount in both written words and printed figures in spaces provided on Bid Form. In case of conflict, amount given in written words will govern.

B. Base Bid(s) must be for Work bid in strict accordance with the Drawings and Specifications. **INCLUDE BOND COSTS IN THE BASE BID(S)**. Bid all requested Alternates. If no change to the Base Bid applies, enter "No Change."

C. Bid Forms containing qualifications, conditions, omissions, unexplained erasures, alterations or items not called for in Bid Form or other irregularities of any kind may be rejected at the discretion of the Owner.

D. Bidders shall examine the provisions of the Project Manual thoroughly to ensure compliance with all bidding requirements.

E. Bidders shall only submit the Bid Forms included in the Project Manual – DO NOT return the Project Manual.

F. Bidders shall ensure that all items in the Bid Form such as Work Schedule, Bidders Official Title and Signature, and Proof of Responsibility are properly executed.

G. A bid must be accompanied by a bid security made payable to Owner in an amount of 5% of bidder's maximum bid price (determined by adding the base bid and all alternates), and in the form of a certified check, bank money order or a bid bond issued by a surety acceptable to the City. The bid security will be retained by the City until the City awards the contract to such bidder and such bidder has executed the contract documents and met the other conditions of the Notice of Award, where upon the bid security will be released. If the successful bidder fails to execute and deliver the contract documents and furnish the requirements contract security within 15 days after the Notice of Award, the Owner may consider the bidder to be in default and anull the Notice of Award and the bid security of that bidder will be forfeited. Such forfeiture shall be the Owner's exclusive remedy if the bidder defaults.

H. The Bidder shall be required to identify any subcontractor, suppliers, individuals or entities to be submitted to the Owner 14 days in advance of the

City's acceptance of the agreement. The apparent successful bidder shall, within 5 days after the bid opening, submit to the Owner a list of all such subcontractors, suppliers, individuals or other entities that will be utilized in the completion of the work. An experience statement with pertinent information regarding similar projects and other evidence of qualification for the work that the subcontractor will be performing is required. If the Owner, after review of such information, determines, in its sole discretion, that such subcontractor, supplier, individual or entity is not satisfactory, the Owner, prior to the Notice of Award, shall give notice to the successful bidder requiring that an acceptable substitute be provided. In the event there is any adjustment to the cost as a result of said substitution, Owner may take that into consideration in making the contract award. In the event that the contractor fails to make the substitution requested, the Owner may award the contract to the next lowest responsive responsible bidder.

I. Bids not conforming to the above directions may be declared irregular and are subject to disqualification at the discretion of the Owner.

THE BIDDER HEREBY AGREES THAT THIS BID IS INVALID WITHOUT BIDDER'S SIGNATURE APPEARING IN THE SIGNATURE BLOCK ON THE LAST PAGE OF THIS BID FORM.

2. BID SUBMITTAL PROCEDURE

In submitting a Bid, the Bidder represents that:

- He/She thoroughly reviewed and understood the Bidding and Contract Documents and the Bid is made in full accordance with these documents and amendments issued thereto.

- He/She has thoroughly reviewed and understands the Bidding and Contract Documents related to the Work of other portions of the Project, if any, being bid concurrently or presently under construction.

- He/She has thoroughly reviewed informational reports and documents available to him/her, visited the project site, become familiar with actual local conditions under which the Work is to be performed and has correlated his/her evaluations and personal observations with the requirements of the Bidding and Contract Documents.

- The contract for the work, if awarded, will be on the basis of materials and equipment specified or described in the bidding documents, and those or equal or substitute or materials and equipment subsequently approved by the Owner prior to the submittal of bids and identified by addendum. No item of material or equipment will be considered by Owner as an or equal or substitute unless written requests for approval has been submitted by the bidder and has been received by the Owner at least 10 days prior to the date of receipt of bids in the case of a proposed substitute. The burden of proof on the merit of the proposed item is upon the bidder. The Owner's decision of approval or disapproval of a proposed item will be final. If the Owner approves any such proposed items, such approval will be set forth as an addendum issued to all perspective bidders. Bidder shall not rely upon approvals made in any other manner. All prices that Bidder sets forth in this bid shall be based on the presumption that the contractor will furnish the materials and equipment specified or described in the bidding documents as supplemented by any addenda.

A. After Bid Forms are completed, place one (1) set of signed originals and the Bid Bond in a sealed envelope. Oral, telephonic, e-mailed, or faxed Bids are invalid and will not be considered.

B. Address the envelope to:
City Clerks Department
New Berlin City Hall Window Replacement
Buildings and Grounds
3805 S Casper Dr
New Berlin, WI 53151

C. Bidders shall affix their name and address to the front upper left-hand corner of the envelope with the words "Sealed Bid Enclosed" written on the outside. Identified in lower left corner should be: Bid number, project name and opening date.

3. BID CLOSING

A. Bids must be received on or before 9:00 a.m. on January 31, 2024. The Bidder assumes full responsibility for timely delivery at the location designated for receipt of Bids. **Bids received after the time and date for receipt of Bids will be rejected and returned unopened.**

4. BID OPENING

A. Bids will be publicly read at 9:00 a.m. on January 31, 2024 in the New Berlin City Hall – Common Council Chambers.

(a corporation)
(a partnership)
We _____(an individual)
(Cross out inapplicable)
Of _____
Street City County State Zip

hereby agree to execute the proposed Contract and to furnish a satisfactory Public Improvement Performance/Labor and Material Payment Bond, in the amount of one hundred percent (100%), and to provide all labor and material required for the construction of the designated Work, for the prices hereinafter set forth, in strict accordance with the Construction Documents released by: **City of New Berlin**, address: 3805 S. Casper Dr, New Berlin, WI.

Including Amendment Nbr(s)._____ dated_____.

5. BASE BID

Base Bid includes all work required to complete the Project, including Building Permits, General Conditions, overhead, profit, insurance, bonds, taxes, and all other expenses. Bid Guarantee ten percent (10%) Bid Bond Cost, Public Improvement Performance Bond and Labor and Materials Payment Bond Cost one hundred percent (100 %) for the sum of:

_____ Dollars ($ _____)

Alternate 1: This represents all work consisting of providing GL-22 Insulating Vision Glass with UV Bird Collision Mitigation Coating Instead of GL-21. (Whole Building Only) as listed in the plans.

_____ Dollars ($ _____)

Alternate 2: This represents all work for Alternative 2 (Provide new hollow metal doors and frames) as listed in the plans.

_____ Dollars ($ _____)

10. SCHEDULE OF VALUES

A. Submit schedule of standard rates for all personnel, including personnel of subcontractors, involved with project.

B. Include schedule of standard markups.

11. COMMENCEMENT, PROGRESS AND COMPLETION OF WORK

A. If written Notice of Intent to Award Contract is issued not later than February 14, 2024 with a Project commencement of February 21, 2024, can you complete the Work in compliance with the requirements of the Contract Documents by July 26, 2024, in full cooperation and coordination with other Contractors, if any.
Yes __ No __ .

If "No", state additional calendar days required _____.

B. The undersigned understands that time is of the essence and agrees that the specified time period for completion stated above is a reasonable time for the completion of the Work. All time limits shall be binding.

12. BID ACCEPTANCE:

A. All Bids as stated above are effective and open for acceptance by the Owner for a period of ninety (90) days after date set for opening of Bids.

FIRM NAME _____

BY SIGNATURE _____

TITLE _____

DATED _____

TELEPHONE _____

FAX NBR _____

EMAIL ADDRESS: _____

If a corporation, answer the following:

Incorporated under laws of what state?

SEAL _____ (If Bid is by Corporation)

AGREEMENT BETWEEN OWNER and CONTRACTOR FOR CITY HALL WINDOW REPLACEMENT PROJECT

ARTICLE I
Work

Contractor shall complete all work as specified or indicated in the contract documents, which shall be inclusive of the bid instructions, bid forms, specifications, City of New Berlin insurance requirements, as well as this Agreement. The work is generally described as follows: replacement of City Hall Windows and Doors.

This work shall be considered the "Project".

ARTICLE II
Contract Times

Time is of the essence with respect to all time limits, milestones (if any), as well as deadlines for substantial completion and completion of the work provided for in the specifications.

The work will be substantially completed on or before July 26, 2024, and completed and ready for final acceptance and payment in accordance with this Agreement on or before August 16, 2024, subject to conditions beyond the control of the Contractor, such as labor or material shortages, weather conditions, strikes, civil unrest or wars. The Owner shall make the final decision as to the adequacy of the justification for the delay. Contractor and Owner recognize that time is of the essence and that the Owner will suffer financial and other losses if the work is not completed and the milestones are not achieved within the time limits specified above. The parties also recognize that delays, expense and difficulties involved in proving, in a legal or arbitration proceedings, of the actual loss suffered by the Owner if not completed on time.

ARTICLE III
Contract Price

The Owner shall pay Contractor for the completion of the work in accordance with the contract documents in the amounts that follow, subject to any applicable adjustments under this Agreement.

(a) For all unit price work in an amount equal to the sum of the established unit prices for each separately identified item of unit price work times the actual quantity of that item.

1) The estimated total of all unit price work for the base bid is $_____.
2) The estimated total of all unit price work for alternate bid number 1 (Provide GL-22) Insulating Vision Glass with UV Bird Collision Mitigation coating in lieu of GL-21) is $_____.

3) The estimated total of all unit price work for alternate bid number 2 (Provide new hollow metal doors and frames) is $_____.

These bid prices are based on estimated quantities. These quantities shall be adjusted based upon the actual work performed.

(b) For all work at the prices stated in the Contractor's Bid attached hereto as Exhibit "A".

ARTICLE IV
Payment Procedures

Contractors shall submit applications for payments in accordance with the terms of this Agreement upon final completion and acceptance of the work. Owner shall have thirty (30) days after receipt of such request to review the request for correctness and to obtain approval for such payment by its Common Council. The Owner may withhold payment for any portion of the work which is not completed in accordance with the specifications, and shall pay for the work related to any undisputed charges. Upon the successful completion of the work and the acceptance of that work as provided for hereunder, the Owner shall pay the remainder of the contract price.

Upon substantial completion of the work, the owner shall pay an amount sufficient to increase the total payments to the Contractor to one hundred (100%) percent of the work completed, but less such amount set off by Owner as provided for herein, less two hundred (200%) percent of the estimated value of the work to be completed or corrected in accordance with a punch list to be completed prior to final payment. Upon the successful completion of the work and the acceptance of that work as provided for hereunder, the Owner shall pay the remainder of the contract price.

ARTICLE V
Contractor's Representations

In order to induce the Owner to enter into this contract, the Contractor makes the following representations;

(a) The Contractor has examined and carefully studied the contract documents and any data and reference items included in the contract documents.

(b) The Contractor has visited the site, conducted a thorough visual examination of the site and adjacent areas, and has become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress and performance of the work.

(c) The Contractor is familiar with and is satisfied as to all laws and regulations that may affect cost, progress and performance of the work.

(d) The Contractor has carefully studied all reports or explorations and tests related to the conditions in which the work will be performed. As well as reports and drawings related to the work and technical data in such reports and drawings.

(e) The Contractor has considered the information known to the Contractor itself, including information commonly known to contractors doing business in the Milwaukee Metropolitan Area, as well as information and observations obtained from visits to the site, the contract documents and site related reports and drawings in the contract documents, with respect to the impact of such information, observations and documents on the cost, progress and performance of the work, the means, methods, techniques, sequences and procedures of construction and the contractor safety precautions and programs.

Based on the information and observation referred to in the preceding paragraph, the Contractor agrees that no further examinations, investigations, explorations, tests, studies or data are necessary for the performance of the work at the contract price, within the contract times, in accordance with the other terms and conditions of the contract.

The Contractor(s) have given the Owner written notice of all conflicts, errors, ambiguities or discrepancies, which the Contractor(s) have discovered in the contract documents and the Contractor(s) certify that the written resolution thereof by the Owners are acceptable to the Contractor.

The contract documents are sufficient to indicate and convey understanding of all terms and conditions for performance and the furnishing of the work.

The Contractor's entry into this contract constitutes an incontrovertible representation by the Contractor that without exception, all prices in in the Agreement are premised upon performing and furnishing the work required by the contract documents.

ARTICLE VI
Assignment of Contract

Unless expressly agreed to by the Owner, no assignment may be made of the rights and responsibilities of the Contractor under this Agreement.

ARTICLE VII
Successors and Assigns

The Owner and Contractor each binds themselves, their successors, agents, legal representatives and assigns with respect of all covenants, agreements and obligations contained in the contract documents.

ARTICLE VIII
Severability

Any provision or part of the contract documents held be void or unenforceable under any law or regulation, shall be deemed stricken and all remaining provisions shall continue to be valid and binding upon the Owner and Contractor which agree that the contract documents shall be reformed or replaced of such stricken revision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

ARTICLE IX
Relationship of the Parties

The Contractor agrees to perform the services as provided for hereunder as an independent contractor, not as an employee of the owner. The Contractor shall furnish all services and labors and materials and equipment necessary to conduct and complete the work. The work shall be performed in accordance with the specifications subject to the satisfaction of the Owner.

ARTICLE X
Delay

The Contractor shall not be liable for delays or failure to perform the services necessary to complete the work which are caused directly or indirectly by circumstances beyond the Contractor's control, including but limited to, acts of God, fire, flood, war, sabotage, accident, labor dispute, material shortage, governmental action, including regulatory requirements, change conditions, delays resulting from actions of the Owner or third parties not under control of the Contractor, site inaccessibility or inability of others to obtain materials, labor, equipment or transportation. Should any of the above occur, then the date for completion of the services shall be adjusted for such delay, provided that the Contractor reports delay to the Owner within a reasonable time of its discovery. The Owner shall determine whether or not the cause of delaying or not completing a duty or obligation under this Agreement is under the control of the Contractor.

The Contractor acknowledges that it must perform the work and services hereunder, pursuant to the terms and conditions of this Agreement and that such work shall conform to the recognized standards in the Milwaukee Metropolitan Area for the performance of this work as are prevalent in this field of endeavor and like services. Also, its work shall be performed in a good and workman- like manner.

ARTICLE XI
Taxes, Social Security and Governmental Reporting

Personal income tax payments, social security contributions, insurance and all other governmental reporting and contributions required as a consequence of the Contractor(s) receiving payment under this Agreement shall be the sole responsibility of the Contractor(s). The Contractor shall be solely responsible to meet the Owner's insurance needs, as specified below, during the terms of this Agreement or any extensions thereof:

General Liability

General Aggregate	$2,000,000.00
Personal Advertising Injury	$1,000,000.00
Each Occurrence	$1,000,000.00
Fire Damage	$ 50,000.00
Medical Expense (any one person)	$ 5,000.00

Automobile Liability

CSL	$1,000,000.00	
(Excess Liability)		
Umbrella Form	$1,000,000.00	(per occurrence)
	$2,000,000.00	Aggregate Self-Insured Retention, Not Greater than $10,000.00

Professional Liability

General Aggregate	$2,000,000.00
Each Occurrence	$1,000,000.00

A Certificate of Insurance shall be provided to the Owner as evidence thereof, naming the City as an additional insured on a primary and non-contributory basis, showing the Contractors covered by the above required types and amount of insurance and further providing for a thirty (30) day notice to the Owner prior to change, termination or cancellation of the Agreement, except in the event of cancellation or termination as a result of non-payment of premium, in which case the notice shall not be less than ten (10) days. Such notice provision shall be stated in the unconditional affirmative. Phrases such as, "shall endeavor to notify" are unacceptable and will be rejected. The Contractor shall provide evidence of the additional insured status through a policy endorsement form acceptable to the Owner.

ARTICLE XII
Indemnification

The Contractor shall indemnify and hold harmless the Owner and its agents, employees, elected officials, representatives and assigns, hereinafter referred to as the "Indemnified Parties", as and against any and all claims, demands, actions, causes of action, losses of expense, including but not limited to, actual attorney's fees arising out of or resulting from the performance of the work,

but only to the extent caused in whole or in part by a negligent acts or omissions of the Contractor, a sub-contractor or anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claims, damages loss or expenses is caused in part by the indemnified parties. Such obligation shall not be construed to negate, abridge or reduce other rights or obligations of indemnity which would otherwise exist as to a party or persons described in this paragraph. To the extent the Owner is separately entitled to coverage, defense or indemnification from a Contractor and/or its insurer for the same losses or expenses, this clause shall not apply, it being understood that the Contractor's obligation is primary. To the extent that the Contractor retains sub-contractors for the performance of the work, or any portion thereof, the Contractor and/or sub-contractor shall provide evidence of the insurance coverages noted above, as well as the terms of this indemnification provision shall be applicable to such Contractors or sub-contractors.

ARTICLE XIII
Regulations

The Contractor agrees to comply with all the requirements of applicable federal, state and local laws, as well as codes and specification requirements related to the performance of the work under this Agreement.

ARTICLE XIV
Termination of Contract for Cause

If, through any cause, the Contractor shall fail to fulfill, in a timely and proper manner, its obligations under this Agreement, or if the contractor shall violate any of the covenants, agreements or stipulations of the contract, the Owner shall thereupon have the right to terminate the Agreement by giving written notice to the Contractor of such termination. The Contractor will be paid for the work performed through the date of termination. However, notwithstanding that commitment the Contractor shall not be relieved of the liability to the Owner for damages sustained by the Owner and the Owner may withhold any payments to the Contractor for the performance of or set off until such time as the exact amount of damage is due the Owner from the Contractor are determined. If through no fault of the Contractor, the Owner shall fail to fulfill in a timely and proper manner its obligation under this contract, or if the Owner shall violate any of the covenants, agreements or obligations of the contract, the Contractor shall have the right to terminate this contract by giving written notice to the Owner of such termination specifying the effective date thereof, at least five (5) days prior to the effective date of such termination.

ARTICLE XV
Termination for Convenience of the Owner

The Owner may terminate this Agreement at any time for any reason by giving at least twenty (20) days' notice in writing from the Owner to the Contractor. The contract is terminated by the Owner as provided for herein. The Contractor shall be paid an amount which bears the same ratio to the total compensation as the services actually and satisfactorily performed compared to

the total services of the Contractor covered by this Agreement, less payments for such services as were previously made, plus all reimbursed expenses payable under the Agreement.

ARTICLE XVI
Governing Law

This Agreement shall be governed and construed in accordance with the laws of the State of Wisconsin. The contract documents shall represent the complete understanding of the parties with respect to the subject matter set forth herein and may only be amended in a subsequent agreement executed by all parties.

Dated this _____ day of _____ 2024.

Contractor:	City of New Berlin
By:_____	By: _____
_____	_____

ADDENDUM TO CITY OF NEW BERLIN CONTRACTS

This Addendum is made and entered into and shall be considered an attachment to all contracts entered into by the City of New Berlin for so long as the City of New Berlin is subject to the U.S. Department of Treasury Restrictions, as well as other federal regulations related to the City's receipt of American Rescue Plan Act Funds. The following Terms and Conditions shall be included in each such agreement and are incorporated as though fully set forth in the original contract.

1. The contractor agrees to comply with the applicable requirements of Section 603 of the American Rescue Plan Act (hereinafter referred to as the "Act") regulations adopted by the US Department of Treasury (hereinafter referred to as the "Treasury") pursuant to Section 603(f) of the Act and the guidance issued by the Treasury regarding the foregoing. The contractor also agrees to comply with all other applicable federal statutes, regulations and executive orders and shall provide for such compliance by other parties, including subcontractors in any agreements it enters into with other parties related to this award.

2. Statutes and regulations prohibiting discrimination and applicable to this contract include, but are not limited to the following:

    a. Title VI of the Civil Rights Act of 1964 (42 USC, §2000 D, et. seq.) and Treasury's implementing regulations at 31 CFR, Part 22, which prohibit discrimination on the basis of race, color or national origin under programs or activities receiving federal financial assistance.
    b. Fair Housing Act. Title VIII of the Civil Rights Act of 1968 (42 USC, §3601, et. seq.) which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status or disability.
    c. Section 504 of the Rehabilitation Act of 1973, as amended, (29 USC, §794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance.
    d. The Age Discrimination Act of 1975, as amended (42 USC, §6101, et. seq.) and Treasury's implementing regulations at 31 CFR, Part 23, which prohibit discrimination on the basis of age and programs or activities receiving federal financial assistance; and
    e. Title II of the Americans with Disabilities Act of 1990, as amended (42 USC, §12, 12101 et. seq.), which prohibits discrimination on the basis of disability under programs, activities and services provided or made available by state and local governments or instrumentalities or agencies thereto.

3. Equal Employment Opportunity. During the performance of the contract, the contractor will be required to comply with Equal Opportunity Employment Statutes as outlined in 47 CFR, §90.168.

4. Copeland Anti-Kickback Act. The contractor shall comply with 18 USC, § 874, 40 USC, §3145 and the requirements of 29 CFR, Part 3, as may be applicable, which are incorporated by reference into this contract.

5. Contract Work Hours of the Safety Standards Act.

   a. Overtime Requirements. No contract or subcontract contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any work week in which he/she is employed on such work to work in excess of 40 hours in such work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such work week.
   b. Violation. Liability for unpaid wages; liquidated damages: In the event a violation of the clause set forth in (a) above, the contractor or any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards employed in violation of this section.
   c. Withholding fund paid wages and liquidated damages: The City of New Berlin shall, upon its own action or upon written request of an authorized representative of the US Department of Labor, withhold or cause to be withheld from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other federal contract with the same contractor or any other federally assisted contract subject to the contract work hours and Safety Standards Act, which is held by the same contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractors or subcontractors or unpaid wages and liquidated damages as provided in the clause set forth in this section.
   d. Subcontract. The contractors or subcontractors shall insert in any contract the clauses set forth in Paragraph B, 1-4 of 29 CFR §5.5 and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in Paragraphs B, 1-4 of 21 CFR, §5.5.

6. Clean Air Act and Federal Water Pollution Control Act. Contractor needs to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 USC, §7401, et. seq.

7. Debarment and Suspension. This award is a covered transaction for purposes of 2 CFR, Part 180 and 2 CFR, Part 3000. As such, the contractor is required to verify that none of the contractors principals (defined in 2 CFR, §180.995) or its affiliate (defined in 2 CFR, §180.1.905) are excluded (defined in 2 CFR, §180.940) or disqualified (defined in 2 CFR, §180.935). Selected contractors must comply with 2 CFR, Part 180, Subpart C and 2 CFR, Part 3000, Subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into. This certification is a material representation of fact relied upon by the City of New Berlin. If it is later determined that the contractor did not comply with 2 CFR, Part 180, Subpart C and 2 CFR, Part 3000, Subpart C, in addition to remedies available to the City of New Berlin, the federal government may pursue available remedies including, but not limited to, suspension and/or

disbarment. The contractor and the bidder or proposer agree to comply with the requirements of 2 CFR, Part 180, Subpart C and 2 CFR, Part 3000, Subpart C, while this offer is valid and throughout the period of any contract that may arise from this offer. This contractor and the bidder or proposer further agrees to provide a provision requiring such compliance in its lower tier covered transactions.

8. Byrd Anti-Lobbying Amendment. The contractor shall file the required certification. The contractor and all subcontractors certify that they will not and have not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress or an employee of a member of Congress, or employees of the City of New Berlin in connection with obtaining any federal contract, grant or any award covered by 31 USC, §1352. Each tier, including the contractor and all subcontractors, shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the recipient, who in turn will forward the certifications to the awarding agency. If the agreement exceeds $100,000.00, the contractor must certify compliance with the Byrd Anti-Lobbying Amendment.

9. Procurement of Recovered Materials. Contractor shall comply with 2 CFR, §200.323 as applicable.

10. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment. Contractor shall comply with 2 CFR, §200.216, as applicable.

11. Domestic Preferences for Procurements. Contractor shall comply with 2 CFR, §200.322.

12. This Exhibit A is intended to incorporate those federal laws and regulations that apply to this contract. If the contractor believes that any law or regulation described herein is not applicable in this contract per the terms of the federal law or regulation, the contractor shall present their position in that regard to the City of New Berlin with a written change order request. The laws cited herein shall be followed by the contractor and all subcontractors unless the municipality agrees that the cited federal law or regulation does not apply, and the change order is approved by the City of New Berlin Common Council.

ADDENDUM TO CITY OF NEW BERLIN CONTRACTS

This Addendum is made and entered into and shall be considered an attachment as Exhibit B to all contracts entered into by the City of New Berlin for so long as the City of New Berlin is subject to the U.S. Department of Treasury Restrictions, as well as other federal restrictions related to the City's receipt of Federal Funds. The following Terms and Conditions shall be included in each such agreement and are incorporated as though fully set forth in the original contract.

1. No City contractor or employee shall operate any machinery or vehicle while utilizing a smart phone, including, but not limited to, the use of any cellular phone or texting.

2. All City employees and contractors, while engaged in the performance of City business or acting consistent with the performance of services under a contract with the City shall utilize seatbelts and any other safety devices related to the operation of a motor vehicle.

3. City employees or contractors whose duties and responsibilities are funded through the Coronavirus State and Local Fiscal Recovery Funds agree that they will not engage in any lobbying activities while in the course of providing services on behalf of the City of New Berlin, as restricted under the Hatch Act, 5 USC Sec. 1501-1508. No funds appropriated under the Coronavirus State and Local Fiscal Recovery Act shall be utilized for lobbying, and no political payments shall be made through the use of said funds.

4. All City employees and contractors, while in the performance of duties on behalf of the City shall abide by all local, state and federal regulations concerning the ingestion of controlled substances and shall not violate such Statutes or Ordinances. The City shall enforce drug free workplace standards and provide awareness programs for Staff. The City shall further agree to take action regarding individuals using drugs in the workplace according to law.

5. All City employees and contractors, in the course of performing of their duties on behalf of the City, shall, to the extent applicable, comply with the provisions in Wisconsin Statute §19.59 regarding conflicts of interest, as well as City of New Berlin Municipal Code Chapter 28 regarding ethics. Specifically, no City employee or contractor shall accept or solicit money or tangible personal property or otherwise receive consideration in exchange for the agreement to enter into a contract with a third party.

6. City employees shall avoid the acquisition of unnecessary items or property on behalf of the City.

7. City employees shall, to the extent applicable, engage in value engineering as part of any construction work performed on behalf of the City.

8. Contracts shall only be awarded to responsible contractors with experience in performing the services being contracted for.

9. City contracts shall avoid compensating for contractor work performed on a time and material basis and, to the extent practicable, shall have fixed-price contracts.

10. The selection of a contractor by the City should be done in an atmosphere of open and honest competition.

11. In the course of public bidding involving the purchase of equipment, the City shall not specify only a brand name for the purpose of limiting potential contracting parties. The City may include a clause, however, that any equipment being supplied under a City contract must interface well and be compatible with existing equipment utilized by the City of New Berlin, which is identified as the following: _____.

12. The City shall verify that any entity with which it is contracting has not been excluded for contracting pursuant to 2 CFR §180.

13. City contractors do hereby certify that they are not designated by the federal government as being precluded from engaging in federal contracts.

14. The City of New Berlin, its employees, officers, agents, contractors and assigns may not discharge, demote or otherwise discriminate against an employee in reprisal for disclosing information that the employee reasonably believes is evidence of gross mismanagement of a Federal, State or City contract or grant; a gross waste of Federal, State or City funds; an abuse of authority relating to Federal, State or Local Contractor Grant; a substantial and specific danger to public health, safety or welfare; or a violation of law, rule or regulation related to a Federal, State or City contract (including, but not limited to, the competition for or negotiation of a contract) or Grant. The entities to which disclosure of such information includes, but is not limited to the following entities:

    a. A member of Congress or a representative of a committee of Congress;
    b. An Inspector General;
    c. The Government Accountability Office;
    d. A Treasury employee responsible for contract grant oversight or management;
    e. An authorized official of the Department of Justice or other law enforcement agency;
    f. A Court or Grand Jury;
    g. A management official or other employee of the City;
    h. A contractor of the City;
    i. A subcontractor of the City, which has the responsibility to investigate, discover or address misconduct;
    j. An official of the State of Wisconsin, or other employee, agent or contractor of the State who has the responsibility to investigate, discover or address misconduct.

15. This Policy shall be disclosed to all City officers, agents, contractors or assigns and shall be included as part of the City's Addendum for City contract.

16. The City shall engage in a cost and price evaluation analysis to include independent estimates of the cost of the equipment or service before placing the matter out for bid.

17. When the City is engaged in negotiating purchase of goods and services, the profit in the contract shall be negotiated independently from the materials and labor. In any contract entered into by the City of New Berlin for the acquisitions of goods and services shall require remedies in the event of a breach of the agreement and shall include provisions for termination as to cause.

New Berlin City Hall
Window Replacement

Project Manual

January 4, 2023

HGA

Hammel, Green and Abrahamson, Inc.
333 East Erie Street
Milwaukee, Wisconsin 53202-6005
414.278.8200 | HGA.COM

Project No. 4970-001-00
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SECTION 010000
GENERAL REQUIREMENTS

1.1 SUMMARY

A. Owner: City of New Berlin

B. Project Location: 3805 S Casper Dr, New Berlin, WI 53151

C. General Scope: Project consists of the replacement of all exterior windows and doors as described within the scope of the Contract Documents.

1. Work Included: Provide labor, materials, articles, equipment, incidentals, items, tools, services, supplies, methods, operations, skills in such quantities as may be necessary to complete Project within intent of Contract Documents.
2. Singular notations shall be considered plural where plural application is reasonably inferable. Mention or indication of extent of work under work division or specification section is done only for convenience of Contractor and shall not be construed as describing all work required under that Division or Section.

D. Construction Contract: Construction will be accomplished under a single Prime Contract administered by the City of New Berlin.

E. Existing Conditions:

1. Verify location of utilities and existing conditions.
2. Verify dimensions on Drawings with dimensions at the Project.
3. Notify Architect of conditions differing from those indicated on the Drawings.

F. Specification and Drawing Conventions: Drawings and specifications are intended to provide the basis for the proper completion of the Project suitable for the intended use of the Owner. Items not expressly set forth but which are reasonably implied or necessary for the proper performance of this work shall be included.

1.2 WORK RESTRICTIONS

A. It is essential that full Owner's services and functions are maintained throughout construction period, with minimum disturbance and disruption to operations.

1. Contractor, subcontractors and workers shall be aware of these requirements and objectives.
2. Conduct work and develop detailed schedule to meet these requirements and objectives.
3. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
4. Notify the Owner not less than 72 hours in advance of activities that will affect Owner's operations.

B. Keep Owner advised of intended operations and schedule and be guided by other constraints or timing of work that may develop during construction, as instructed by Owner.

1. It shall be recognized that unanticipated difficulties may arise, unanticipated conflicts in timing may occur or that Contractor will be able to develop alternatives which will benefit Project, timing of Work or Owner. In such event, propose or develop with Owner, alternatives for acceptance by Owner in advance, which will improve Project and its progress.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

D. Exercise care to prevent interruption of existing services. Utilities or other services which are shown, or not shown but encountered or otherwise found, shall be protected from any damage from work and operations of this Contract, unless or until they are abandoned.

1. Verify location of utilities and existing conditions. Notify Architect of conditions differing from those indicated on the Drawings.
2. If the utilities or services are not abandoned, or to be abandoned, immediately restore any damage from work or operations to place the utilities and service in an equal or better condition to that which existed.

3. Where utilities or services are shown to be abandoned or moved, they shall remain in service, and be protected by the Contractor, until new utilities and services have been provided, tested and are ready for use.

E. Work Over Finished Floors: Where work is performed over finished floors or where the area is used as a passage, provide hardboard or plywood cover to protect against damage or stains. Covering to be provided by Contractor.

F. Working Hours: Work done outside of normal work hours, **7:00 am** to **7:00 pm** shall be authorized by the Owner.
   1. Coordinate with Owner for scheduling of work to allow for continuous access for building tenants and their customers.
   2. Schedule especially loud and potentially disruptive work to be done outside of normal work hours.

G. Site Storage: Cooperate and coordinate use of available areas effectively and within sequence of Work. Owner will establish and govern use of the available space, with consideration to the needs of the subcontractors to work effectively on the site.

1.3 ALTERNATES

A. Alternate: Amount proposed by bidders and stated on Bid Form for certain work defined in bidding requirements that may be added to or deducted from Base Bid amount if Owner decides to accept corresponding change either in amount of construction to be completed or in products, materials, equipment, systems, or installation methods described in Contract Documents.
   1. Cost or credit for each alternate is net addition to or deduction from Contract Sum to incorporate alternate into Work. No other adjustments are made to Contract Sum.

B. Schedule of Alternates:
   1. Alternate No. 1: Provide (GL-22) Insulating Vision Glass with UV Bird Collision Mitigation coating in lieu of GL-21 as specified in Section 088000 and indicated on the Drawings.
   2. Alternate No. 2: Provide new hollow metal doors and frames as specified in Section 081113 at identified openings on the Drawings.

1.4 SUBMITTAL PROCEDURES

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order and coordinated with Construction Schedule, List of Subcontracts, Schedule of Values, and with performance of construction activities.
   1. Review and Processing Time: Allow at least 10 working days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required.

B. Submittal Procedures, General:
   1. The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.
   2. Submittal Coordination: Submit Shop Drawings, Product Data, Samples, and Informational Submittals as individual packages, each with its own transmittal. Send all required submittals of a single specification Section concurrently, but as separate packages under separate transmittals.

C. Transmittal Form: Include completed transmittal form attached to the end of this Section or other form acceptable to Architect. Submittals sent without completed Submittal Transmittal Form will be considered incomplete, marked NOT ACCEPTED, and returned without review.

D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

E. Contractor's Review: Prior to submitting to Architect, review each submittal for clarity, coordination with other Work and compliance with the Contract Documents; note corrections, clarifications and field dimensions and insert Contractor's approval stamp.

F. Architect's Review: Architect will review each submittal, annotate to indicate required corrections or revisions, insert action stamp and mark stamp appropriately to indicate action.

1. Architect will advise Contractor when a submittal being processed must be delayed for coordination. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

G. Final Submittals: Distribute final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for coordination and performance of construction activities. Provide copies to Owner if Owner requests copies during construction.

1.5 QUALITY ASSURANCE

A. Comply with applicable codes, regulations, ordinances and requirements of authorities having jurisdiction, including accessibility guidelines where applicable. Submit copies of inspection reports, notices and similar documents to Architect.

B. Should the specifications, Architect's instruction, laws, ordinances or any public authority require any work to be inspected or approved, give timely notice of its readiness for inspection and a reasonable date fixed for such inspection. If any work requiring inspection should be covered up without approval or consent of the approving agency, it must be uncovered for examination at Contractor's expense.

C. Engage and pay for testing agencies as required. Refer to individual sections for additional requirements.

1. Unless otherwise provided in the specifications, provide all materials, samples, mock-ups or assemblies for all tests specified in various sections of specifications, or as directed by the Architect, and pay shipping costs of such samples to laboratory or other testing location and facility.
2. Unless specified otherwise, all tests shall be made by an approved independent testing laboratory and reports provided to Architect.

1.6 QUALITY CONTROL

A. Qualifications of Testing Agency: An independent testing agency acceptable to the Owner and the Architect and possessing the professional qualifications and equipment to perform the specified tests and to evaluate and report the results.

B. Payment for Tests: Contract with and pay one or more independent testing agencies to perform testing, inspection of construction materials, conditions, and procedures for conformance with the Contract Documents and related actions, including reports.

1. Unless otherwise indicated, the cost of tests shall be paid by the Contractor.
2. Owner will not pay for tests to determine if a proposed material will initially meet the specified requirements, which will include but not be limited to, analysis of paving aggregate, paving mix designs, and similar tests.

C. Retesting Responsibility: Where results of required inspections, tests or similar prove unsatisfactory and do not indicate compliance of related work with requirements of the contract documents, then retests are responsibility of Contractor, regardless of whether original test was Contractor's responsibility.

1. Where required tests were performed on original Work, retesting of revised or replaced Work by Contractor is Contractor's responsibility,

D. Inspections: Should the specifications, Architect's instruction, laws, ordinances or any public authority require any work to be inspected or approved, give timely notice of its readiness for inspection and a reasonable date fixed for such inspection. If any work requiring inspection should be covered up without approval or consent of the approving agency, it must be uncovered for examination at Contractor's expense.

E. Certificates: Except for test reports provided and signed by approved independent testing laboratories, all certificates required by the specification shall be signed by an authorized official of the firm providing the certificate, with the signature notarized, when such certificates by the producer are acceptable to the Architect.

1.7 TEMPORARY FACILITIES AND CONTROLS

A. Parking. Owner will designate parking area for contractor on site. Parking for construction personnel shall be coordinated with Owner.

B. Waste Disposal. Provide suitable waste disposal units and empty regularly. The Owner will identify location of dumpster on site. Coordinate with Owner waste removal route through facility and disposal.

C. Site Storage: Cooperate and coordinate use of available areas effectively and within sequence of Work. Owner will establish and govern use of the available space, with consideration to the needs of the subcontractors to work effectively on the site.

D. Temporary Barriers and Enclosures:
   1. Exterior Openings: Temporary closures at exterior openings shall provide protection from weather and from the transfer of dust.
      a. When any closure will be exposed to weather (or cold temperatures) from November to April it shall be insulated with 3 inch minimum blanket insulation, and have minimum of 1/2 inch plywood exterior face, and gypsum board inner face at temporarily occupied spaces.
      b. Closures shall be well maintained to protect against weather, dust and to provide security.
   2. It is the Contractors responsibility to determine when a dustproof enclosure is required to protect any adjoining area. The Contractor is responsible, however, for providing a dustproof enclosure whenever requested by the Owner for this project.

1.8 PRODUCT REQUIREMENTS AND SUBSTITUTION PROCEDURES

A. Submit requests for substitution in writing to Architect at least ten days prior to bid date and hour. Requests received after this time will not be considered. Substitution Request Form provided upon request.
   1. Refer to Section 016211 - Substitution Request Form.

B. Basis of Design Products: Reference to "Basis of Design" and a named specific product or manufacturer is intended to establish criteria for use of that product and manufacturer based on that products published information whether or not those criteria are explicitly stated in Specifications.

C. Architect and Owner reserve the right to accept or reject proposed products. Should a proposed product be unable to meet requirements to satisfaction of Architect, product shall not be used.

1.9 EXECUTION

A. Installation:
   1. Inspect substrates and report unsatisfactory conditions in writing.
   2. Do not proceed until unsatisfactory conditions have been corrected.
   3. Take field measurements prior to fabrication where practical. Form to required shapes and sizes with true edges, lines and angles. Provide inserts and templates as needed for work of other trades.
   4. Install materials in exact accordance with manufacturer's instructions and approved submittals.
   5. Install materials in proper relation with adjacent construction and with proper appearance.

1.10 CUTTING AND PATCHING

A. Perform cutting, demolition, removal work, patching and restoration of work as necessary to accomplish and complete all work under the Contract, including any relocation or reuse of existing materials, equipment, systems, or other work, as well as the disposition of salvaged materials or debris.
   1. Temporary Protection: Provide protective coverings and enclosures necessary to prevent damage to existing spaces and materials to remain.
   2. Remove unsalvable materials in a manner that will avoid damage to materials or equipment which will remain. Completely remove and legally dispose away from the site.
   3. Salvable materials and items designated for reuse, relocation, or to be stored by Owner; such as brick, millwork, or equipment; shall be removed by the applicable trades and relocated to the new location or stored and protected from damage until incorporated into the new work.

B. Patching and Remodeling: Patch or otherwise restore disturbed existing construction as indicated on the drawings and schedules, or as otherwise required to restore the work and surfaces. Patching or restoration shall be carried to natural breaks (i.e., corners) wherever possible. Where existing construction is removed, cut or otherwise disturbed by Work of the Project, patch defective and incomplete surfaces. Repair any damage to existing construction which is to remain.

C. Cleaning: Perform periodic and final cleaning.
   1. Clean Owner-occupied areas daily.
   2. Clean spillage, overspray, and heavy collection of dust in Owner- occupied areas immediately.
   3. At completion of work of each trade, clean area and make surfaces ready for work of successive trades.
   4. At completion of alteration work in each area, provide final cleaning and return space to a condition suitable for use by Owner.

1.11 CLOSEOUT PROCEDURES

A. Closeout: Plan an efficient, orderly and coordinated completion process including organizing, scheduling and coordinating the Work of contractor's own forces and Work of subcontractors. Establish firm commitments for on-time completion.
   1. Prepare punchlist for remaining work for review by the Architect.
   2. Complete punchlist items promptly at no additional expense to the Owner.
   3. Submit operating manuals, maintenance manuals, and warranty information.
   4. Obtain and submit copy of occupancy permits.
   5. Provide final cleaning and touch-up.
   6. Restore portions of building, site improvements, and other items damaged by construction operations to the satisfaction of the Architect at no additional expense to the Owner.

B. After Substantial Completion expedite completion of remaining work in an organized, efficient manner that maintains quality standards. Scheduled work in advance with Owner.
   1. Perform Work in occupied spaces when space is not in use, such as after hours in administrative areas, unless otherwise approved by Owner.
   2. Perform Work in occupied areas in a manner and at such time as will not significantly interfere with, hamper or inconvenience Owner's program or functions.

C. Closeout Submittals: Provide operating instruction data and maintenance manuals to the Owner, including Manufacturer’s cleaning and maintenance instructions, and copies of warranties.

END OF SECTION

SECTION 013310
SUBMITTAL TRANSMITTAL FORM

To: Hammel Green and Abrahamson, Inc.
Attn: Submittals Coordinator
333 East Erie Street
Milwaukee, WI 53202
Submittals.glo@hga.com

From: _____
_____
_____
Contact: _____
Email: _____
Phone: _____

Owner: **City of New Berlin** **Submittal Date:** _____
Project: **New Berlin City Hall Window Replacement** **Previous Date:** _____

HGA No.: **4970-001-00**

PRODUCT DATA ☐ Partial ☐ Complete ☐ Preliminary ☐ Final

Specification Section, Article, Paragraph:_____

Description:_____

_____

Product/Model:_____

Manufacturer:_____

Supplier:_____

Subcontract:_____

SHOP DRAWINGS ☐ Partial ☐ Complete ☐ Preliminary ☐ Final

Specification Section, Article, Paragraph:_____

Description:_____

_____

Product/Model:_____

Manufacturer:_____

Supplier:_____

Subcontract:_____

SAMPLES ☐ Partial ☐ Complete ☐ Preliminary ☐ Final

Specification Section, Article, Paragraph:_____

Description:_____

_____

Product/Model:_____

Manufacturer:_____

Supplier:_____

Subcontract:_____

SUBMITTED BY

Name: _____ Company:_____

Signature: _____ Date:_____

SECTION 016211
SUBSTITUTION REQUEST FORM

To: Hammel Green and Abrahamson, Inc.
Attn: Submittals Coordinator
333 East Erie Street
Milwaukee, WI 53202
Submittals.glo@hga.com

From: _____
_____

Contact: _____
Email: _____
Phone: _____

Owner: **City of New Berlin**
Project: **New Berlin City Hall Window Replacement**

Submittal Date: _____
Previous Date: _____

HGA No.: **4970-001-00**

PROPOSED SUBSTITUTION

Specification Section, Article, Paragraph: _____
Applicable Drawing & Details: _____
Proposed Substitution: _____
Manufacturer: _____
Product/Model: _____

REASON FOR SUBSTITUTION REQUEST

☐ Pre-Bid Substitution (Prior Approval) Date: _____
☐ Specified product is not available. Explain: _____
☐ Cost savings to Owner. Provide comparative cost analysis.
☐ Other: _____
_____

EFFECTS OF PROPOSED SUBSTITUTION

Does substitution affect dimensions indicated on Drawings?
☐ NO ☐ YES Explain: _____

Does substitution affect Work of other Sections?
☐ NO ☐ YES Explain: _____

Does substitution require modifications to design, changes to Drawings, or revisions to specifications to be incorporated into the Project?
☐ NO ☐ YES Explain: _____

CONTRACTOR'S / BIDDER'S REPRESENTATION

Undersigned accepts responsibility for coordination of proposed substitution and accepts all additional costs resulting from the incorporation of proposed substitution into the Project per Section 010000.

Subcontractor
Signature:
Date:

Contractor
Signature:
Date:

ARCHITECT'S REVIEW

☐ Accepted
☐ Not Accepted
☐ No Action Required
☐ Incomplete Submission
☐ Late Submission

Reviewer:
Review Date: _____

SECTION 079200
JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Exterior and interior sealants (SLNT).

1.2 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

B. Color Samples:

1. Samples for Initial Selection: Manufacturer's color charts consisting of actual strips of cured sealants showing the full range of colors available for each product exposed to view.
2. Samples for Verification: For each kind and color of joint sealant selected, provide Samples with joint sealants in 1/2-inch-wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

1.3 INFORMATIONAL SUBMITTALS

A. Quality Control Submittals:

1. Product Test Reports: For each kind of joint sealant.
2. Statement of compliance for compatibility of sealant with adjacent materials and coatings.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Engage experienced Installer who has completed joint sealant applications similar in material, design, and extent to that indicated for Project that have resulted in construction with record of successful in-service performance.

B. Provide materials for exterior envelope from a single manufacturer.

C. Compatibility: Verify compatibility of silicone sealant with materials in contact with sealant. Provide list of stone materials and verify that silicone sealant will not stain or damage stone work.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time and mixing instructions for multi component materials.

B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.6 PROJECT CONDITIONS

A. Weather Conditions: Do not proceed with installation of sealant under adverse weather conditions, or when temperatures are below or above manufacturer's recommended limitations for installation.

1. Proceed with work only when forecasted weather conditions are favorable for proper cure and development of high early bond strength.
2. Wherever joint width is affected by ambient temperature variation, apply elastomeric sealant only when temperatures are in lower third of manufacturer's recommended installation temperature range, so that sealant will not be subjected to excessive elongation and bond stress at subsequent low temperatures.

B. Joint Width Conditions: Do not proceed with installation of joint sealers when joint widths are less than allowed by joint sealer manufacturer for application indicated.

C. Joint Substrate Conditions: Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from joint substrates.

D. Compatibility and Adhesion Testing: Ascertain sealant compatibility and adhesion with adjacent materials using laboratory testing procedures.

PART 2 - PRODUCTS

2.1 SEALANT, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. Sealant Colors: In accordance with approved sealant color schedule.
   1. Colors as selected by Architect from manufacturer's standard colors. Acceptance of sealant will depend on range of standard colors available for selection.
   2. Custom Color:

2.2 SILICONE SEALANT

A. (SLNT-3) Low-Modulus Silicone Rubber Sealant: Silicone rubber based, one part neutral cure elastomeric sealant with plus 50 percent to minus 50 percent movement complying with FS-TT-S-001543, Class A, and recommended by manufacturer for joints.
   1. Manufacturers and Products:
      a. General Electric: Silpruf SCS 2000.
      b. Dow Corning Corporation: 795 Building Sealant.
      c. BASF Building Systems: Sonolastic Omniseal or OmniPlus.
      d. Pecora Corporation: 864 Silicone.
      e. Tremco Construction Division: Spectrem 3.
   2. Applications: Exterior Vertical Surfaces.

2.3 BUTYL SEALANT

A. (SLNT-10) Concealed Sealant; Butyl Sealant: Non-skinning, non-drying, flexible synthetic butyl sealant.
   1. Manufacturers and Products:
      a. Tremco Construction Division; TremPro JS-773.
      b. Pecora Corporation; BA-98.
   2. Location/Use: concealment locations, such as flashing backpane joints, setting aluminum storefront windows, window sills, etc. and where called for in other assemblies.

2.4 JOINT SEALANT BACKING

A. Joint Sealant Backer Rod Manufacturers:
   1. Denver Foam, Backer Rod Manufacturing, Inc.
   2. Construction Foam Products, Nomaco Inc..

B. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

C. Sealant Backing Material: Nonstaining, sealants, primers, and other joint fillers; compatible with joint substrates; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

D. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

E. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.5 PREPARATORY MATERIALS

A. Joint Primer: Non-staining type recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive type recommended by sealant manufacturer; compatible with joint forming materials.

C. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

D. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joint surfaces, backing, and anchorage of units forming sealant rabbet, and conditions under which sealant work is to be performed. Do not proceed with sealant work until unsatisfactory conditions have been corrected.

3.2 JOINT SURFACE PREPARATION

A. Preparation: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.

1. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
2. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

B. Clean joint surfaces immediately before installation of sealant. Remove dirt, insecure coatings, moisture and other substances which would interfere with bond of sealant.

C. Etch concrete and masonry joint surfaces to remove excess alkalinity, unless sealant manufacturer's printed instructions indicate that alkalinity does not interfere with sealant bond and performance. Etch with 5 percent solution of muriatic acid; neutralize with dilute ammonia solution, rinse thoroughly with water and allow to dry before sealant application.

D. Roughen joint surfaces on vitreous coated and similar non-porous materials, wherever sealant manufacturer's data indicates lower bond strength than for porous surfaces. Rub with fine abrasive cloth or steel wool to produce dull sheen.

E. Ensure that joint forming materials are compatible with sealant.

F. Examine joint dimensions and size materials to achieve required width/depth ratios. Use joint filler to achieve required joint depths, to allow sealants to perform properly.

3.3 SEALANT APPLICATION

A. Installation:

1. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
2. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
3. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

4. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
5. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

B. Apply sealant in accordance with manufacturer's printed instructions. Perform work in accordance with ASTM C804.

C. Prime or seal joint surfaces. Do not allow primer/sealer to spill or migrate onto adjoining surfaces.

D. Install sealant backer rod for liquid elastomeric sealant, except where recommended to be omitted by sealant manufacturer for application shown.

E. Install bond breaker tape wherever required by manufacturer's recommendations to ensure that elastomeric sealant will perform properly.

F. Employ only proven installation techniques, which will ensure that sealant will be deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of joint bond surfaces equally on opposite sides.

1. Except as otherwise indicated, fill sealant rabbet to slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between horizontal surface and vertical surface, fill joint to form slight cove, so that joint will not trap moisture and dirt.

G. Install sealant as recommended by sealant manufacturer but within following general limitations, measured at center (thin) section of bead:

1. For normal moving joints sealed with elastomeric sealant, but not subject to traffic, fill joint to depth equal to 50 percent of joint width, but not more than 1/2 inch deep nor less than 1/4 inch deep.

H. Do not allow sealant or compounds to overflow or flow onto adjoining surfaces, or to migrate into voids of adjoining surfaces including rough texture surfaces. Use masking tape or other precautionary devices to prevent staining of adjoining surfaces, by either primer/sealer or sealant.

I. Remove excess and spillage of sealant promptly as work progresses. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage, without damage to adjoining surfaces or finishes.

3.4 PROTECTION AND CLEANING

A. Protect joint sealers during and after curing period from contact with contaminating operations or other causes so that they are without deterioration or damage at time of Substantial Completion.

1. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

B. Clean off excess sealant or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

END OF SECTION

SECTION 081113
HOLLOW METAL DOORS & FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Pressed steel hollow metal doors and frames.
   2. Factory prime paint finish.

1.2 COORDINATION

A. Preparation for Hardware: Reinforced and machine hollow metal work for hardware specified in Sections 087100.
   1. Obtain templates, shop drawings, jigs, or materials, and a copy of the accepted Hardware Schedule from the hardware distributor.
   2. Templates: Door hardware supplier is to furnish templates, template reference number and/or physical hardware to the steel door and frame supplier in order to prepare the doors and frames to receive the finish hardware items.
   3. Reinforcing: Reinforce the work of this Section to meet requirements for anchoring hardware using concealed fasteners.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include construction details, material descriptions, core descriptions, fire-resistance ratings, temperature-rise ratings, and finishes.

B. Shop Drawings: Include the following:
   1. Elevations of each door type.
   2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
   3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
   4. Locations of reinforcement and preparations for hardware.
   5. Details of each different wall opening condition.
   6. Details of anchorages, joints, field splices, and connections.
   7. Details of accessories.
   8. Details of conduit and preparations for power, signal, and control systems.

C. Schedule: Provide a schedule, in electronic PDF format, of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

D. Handle hollow metal with care to prevent damage to hollow metal and to factory-applied primer and galvanized coatings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Thermally Rated Door Assemblies: Provide door assemblies with U-factor of not more than 0.38 deg Btu/F x h x sq. ft when tested in accordance with ASTM C1363 or ASTM E1423.

2.2 MANUFACTURERS

A. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Ceco Door Products; an ASSA ABLOY Group company.
   2. Curries Company; an ASSA ABLOY Group company.
   3. Republic Doors and Frames.
   4. Steelcraft; an Ingersoll-Rand company.

2.3 EXTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Maximum-Duty Doors and Frames: ANSI/SDI A250.8, Level 4; ANSI/SDI A250.4, Level A.
   1. Doors:
      a. Type: As indicated in the Door and Frame Schedule.
      b. Thickness: 1-3/4 inches.
      c. Face: Metallic-coated steel sheet, minimum thickness of 0.067 inch, with minimum A60 coating.
      d. Edge Construction: Model 2, Seamless.
      e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
      f. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
      g. Bottom Edges: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
      h. Core: Polyurethane.
   2. Frames:
      a. Materials: Metallic-coated steel sheet, minimum thickness of 0.067 inch, with minimum A60 coating.
      b. Construction: Thermally Broken.
   3. Exposed Finish: Prime.

2.4 FRAME ANCHORS

A. Jamb Anchors:
   1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
   2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.
   3. Postinstalled Expansion Anchor: Minimum 3/8-inch-diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Material: ASTM A879, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
   1. For anchors built into exterior walls, steel sheet complying with ASTM A1008 or ASTM A1011; hot-dip galvanized in accordance with ASTM A153, Class B.

2.5 MATERIALS AND COMPONENTS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Steel Sheets:
   1. Cold-Rolled Steel Sheet: ASTM A1008, Commercial Steel (CS), Type B; suitable for exposed applications.
   2. Hot-Rolled Steel Sheet: ASTM A1011, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
   3. Galvanized Steel Sheet: ASTM A653, Commercial Steel (CS), Type B; with minimum G60 or A60 metallic coating.
      a. Provide galvanized steel sheets for exterior hollow metal doors, door and window frames, frame anchors and reinforcements, and louvers.

C. Fastenings: Provide fastenings, anchors and clips as required to secure hollow metal work in place. Provide Jackson head screws, or flatter. Dimple metal work to receive screw heads. Set stops and other non-structural fastenings with #8 FHSMS.

D. Steel Reinforcing: ASTM A36.

E. Glazing: Comply with requirements in Section 088000 "Glazing."

2.6 FABRICATION

A. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.
   1. Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by welding.
   2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
   3. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
      a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
      b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

B. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping in accordance with ANSI/SDI A250.6, the Door Hardware Schedule, and templates.
   1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
   2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

C. Glazed Lites: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints.
   1. Provide fixed frame moldings on outside of exterior frames. Provide loose stops and moldings on inside of hollow-metal frames.
   2. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
   3. Provide stops for installation with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

2.7 FINISHES

A. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine supporting structure and conditions under which hollow metal is to be installed. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install hollow metal in accordance with reviewed shop drawings and manufacturer's printed instructions. Securely fasten and anchor work in place without twists, warps, bulges or other unsatisfactory or defacing workmanship. Set hollow metal plumb, level, square to proper elevations, true to line and eye. Set clips and other anchors with Ramset "shot" anchors or drill in anchors as approved. Units and trim shall be fastened tightly together, with neat, uniform and tight joints.

B. Placing Frames: Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces and spreaders leaving surfaces smooth and undamaged.

   1. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
   2. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
      a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
      b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
      c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
      d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Door Installation: Fit hollow metal doors accurately in their respective frames, within following clearances: Jambs and head 3/32 inch, meeting edges pair of doors 1/8 inch, sill where no threshold or carpet 1/4 inch above finished floor, sill at threshold 3/4 inch maximum above finished floor, sill at carpet 1/4 inch above carpet.

   1. Provide undercut no greater than 3/8-inch at doors equipped with automatic sound seal door bottoms.

3.3 INSTALLED WORK

A. Remove grout and other bonding material from hollow-metal work immediately after installation.

B. Touchup: Sand and clean rusted or abraded surfaces and apply compatible touchup finish:

   1. Primer: Apply air-drying, rust-inhibitive primer.
   2. Metallic-Coated Surface: Repair with galvanizing repair paint according to manufacturer's written instructions.
   3. Painting: As specified in Section 099000 - Painting.

C. Protection Removal: Immediately before final inspection, remove protective wrappings from doors and frames.

D. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.

END OF SECTION

SECTION 084110
ALUMINUM STOREFRONTS & ENTRANCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Thermally-broken aluminum-framed storefront glazing systems and entrances.
   2. Thermally-broken fully-glazed aluminum stile and rail doors
   3. Non-thermally-broken interior aluminum storefront framing systems and entrances.
   4. Non-thermally-broken interior aluminum stile and rail doors.
   5. Installation accessories.
   6. Field-testing for leakage.

1.2 ACTION SUBMITTALS

A. Product Data: Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for aluminum windows.

B. Shop Drawings: Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.

C. Samples: For each exposed product and for each color specified, 2 by 4 inches in size.

D. Delegated Design Submittal and Shop Drawings: Where professional design services or certifications by a qualified Professional Engineer are specifically required of the Contractor by the Contract Documents, submit in accordance with the delegated design submittal requirements in Section 013300 - Submittal Procedures.
   1. Calculations: Upon request from the Architect/Engineer only, submit calculations in accordance with Section 013300 - Submittal Procedures.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance Data: For weather stripping, operable panels, and operating hardware to include in maintenance manuals.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An installer acceptable to aluminum window manufacturer for installation of units required for this Project., and has completed installations of aluminum storefront and entrances similar in design and extent to those required for the project, and whose work has resulted in construction with record of successful in-service performance.
   1. Installer's responsibilities include providing professional engineering services needed to assume engineering responsibility.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify aluminum storefront, window and door openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace aluminum windows and doors that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Failure to meet performance requirements.
      b. Structural failures including excessive deflection, water leakage, air infiltration, or condensation.
      c. Faulty operation of movable sash and hardware.
      d. Deterioration of metals, other materials, and metal finishes beyond normal weathering.
      e. Failure of insulating glass.

2. Warranty Period: Three years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 STRUCTURAL DESIGN CRITERIA

A. Engineering Responsibility: Engage a qualified Professional Engineer to provide delegated design services.

B. Structural Loads: Design and construct storefront system, including anchorages, to withstand dead loads of storefront system and wind loads caused by pressure and suction of wind acting normal to plane of wall as calculated in accordance with requirements of authorities having jurisdiction or ANSI/ASCE 7-10, whichever are more stringent.
   1. Wind Load Provisions of ANSI/ASCE 7-10.
   2. Deflection of Framing Members: At design wind pressure, as follows:
      a. Deflection Normal to Wall Plane: When subjected to design wind loads or concentrated maintenance loads shall be limited to following:
         1) Spans up to 13 feet-6 inches: limit deflection to L/175.
         2) Spans greater than 13 feet-6 inches: limit deflection to L/240 plus 1/4 inch.
         3) Cantilevered members: limit deflection to lesser of 2L/175 or 3/4 inch.
         4) No permanent deformation in excess of 0.2 percent of its span.
         5) The deflection of any member (such as vertical jambs) shall not impair the function of system or damage any joint seals as warranted by the manufacturer.
      b. Deflection Parallel to Glazing Plane: Shall not exceed an amount which will reduce the glass bite below 75 percent of design dimension, and member shall have a minimum 1/8 inch clearance between itself and edge of fixed panel, glass or fixed part immediately below.
         1) Structural Support Movement: System to accommodate anticipated interstory differential live load vertical movement of 5/16 inch (downward) in addition to anticipated thermal movement.
         2) Sidesway Movement: System to accommodate anticipated interstory differential drift of H/400 in any horizontal direction.

2.2 PERFORMANCE REQUIREMENTS

A. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.
   1. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
   2. Failure also includes the following:
      a. Thermal stresses transferring to building structure.
      b. Glass breakage.
      c. Noise or vibration created by wind and thermal and structural movements.
      d. Loosening or weakening of fasteners, attachments, and other components.
      e. Failure of operating units.

B. Storefront: Provide exterior storefront assemblies designed and fabricated to comply with requirements for system performance characteristics listed below as demonstrated by testing manufacturer's corresponding stock systems according to test methods designated.
   1. Thermal Movement: Allow for expansion and contraction resulting from ambient temperature range of 120 degrees F.
   2. Wind Loading: Provide capacity to withstand wind loading shown on Structural Drawings.
   3. Air Infiltration: Air infiltration of not more than 0.06 CFM per square foot of fixed area per ASTM E283 and applicable AAMA methods.
      a. Limit air infiltration to 0.10 cu. ft/min/lineal foot of sash crack for operating sash.
   4. Water Leakage: No uncontrolled water penetration per ASTM E331 and AAMA 503 at pressure differential of 10.00 psf.
   5. Thermal Resistance of Wall System: U-value of 0.32 BTU/sq ft. per AAMA 1503.1.
   6. Condensation: Achieve not less than 68 CRF per AAMA 1503.

C. Entrances: Provide entrance doors with jamb and head frames which comply with requirements indicated below for transmission characteristics and test methods.
   1. Air Leakage: Air infiltration per linear foot of perimeter crack of not more than 0.50 CFM for single doors and 1.0 CFM for pairs of doors per ASTM E283 at pressure differential of 1.567 psf.
   2. Thermal Transmittance: U-value of not more than 0.52 Btu per AAMA 1503.
   3. Condensation Resistance: Not less than 49 CRF per AAMA 1503.

2.3 PRODUCTS AND MANUFACTURERS

A. Source Limitations: Obtain all components of aluminum-framed entrance and storefront system, including framing, doors, and accessories, from single manufacturer.

B. Subject to requirements, provide Basis of Design or equivalent as approved by Architect, by one of the following Manufacturers:
   1. EFCO Corporation
   2. Kawneer Company
   3. Tubelite Incorporated,
   4. Oldcastle/VistaWall.
   5. YKK AP America Inc..

2.4 GLAZED ALUMINUM FRAMING SYSTEMS

A. (AFS-1) Storefront Framing Systems: Low-rise, thermally-broken, extruded aluminum storefront framing; internally reinforced as required to resist wind loading; glazing mechanically-retained with glazing gaskets and mullion caps.
   1. Basis of Design: Kawneer; Trifab VersaGlaze 451UT.
   2. Mullion Profile: 2 inches by 4-1/2 inches.
   3. Glazing Set: Center.

B. (AFS-2) Interior Storefront Framing Systems: Non-thermally-broken storefront framing.
   1. Basis of Design: Kawneer; Trifab VersaGlaze 451.
   2. Mullion Profile: 2 inches by 4-1/2 inches.

2.5 ENTRANCE DOORS

A. (AL DR-1) Entrance Doors: Framing system manufacturer's thermally-broken and non-thermally-broken extruded aluminum tubular stile and rail doors fully-glazed for swing operation; with square profile, snap-on, extruded-aluminum stops and preformed glazing gaskets; Mechanically-fastened corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
   1. Exterior, Thermally-Broken Basis of Design: Kawneer; Insulpour 250T Thermal Entrances.
      a. Door Thickness: 2-1/4 inches.
      b. Stile and Top Rail Width: 2-1/2 inches.
      c. Bottom Rail Height: 10 inches unless otherwise indicated on Drawings.
      d. Tube Wall Thickness: 1/8 inch, minimum.
   2. Interior, Non-Thermally-Broken Basis of Design: Kawneer; 250 Standard Entrances.
      a. Door Thickness: 1-3/4 inches.
      b. Stile and Top Rail Width: 2-1/2 inches.
      c. Bottom Rail Height: 10 inches unless otherwise indicated on Drawings.
      d. Tube Wall Thickness: 0.125 inch, minimum.

B. Door Hardware: In accordance with Section 087100 - Door Hardware.

2.6 COMPONENTS & MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
   1. Sheet and Plate: ASTM B 209.
   2. Extruded Bars, Rods, Shapes, and Tubes: ASTM B 221.
   3. Extruded Structural Pipe and Tubes: ASTM B 429.
   4. Structural Profiles: ASTM B 308.

B. Steel Reinforcement: With manufacturer's standard corrosion-resistant primer complying with SSPC-PS Guide No. 12.00 applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM and prepare surfaces according to applicable SSPC standard.
   1. Structural Shapes, Plates, and Bars: ASTM A 36.
   2. Cold-Rolled Sheet and Strip: ASTM A 611.
   3. Hot-Rolled Sheet and Strip: ASTM A 570.

C. Fasteners:
   1. Fasteners Exposed to Weather: 300 Series stainless steel, type and size recommended by curtain wall manufacturer with exposed portions matching finish curtain wall system.
   2. Concealed Fasteners: ASTM A449, SAE Grade 5 carbon steel with cadmium and yellow chromate finish, type and size recommended by curtain wall manufacturer.

D. Accessories
   1. Setting Blocks: Black EPDM 85±5 durometer, Shore-A per ASTM D 2000.
   2. Gaskets: Glazing gaskets shall be extruded EPDM rubber.
   3. Perimeter Anchors: Aluminum. When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.
   4. Flashing: Aluminum same finish as for storefront section where exposed; secured with concealed fastening method.

E. Sealants: Refer to Section 079200 – Joint Sealants.

F. Glass and Glazing: Refer to Section 088000 – Glazing.

2.7 FABRICATION

A. Fabrication, General:
   1. Conceal fasteners wherever possible.
   2. Reinforce work as necessary for performance requirements, and for support to structure.
   3. Separate dissimilar metals and aluminum in contact with concrete utilizing protective coating or preformed separators, which will prevent contact and corrosion.
   4. Comply with Section 088000 for glazing requirements.
   5. Welding: Comply with recommendations of the American Welding Society.
      a. Use recommended electrodes and methods to avoid distortion and discoloration.
      b. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
      c. Grind exposed welds smooth and flush with adjacent surfaces; restore mechanical finish.

B. Prefabrication: To greatest extent possible, complete fabrication, assembly, finishing and other work before shipment to project site. Disassemble components only as necessary for shipment and installation.
   1. Do not drill and tap for surface-mounted hardware items until time of installation at project site.
   2. Perform fabrication operations, including cutting, fitting, forming, drilling and grinding of metal work in manner which prevents damage to exposed finish surfaces.
      a. For hardware, perform these operations prior to application of finishes.

C. Coordination of Fabrication:
   1. Check actual frame or door openings required in construction work by accurate field measurements before fabrication.
   2. Fabricate units to withstand loads that will be applied when system is in place.

D. Framing:
   1. Thermal-Break Construction: Fabricate exterior aluminum storefront framing system with integrally concealed, low conductance thermal barrier, located between exterior materials and exposed interior members, in manner which eliminates direct metal-to-metal contact.
   2. Sealant Back Stop Containment: At perimeter, provide not less than 1-1/2 inch continuous flush metal to permit sealant back-stop containment.
   3. Provide inside-outside matched resilient flush-glazed system with provisions for glass replacement.

4. Provide members of size, shape and profile indicated.
5. Fabricate frame assemblies with joints straight and tight fitting.
6. Reinforce internally with structural members as necessary to support design loads.
7. Maintain accurate relation of planes and angles, with hairline fit of contacting members.
8. Seal horizontals and direct moisture accumulation to exterior.
9. Provide flashings and other materials used internally or externally that are corrosive resistant, non-staining, non-bleeding and compatible with adjoining materials.
10. Provide manufacturer's extrusions and accessories to accommodate expansion and contraction due to temperature changes without detrimental to appearance or performance.

E. Entrances:
1. Door Frames: Fabricate tubular and channel frame assemblies, as indicated, with either welded or mechanical joints in accordance with manufacturer's standards, reinforced as necessary to support required loads Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.
   a. At exterior doors, provide compression weather stripping at fixed stops.
   b. At interior doors, provide silencers at stops to prevent metal-to-metal contact. Install three silencers on strike jamb of single-door frames and two silencers on head of frames for pairs of doors.
2. Stile-and-Rail Doors: Provide tubular frame members, fabricated with mechanical joints using heavy inserted reinforcing plates and concealed tie-rods or j-bolts, or fabricate with structurally welded joints, at manufacturer's option. Reinforce doors as required for installing entrance door hardware.
   a. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised into door edge.
   b. At exterior doors, provide weather sweeps applied to door bottoms.
3. Glazing: Fabricate doors to facilitate replacement of glass or panels, without disassembly of door stiles and rails. Provide snap-on extruded aluminum glazing stops, with exterior stops anchored for non-removal.
4. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.

F. Flashings: Form from sheet aluminum with same finish as extruded sections. Apply finish after fabrication. Material thickness as required to suit condition without deflection or "oil-canning".

2.8 FINISHES

A. General: Comply with NAAMM's "Metal Finishes Manual" for recommendations for applying and designating finishes.
1. Form or extrude aluminum shapes before finishing.
2. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Color-Anodized Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
1. Color: Dark bronze.

C. Other Finishes:
1. Concealed Steel Items: Galvanized in accordance with ANSI/ASTM A653 to 2.0 oz/sq ft primed with iron oxide paint.
2. Apply one coat of bituminous paint to concealed aluminum and steel surfaces in contact with cementitious or dissimilar materials.
3. Primer: FS TT-P-31; for shop application and field touch-up.
4. Touch-Up Primer for Galvanized Surfaces: FS TT-P-641; TT-P-645.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate, and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weathertight installation.

   1. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Field Measurement: Wherever possible, take field measurements prior to preparation of shop drawings and fabrication, to ensure proper fitting of work.

3.2 INSTALLATION

A. Comply with manufacturer's instructions and recommendations for installation of aluminum entrances and storefronts, windows, doors, hardware, accessories, and other components.

B. Set units plumb, level, and true to line, without warp or rack of framing members, doors, or panels.

   1. Anchor securely in place, separating aluminum and other corrodible metal surfaces from sources of corrosion of electrolytic action at points of contact with other materials.

C. Construction Tolerances: Install aluminum entrance and storefront to comply with following tolerances:

   1. Variation from Plane: Do not exceed 1/8 inch in 12 feet of length or 1/4 inch in any total length.
   2. Offset from Alignment: Maximum offset from true alignment between two identical members abutting end to end in line shall not exceed 1/16 inch.
   3. Diagonal Measurements: Maximum difference in diagonal measurements shall not exceed 1/8 inch.
   4. Offset at Corners: Maximum out-of-plane offset of framing at corners shall not exceed 1/32 inch.

D. Drill and tap frames and doors and apply surface-mounted hardware items, complying with hardware manufacturer's instructions and template requirements.

   1. Use concealed fasteners wherever possible.

E. Set sill members and other members in bed of sealant as indicated, or with joint fillers or gaskets as indicated to provide weather tight construction.

   1. Comply with requirements of Section 079200 - Joint Protection for sealants, fillers, and gaskets.

F. Install perimeter sealant and backing in accordance with Section 079200 - Joint Sealants.

G. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

   1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.

3.3 INSTALLED WORK

A. Adjust doors, operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.

B. Clean aluminum surfaces immediately after installing windows and doors. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

C. Clean factory-glazed glass immediately after installing windows and doors. Comply with manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

D. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

E. Protect window and door surfaces from contact with contaminating substances resulting from construction operations. In addition, monitor surfaces adjacent to and below exterior concrete and masonry surfaces during construction for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances do contact window and door surfaces, remove contaminants immediately according to manufacturer's written recommendations.

END OF SECTION

SECTION 085110
ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Extruded aluminum windows.
   2. Glass and Glazing

1.2 ACTION SUBMITTALS

A. Product Data: Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for aluminum windows.

B. Shop Drawings: Include plans, elevations, sections, accessories, and details of installation, including anchor, flashing, and sealant installation.

C. Samples: For each exposed product and for each color specified, 2 by 4 inches in size.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Engage experienced Installer who has completed installation of aluminum windows similar in material, design, and extent to those required for this project and with record of successful in-service performance.

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver and handle window units to prevent damage to finished surfaces.

B. Store and protect window units in accordance with manufacturer's recommendations.

C. Provide wrapping to protect prefinished aluminum surfaces.

1.5 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace aluminum windows that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Failure to meet performance requirements.
      b. Structural failures including excessive deflection, water leakage, condensation, and air infiltration.
      c. Deterioration of materials and finishes beyond normal weathering.
      d. Failure of insulating glass.
   2. Warranty Period:
      a. Window: 10 years from date of Substantial Completion.
      b. Glazing Units: 10 years from date of Substantial Completion.
      c. Aluminum Finish: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
   1. Minimum Performance Class: AW
   2. Minimum Performance Grade: PG100

B. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.58 Btu/sq. ft. x h x deg F

C. Design Loads: Design and size members to withstand dead loads and live loads caused by pressure and suction of wind as calculated in accordance with design wind loads applicable to Project from basic wind speed indicated in miles per hour at 33 feet above grade, according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 6.4.2, "Analytic Procedure," based on mean roof heights above grade indicated on Drawings.
   1. Limit mullion deflection to 1/175 of its span with full recovery of glazing materials.

D. Water Resistance in accordance with ASTM E 331/ASTM E 547:
   1. No uncontrolled water leakage at a static air pressure difference of 12.0 psf.
   2. Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to exterior.

E. Condensation-Resistance Factor (CRF):
   1. Provide aluminum windows tested for thermal performance according to AAMA 1503.1 as follows:
      a. Horizontal Sliding Windows showing a Frame CRF of 54.
      b. Casement Projecting Windows showing a Frame CRF of 67

F. Limit air infiltration through assembly to .10 cfm/SF (.50 l/s•m²) of unit, measured at reference differential pressure across assembly of 6.24 psf, as measured in accordance with ANSI/ASTM E283

G. Thermal Movements: Provide window units that allow thermal movement resulting from following maximum change (range) in ambient temperature when engineering, fabricating, and installing aluminum windows to prevent buckling, opening of joints, and overstressing of components, connections, and other detrimental effects. Base engineering calculation on actual surface temperatures of materials due to solar heat gain and nighttime sky heat loss.
   1. Temperature Change (Range): 120 degrees F, ambient; 180 degrees F, material surfaces.

2.2 PRODUCTS AND MANUFACTURERS

A. Source Limitations: Obtain aluminum windows from single source from single manufacturer.

B. Products and Manufacturers: Subject to specified requirements, provide Basis of Design or equivalent by one of the following:
   1. EFCO Corporation
   2. Kawneer Company
   3. Wausau Window and Wall Systems,
   4. Tubelite Incorporated,
   5. Oldcastle/VistaWall.
   6. YKK AP America Inc.

2.3 ALUMINUM WINDOWS

A. (AW-1) Fixed Aluminum Window Units:
   1. Basis of Design: Series 8225TL by the Kawneer Company.

B. Frames and Sashes:
   1. Thermally Isolated Construction: Fabricate frames, with an integral, concealed, low-conductance thermal barrier located between exterior materials and window members exposed on interior side in a manner that eliminates direct metal-to-metal contact.
   2. Aluminum extrusions complying with AAMA/WDMA/CSA 101/I.S.2/A440.

C. Glass and Glazing: Manufacturer-furnished and factory-installed.
   1. Refer to Section 088000 - Glazing for glass types.

D. Thermal Barrier:
   1. Exterior aluminum separated from interior aluminum by rigid, structural thermal barrier:
      a. A system that shall transfer shear during bending and promote composite action between the exterior and interior extrusions
      b. Nonstructural thermal barrier is unacceptable.
   2. Sills thermally broken with thermal struts:
      a. Glass reinforced polyamide nylon, mechanically crimped in raceways extruded in the exterior and interior extrusions.

3. Other thermally broken members:
   a. Latest technology in two-part, high-density polyurethane

E. Mullions: Provide mullions and cover plates, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections, as indicated. Provide mullions and cover plates capable of withstanding design wind loads of window units.

F. Subsills: Provide thermally-broken, extruded-aluminum subsills in sizes and configurations to match existing.

G. Receptor System: Two-piece, snap-together, thermally broken, extruded-aluminum receptor system that anchors windows in place.

H. Interior Trim: Provide extruded-aluminum profiles in sizes and configurations to match existing.

I. Exterior Panning Trim: Provide extruded-aluminum panning trim profiles (2 profiles) in sizes and configurations to match existing if indicated.

J. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.
   1. Exposed Fasteners: Do not use exposed fasteners to the greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

2.4 FINISHES

A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
   1. Color: Dark bronze.

B. Concealed Finishes:
   1. Concealed Steel Items: Galvanized in accordance with ANSI/ASTM A386 to 2.0 oz/sq. ft. (Primed with iron oxide paint.)
   2. Apply one coat of bituminous paint to concealed aluminum and steel surfaces in contact with cementitious or dissimilar materials.

2.5 FABRICATION

A. Fabrication, General:
   1. Fabricate aluminum windows in sizes indicated. Include a complete system for assembling components and anchoring windows.
   2. Conceal fasteners wherever possible.
   3. Reinforce work as necessary for performance requirements, and for support to structure.
   4. Separate dissimilar metals and aluminum in contact with concrete utilizing protective coating or preformed separators, which will prevent contact and corrosion.
   5. Glaze aluminum windows in the factory. Comply with Section 088000 for glazing requirements.

B. Prefabrication: To greatest extent possible, complete fabrication, assembly, finishing and other work before shipment to project site. Disassemble components only as necessary for shipment and installation.
   1. Do not drill and tap for surface-mounted hardware items until time of installation at project site.
   2. Perform fabrication operations, including cutting, fitting, forming, drilling and grinding of metal work in manner which prevents damage to exposed finish surfaces.

C. Coordination of Fabrication:
   1. Check actual frame or door openings required in construction work by accurate field measurements before fabrication.
   2. Fabricate units to withstand loads that will be applied when system is in place.

D. Aluminum Window Fabrication:
   1. Thermal-Break Construction: Fabricate exterior aluminum storefront framing system with integrally concealed, low conductance thermal barrier, located between exterior materials and exposed interior members, in manner which eliminates direct metal-to-metal contact.
   2. All aluminum frame and vent extrusions shall have a minimum wall thickness of .125” (3 mm).

3. Frame components shall be mechanically fastened. Each corner shall be mitered, reinforced with an extruded corner key, hydraulically crimped, and "cold welded" with epoxy adhesive.
4. Shop-fabricate and pre-assemble frame components
5. Reinforce internally with structural members as necessary to support design loads.
6. Develop drainage holes with moisture pattern to exterior.
7. Sills: Extruded aluminum; sloped for positive wash; one piece full width of opening.

PART 3 - EXECUTION

3.1 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

3.2 EXAMINATION

A. Examine openings , substrates, structural supports, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances; rough opening dimensions; levelness of sill plate; coordination with wall flashings, vapor retarders, moisture barrier, and other built-in components; and other conditions affecting performance of work.
   1. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
   2. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
   3. Verify rough opening dimensions and levelness of sill plate.
   4. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.
   5. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION

A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.

B. Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.

C. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.

D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.4 INSTALLED WORK

A. Clean exposed surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
   1. Keep protective films and coverings in place until final cleaning.

B. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

C. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

END OF SECTION

SECTION 087100
DOOR HARDWARE

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. Commercial door hardware for the following:
      a. Swinging doors.
   2. Cylinders for doors and locking devices specified in other Sections.
   3. Electrified door hardware.

B. Related Sections:
   1. Section 081113 – Hollow Metal Doors and Frames.
   2. Section 084113 – Aluminum-Framed Entrances and Storefronts

1.3 GENERAL REQUIREMENTS

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

1.4 COORDINATION

A. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

B. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

C. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

D. Existing Conditions: Where hardware components are reused or where modifications to existing hardware is required, field verify existing conditions and coordinate installation resulting in proper door operation and ensure fire-rating recertification if required.

E. Coordination Meeting: When requested by Architect and/or Owner, the Contractor will schedule a meeting prior to the installation of electrified hardware to review and coordinate functions and connections. Participants to include representatives and-suppliers of all applicable electrified hardware components. Advise Architect/Owner of scheduled date, time, place, and attendees.

1.5 PREINSTALLATION MEETINGS

A. Pre-Installation Conference: Prior to the installation of hardware, manufacturers' representatives must arrange and conduct a jobsite meeting to instruct Installers on the proper installation. A letter of compliance must be sent to the Architect and Owner.

B. Refer to Keying article for keying conference requirements.

1.6 ACTION SUBMITTALS

A. Hardware Schedule: Submit hardware schedule per Section 013300 in vertical format as illustrated by the Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Schedules, which do not comply, will be returned for correction before review. Hardware schedule shall clearly indicate architect's hardware group and manufacturer of each item proposed. The schedule shall be reviewed prior to submission by a certified Architectural Hardware Consultant, who shall affix his or her seal attesting to the completeness and correctness of the schedule.

1. Provide illustrations from manufacturers' catalogs and data in brochure form.
2. Check specified hardware for suitability and adaptability to details and surrounding conditions. Indicate unsuitable or incompatible items and proposed substitutions in the hardware schedule submittal.
3. When requested, provide listing of manufacturers' template numbers for each item of hardware in the hardware schedule submittal.
4. Furnish associated Contractors and Subcontractors with copies of final approved hardware schedule. Submit necessary templates and schedules as soon as possible to hollow metal, wood, aluminum, and other door & frame fabricators in accordance with schedule they require for fabrication.
5. Samples; if requested by Architect, provide for each exposed product in each finish specified, in manufacturer's standard size
   a. Tag Samples with full product description to coordinate Samples with door hardware schedule.
6. List of related door devices specified in other Sections for each door and frame.

B. Closer Mounting: Indicate mounting description for each closer included in the submittal's hardware groups.

C. Existing Hardware Conditions: Refer to Part 1 - Coordination.

1. Advise Hardware Supplier and Architect of any existing conditions which would prevent utilization of specified hardware.

D. Provide keying schedule, prepared by or under the supervision of Installer's Architectural Hardware Consultant, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations that are coordinated with the Contract Documents. Keying schedule to be coordinated with and approved by Owner.

E. Electrified Hardware Coordination:

1. List all hardware specified in groups and identify items not in your scope as -inchesby Others- inches or other means of identification.
2. Provide operational descriptions for each electrified hardware group including operation for exit, entry, and fire alarm conditions.
   a. Refer to operational descriptions in electrified hardware groups. Part 3 - Hardware Groups.
3. Wiring Diagrams: When requested after final approval of the hardware schedule submittal, provide wiring diagrams for each opening that requires electrified hardware.
   a. Exception: groups where only magnetic hold-opens or door position switches are specified.
   b. Approved diagrams to be sent with hardware delivery to the jobsite.

F. Installation Instructions: Provide manufacturer's written installation and adjustment instructions for finish hardware. Send installation instructions to site with hardware.

1.7 INFORMATIONAL SUBMITTALS

A. Contract Closeout Submittals: Comply with Section 017800 including specific requirements indicated.

1. Operating and maintenance manuals containing the following:
   a. Complete information in care, maintenance, and adjustment, and data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Name, address, and phone number of local representative for each manufacturer.
   d. Parts list for each product.
2. Copy of final approved hardware schedule, edited to reflect As installed.

3. Copy of final keying schedule.
4. As installed Wiring Diagrams for each opening connected to power, both low voltage and 110 volts.
5. One complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

1.8 QUALITY ASSURANCE

A. Manufacturer: Obtain each type of hardware, i.e. latch and locksets, hinges, closers from single manufacturer, although several may be indicated as offering products complying with requirements.

B. Supplier: Recognized architectural finish hardware supplier, with warehousing facilities, who has been providing hardware for period of not less than 3 years. The supplier shall be, or employ, a certified Architectural Hardware Consultant AHC, who is registered in the continuing education program as administered by the Door and Hardware Institute. The hardware schedule shall be prepared and signed by a certified AHC.

C. Installer: Firm with three years experience in installation of similar hardware to that required for this project, including specific requirements indicated.

D. Regulatory Label Requirements: Provide nationally recognized testing agency label or stamp on hardware for labeled openings. Where UL requirements conflict with drawings or specifications, hardware conforming to UL requirements shall be provided. Conflicts and proposed substitutions shall be clearly indicated in hardware schedule.

E. Pre-Installation Conference: Prior to the installation of hardware, manufacturers' representatives for locksets, closers, and exit devices shall arrange and conduct a jobsite meeting to instruct the installing contractor's personnel on the proper installation of their respective products. A letter of compliance, indicating when this meeting is held and who is in attendance, shall be sent to the Architect and Owner. Refer to Keying article for keying conference requirements.

1.9 DELIVERY, STORAGE AND HANDLING

A. Deliver hardware to jobsite in manufacturer's original packaging, marked to correspond with the approved hardware schedule. Do not deliver hardware until suitable locked storage space is available. Check hardware against reviewed hardware schedule. Store hardware to protect against loss, theft, or damage.

B. Deliver hardware required to be installed during fabrication of hollow metal, aluminum, wood, or stainless-steel doors prepaid to the respective manufacturer.

1.10 WARRANTY

A. Guarantee workmanship and material provided against defective manufacture. Repair or replace defective workmanship and material appearing within period of one year after Substantial Completion.

B. Provide a minimum ten-year factory warranty on door closer body against defects in material and workmanship from date of occupancy of Project.

C. Replace shortages and incorrect items with correct material at no additional cost to Owner.

D. At completion of project, qualified factory representative shall inspect closer installations. After this inspection, letter shall be sent to Architect reporting on conditions, verifying that closers have been properly installed and adjusted.

1.11 ATTIC STOCK

A. Coordinate with Owner for products and quantities desired for attic stock.

PART 2 PRODUCTS

2.1 GENERAL

A. Confirm acceptable manufacturers and models of all hardware products with Owner. Specified products are listed only to establish function and a level of quality.

B. Specified manufacturers and models are based on the best information available at the time of this printing to establish function and level of quality but are subject to change as additional information becomes available. Changes will be advised in future documentation.

C. Acceptable manufacturers and models of particular products will be determined by hardware distributor/supplier who has been contracted and directed by the Owner. Specified products are listed only to establish function and a level of quality.

2.2 BUTTS AND HINGES

A. Acceptable Manufacturers:
   1. Bommer
   2. Hager listed below for design intent only
   3. Ives
   4. McKinney
   5. PBB
   6. Stanley

B. Types per Application:
   1. Exterior Out-Swinging doors: BB1199 x NRP
   2. Exterior in-swinging doors and vestibule doors: BB1168
   3. Provide NRP, non-removable pins, at out-swinging doors that are lockable or locked and at other doors when specifically indicated.

C. Size:
   1. 1-3/4 inch Doors 4-1/2 inch by 4-1/2 inch

D. Quantity:
   1. 2 – hinges per leaf for openings through 60 inches in height.
   2. 1 – additional hinge per leaf for each additional 30 inches in height or fraction thereof.
   3. 1 – additional hinge per leaf for openings 40 inches wide and wider.
      a. For mineral core doors Refer to Part 2 - Continuous Stainless-Steel Hinges

E. Drill 5/32 inch hole and use No. 12, 1-1/4 inch steel threaded to the head wood screws for hinges on wood doors.

2.3 ELECTRIC POWER TRANSFERS

A. Acceptable Manufacturers:
   1. Adams Rite 4612
   2. Securitron EPT/EPTL
   3. Von Duprin EPT-2/EPT-10

B. Provide electric power transfer devices as specified in hardware groups or as required by electrified hardware voltage requirements.

C. When specifically indicated, provide surface-mounted armored power transfer loops with length to accommodate door opening conditions.

2.4 CONTINUOUS GEARED HINGES

A. Acceptable Manufacturers:
   1. ABH A110HD, A240HD
   2. Hager/Roton: 780-112HD, 780-224HD
   3. McKinney: MCK-12HD, MCK-25HD
   4. Pemko: FM_SLFHD, FM_HD
   5. Select: SL-11HD, SL-24HD

6. Stanley: 661HD, 662HD

B. Provide model of continuous hinges as appropriate for the type, inset, and thickness of door where specified. Coordinate hinge types with the door supplier.

C. Specialty hinges for special mounting conditions, example: swing-clear, wide-throw, etc. are indicated in assigned hardware groups for particular openings.

2.5 BOLT LOCKS

A. Acceptable Manufacturers:
   1. Burns
   2. Door Controls International
   3. Hager
   1. Ives listed below for design intent only
   2. Rockwood
   3. Trimco

B. Automatic Flushbolt: FP31/FP41 Series

C. Semi-automatic, constant-latching Flushbolt: FP51/FP61 Series

D. Provide flush bolts meeting the requirements of ANSI A156.3, Grade 1, Type 25, conforms to positive pressure standards of UL10C and UBC 7-2 -1997, and is UL listed at fire rated openings.

E. Provide flush bolts for inactive door of pairs as indicated in the hardware groups, as required for metal or wood doors, and per the following conditions, unless indicated otherwise:
   1. At all exterior openings and locking interior openings, provide top and bottom bolt configuration for inactive door of pair, unless indicated otherwise.
   2. At non-locking interior openings, provide top bolt only.
   3. At fire-rated openings utilizing top bolt only configurations, provide appropriate auxiliary fire latch, as required by the door manufacturer to attain the specified fire-rating/label.
      a. Include appropriate strike to receive bolt/pin when projected.
   4. Where bottom bolts are utilized, provide dustproof strike, as required for sill conditions.
   5. Locate centerline of top bolt not more than 78 inches above finished floor – provide rod extensions as necessary.
   6. Only provide manual flushbolts or surface bolts when specifically indicated in the assigned hardware group.

2.6 LOCKSETS – MORTISE

A. Acceptable Manufacturer and Series:
   1. Best 40H-15H
   2. SARGENT 8200 x LNL
   3. Schlage L9000 x 06A

B. Provide mortise locks, unless indicated otherwise, with functions specified in Hardware Groups and with following provisions:
   1. Cylinders: Provide cylinders, as required, to accomplish specified lock function. Refer to Part 2 – KEYING.
   2. Locksets shall meet the requirements of ANSI/BHMA A156.13-1994, Operational Grade 1, and Security Grade 1.
   3. Backsets: 2-3/4 inches.
   4. Strikes: Provide wrought boxes and strikes with proper lip length to protect trim but not to project more than 1/8 inch beyond trim, frame or inactive leaf. Where required, provide open back strike and protected to allow practical and secure operation.
   5. ANSI functions – mortise locks.
      a. Passage – F01
      b. Privacy – F22
      c. Office – F04
      d. Classroom – F05
      e. Storeroom – F07

6. Where electrified locksets are specified, provide wiring harness and connections from electric lock to electric power transfer.
7. Provide escutcheons to match existing conditions, where applicable.

2.7 EXIT DEVICES

A. Provide Heavy-Duty Manufacturers and Models as listed below. Sargent & Von Duprin are included in the hardware groups as a basis of design and function. Provide ONLY manufacturers and models as listed below.
   1. Precision Apex 2000 Series
   2. SARGENT 80 Series
   3. Von Duprin 35A/98 Series

B. All exit devices shall be UL listed for panic. Exit devices for labeled doors shall be UL listed as Fire Exit Hardware.

C. Where lever trim is specified, provide lever design to match locksets specified in previous articles.

D. Provide cylinder dogging feature for non-rated heavy-duty exit devices with pull or locked lever outside trim.

E. Cylinders: Provide cylinders as required for specified locking function and cylinder dogging. Refer to Part 2 – KEYING.

F. Provide keyed removable mullions, including keyed cylinders, as specified in the Hardware Groups.

G. Door supplier to coordinate exit device mounting location to be mounted below half-height glazing to keep exit device from obstructing vision panel.

2.8 ELECTRIC STRIKES

A. Acceptable Manufacturers and Series:
   1. HES 1600 Series; 9500/9600 Series
   2. Folger-Adam 310 Series
   3. Von Duprin 6000 Series

B. Provide electric strikes designed for use with latch/lock type shown at each specified opening.

C. Electric Strikes shall be UL Listed as Burglary-Resistant Electric Door Strikes and, where required, shall be UL Listed as Electric Strikes for Fire Doors and Frames. Provide fail-secure type electric strikes, unless specified otherwise.

D. Provide power supply, transformer, and rectifier for each strike as required, unless indicated otherwise. Verify voltage with electrical contractor.

E. Provide spacer plates and accessories as required for installation to suit details.

2.9 IN-LINE POWER CONTROLLERS

A. Acceptable Manufacturers and Series:
   1. Best; 8WTCM
   2. Command Access; CRU-3
   3. HES; 2005ME Smart Pac III

B. Provide in-line power controllers for electrified locks, electrified lever trim, and electric strikes where indicated in the hardware group or by modifiers to reduce overheating due to continuous power required to maintain specified lock/unlock function for extended periods of time.

2.10 KEYING

A. Keying to be provided by owner's Security Vendor. Security Vendor to coordinate products and installation with GC.

B. Integrate keying of new locks/cylinders with existing key system as directed by Owner. Confirm existing key system manufacturer and keyway. Factory key all cylinders with manufacturer retaining permanent keying records. If requested, provide Owner with copy of bitting list via Owner acceptable delivery method.

C. Contractor shall provide construction masterkeying and keys for the construction period.

D. Authorized local distribution/service shall be available for purchase of additional keys & cylinders to allow for system revisions, expansion, and service, as required.

E. Keying Conference: Conduct conference.
   1. Conference participants shall include Installer's Architectural Hardware Supplier/Consultant, Architect and Owner's security consultant.
   2. Incorporate conference decisions into keying schedule after reviewing door hardware keying system including, but not limited to, the following:
      a. Flow of traffic and degree of security required.
      b. Preliminary key system schematic diagram.
      c. Requirements for key control system.
      d. Requirements for access control.
      e. Address for delivery of keys.

F. If requested, submit proposed keying schedule to Architect and meet with Owner and Architect to review schedule.

G. Provide construction masterkeying. Permanent cylinders/cores shall be installed/activated upon completion of the project.

H. Provide 6 masterkeys for each masterkey set. Provide 3 change keys for each lock. Stamp keys Do Not Duplicate. When interchangeable core cylinders are specified, provide 2 control keys for core removal.

I. All keys shall be delivered to the designated Owner’s representative via method determined and agreed upon by the Owner at the keying meeting.

2.11 DOOR TRIM

A. Acceptable Manufacturers and Types:
   1. Burns
   2. Hiawatha listed below for design intent only
   3. Rockwood
   4. Trimco.

B. 1-inch Diameter, 10-inch CTC, offset pull
   1. Burns 39C
   2. Hiawatha 658A
   3. Rockwood BF157A
   4. Trimco 1191-3

C. Non-Mortise edge guard bottom rod and latch guard
   1. Burns 301/302
   2. Hiawatha DES-1A/DES-2A
   3. Rockwood 304/305
   4. Trimco KE31-1/KE32-1 PG8002

D. Push Bars:
   1. Length:
      a. Stile and rail doors: center of stile to center of stile.
      b. Flush doors: 3 inches less than door width.
   2. Use concealed mounting and mount back-to-back with pulls.

E. Pulls:
   1. Length: 10-inches CTC
      a. 8-inches CTC when used with pull plate.
   2. Use concealed mounting and mount back-to-back with push bars.

F. Door Protection Plates and Edge Guards: Minimum of 0.050 inch thick, stainless-steel, beveled 4 edges.
   1. Kick Plates:
      a. At single doors provide width 1-1/2 inches less than door width on push side.

b. At pairs of doors provide width 1 inch less than door width on both doors.
c. Height: 10 inches unless otherwise detailed in Architectural drawings or indicated in hardware groups.

2. Armor Plates:
   a. Push side Single door: 1-1/2 inches less than door width.
   b. Pull side Single door: 1 inch less than door width.
   c. Pairs of doors: 1 inch less than door width on both doors.
   d. Height: 34 inches, unless otherwise detailed in Architectural drawings or indicated in hardware groups.
3. Edge Guards:
   a. Height: 34 inches, unless otherwise detailed in Architectural drawings or indicated in hardware groups.
   b. When edge guards are specified in conjunction with protection plates, coordinate widths of to result in a continuous smooth surface with no more than 1/8-inches between the edge of the edge guard and the edge of the protection plate. Do not overlap.
   c. Coordinate sizing of edge guards with door & frame supplier/manufacturer to ensure that opening clearances prevent binding and/or rubbing of the swinging door.
4. Do not provide protection plates, or edge guards for impact-resistant doors. Refer to Door Panel type in Opening Schedule or MAT-ID list.

2.12 COORDINATORS

A. Acceptable Manufacturers:
   1. Door Controls International
   2. Hager
   3. Ives
   4. Trimco, listed below for design intent only

B. Provide stop-mounted coordinator for labeled pairs of doors equipped with automatic flush bolts and those with vertical rod/mortise lock fire exit device combinations with astragals, unless indicated otherwise.
   1. Trimco 3094 series, or approved equivalent

C. Provide filler bars for total opening width, closer mounting brackets, carry bars, and special preparation for top latches where applicable.

2.13 DOOR CLOSERS

A. Acceptable Manufacturers and Types of Exposed Closers:
   1. Heavy-Duty - cast aluminum bodies:
   2. Heavy-Duty - cast iron bodies:
      a. LCN 4040/4040XP
      b. Norton 9500
      c. SARGENT 281/281 P-10

B. Provide heavy-duty non-sized closers with heavy-duty closer arms, unless indicated otherwise in Hardware Groups, adjustable to meet maximum opening force requirements of ADA.

C. Provide heavy-duty drop plates, brackets, or adapters for arms as required to suit details.

D. Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors, unless indicated otherwise.

E. Provide back-check for closers.

F. Provide heavy-duty mechanical holder arms where holder function is indicated.

G. Provide closers for doors as noted in Hardware Groups and, in addition, provide closers for labeled doors whether or not specifically noted in group.

H. Provide closers meeting the requirements of UBC 7-2 and UL 10C positive pressure tests.

I. No through bolting of closers will be accepted.

2.14 AUTOMATIC OPERATORS

A. Acceptable low-energy standard-duty manufacturers/models:
   1. Besam: SW100
   2. LCN Senior-Swing
   3. Horton: 4000LE Series
   4. Stanley: Magic-Force-LE
   5. Best/Stanley: D-4990. Provide low energy automatic swing door operators complying with ANSI A156.19 and as indicated in the hardware groups. Provide complete with drop plates, brackets, or adapters for arms as required to suit details. Must function as compliant manual closer if power fails.

C. Provide a terminal strip in an enclosed box near or above door that indicates connections for security and fire alarm equipment and for electrified hardware items associated with proper door operation, as indicated by hardware group operational description.

D. Provide wall-mounted actuator switches by the same manufacturer as the operator. Actuators shall be weather-resistant type at exterior applications.

E. Where indicated, provide square switch adapter cuff.
   1. Wikk No. BP4X4 ADT RFBLK, or equivalent

F. Provide connections and integration with other specified electronic hardware to achieve the operational description, as specified.

G. Provide fire-alarm connection, or smoke detectors, as required by local codes, to de-activate operator to close door during fire-alarm event.

H. Install automatic operators in compliance with manufacturer's installation procedures. Adjust automatic operators for smooth & quiet operation.

2.15 OVERHEAD STOPS

A. Acceptable Manufacturers and Types: BHMA A156.8.
   1. ABH listed below for design intent only
   2. Glynn-Johnson
   3. Rixson
   4. Sargent

B. Heavy duty, surface:
   1. ABH 9000
   2. Glynn-Johnson 90
   3. Rixson 9
   4. Sargent 590

C. Heavy duty, concealed:
   1. ABH 1000
   2. Glynn-Johnson 100
   3. Rixson 1
   4. Sargent 690

D. Provide concealed or surface mounted overhead stops unless indicated otherwise.

E. Provide overhead stops for the following opening conditions.
   1. At doors that swing more than 140 degrees before striking a wall.
      a. Provide a closer stop arm at interior doors with parallel arm closer mountings.
   2. At doors that open against objects, materials, casework, equipment, or other conditions that make wall stops inappropriate.
   3. At doors located 1’-6-inches or more from the wall, unless specifically indicated otherwise.

F. Where overhead stops are required per opening conditions defined above, provide the following.
   1. Provide surface-mounted overhead stops for fire-rated wood doors, exterior hollow metal doors, or where specifically indicated.

2. Provide heavy-duty overhead stops for doors that are over 39 inches wide and for exterior doors.
   a. A heavy-duty closer compression stop arm is an acceptable option for overhead stops at exterior doors with parallel arm closer mountings.
3. Provide hold-open function where indicated at non-label doors.
4. Provide sex bolt attachments for mineral core wood door applications.

2.16 STOPS AND HOLDERS

A. Acceptable Manufacturers:
   1. Burns
   2. Hager
   3. Ives listed below for design intent only
   4. Trimco

B. Wall Bumper: WS406/407CVX; WS406/407CCV

C. Wall Mounted Stops: WS11/WS11X

D. Provide wall bumper for each door leaf except where wall mounted stops are specified in the Hardware Groups, or where opening conditions require the use of an overhead stop. Refer to Part 2 – Overhead Stops
   1. Provide an overhead stop for doors in which the door face or operating trim on the leading/latch edge does not open against wall or opens against equipment or furniture.

E. Floor or base stops must be used only where specified or absolutely unavoidable.

2.17 THRESHOLDS

A. Acceptable Manufacturers:
   1. Hager
   2. National Guard Products
   3. Pemko listed below for design intent only
   4. Reese Enterprises
   5. Zero

B. Exterior Thermally Broken: 252X3_FG.
   1. Provide 171A where detailed otherwise, or where thermally broken is not feasible.

C. Interior: 271A, unless detailed otherwise or specifically indicated by Hardware Group Modifier.

D. Refer to drawings for special details.

E. Provide accessories, shims and fasteners as recommended by Manufacturer.
   1. Provide self-tapping fasteners for products being applied to hollow metal doors and frames.
   2. Where thresholds occur at openings with one or more mullions, they must be cut for the mullions and extended continuously for the entire opening.

2.18 WEATHER-STRIPPING

A. Acceptable Manufacturers:
   1. Hager
   2. National Guard Products
   3. Pemko listed below for design intent only
   4. Reese Enterprises
   5. Zero

B. Refer to drawings for special details. Provide accessories, shims and fasteners.
   1. Provide self-tapping fasteners for products being applied to hollow metal doors and frames. Cutting or notching of gasket for stop-mounted hardware on frame shall not be permitted.
   2. Provide special brackets, as required by actual frame conditions, for specified stop-mounted hardware.

3. Cutting or notching of gasket for stop-mounted hardware on frame shall not be permitted. Provide special brackets, as required by actual frame conditions, for specified stop-mounted hardware.

C. Where weather-strip and thresholds are assigned by hardware group modifier "**W**", provide the following:

1. Thresholds: Refer to Part 2 - Thresholds
2. Door Bottom/Sweep: 315_N, unless detailed otherwise, both doors of pairs.
3. Weatherstrip: 2891_PK frame-applied, unless detailed otherwise.
4. Rain Drip: 346 by full frame width, unless detailed otherwise.
5. Astragal: 18041_P split type, for each door of pairs with both doors active, or S88D gasket. Applied to fixed astragal by door supplier for active/inactive pairs, unless detailed otherwise.

2.19 DOOR POSITION SWITCHES

A. Acceptable Manufacturers and Types:

1. Ademco ADI 800-233-6261: 944SP-WH 3/4-in recessed white
2. Detex: MS-2049F
3. SARGENT: 3287
4. Sentrol: 1078

B. Provide model to accommodate door and frame materials and mounting conditions.

C. Coordinate door and frame preparations with door and frame suppliers.

D. Switches shall be installed in frame head approximately 4-inches from latching edge of door, unless detailed otherwise.

2.20 FASTENERS

A. Including, but not limited to; wood or machine screws, special screws, bolts, special bolts, nuts, expansion shields, anchors, and other accessory items of proper type, material, and finish required for complete operational installation of hardware.

B. Use phillips head for exposed screws. Do not use aluminum screws to attach hardware.

C. Provide self-tapping, TEC, screws for attachment of sweeps and stop-applied weatherstripping.

2.21 TYPICAL FINISHES AND MATERIALS

A. Finishes, unless otherwise specified: @ **HOLLOW METAL DOORS IN ALT BID**

1. Butts, Out-swinging Exterior Doors: US32D/BHMA 630 on Stainless Steel.
2. Flush Bolts: US26D/BHMA 626 on Brass or Bronze.
3. Exit Devices: US32D/BHMA 630 on Stainless Steel.
4. Locks and Latches: US26D/BHMA 626 on Brass or Bronze.
5. Coordinators: USP/BHMA 600 on Steel.
6. Kick Plates, Armor Plates, and Edge Guards: US32D/BHMA 630 on Stainless Steel.
7. Overhead Stops and Holders: US26D/BHMA 626 on Brass or Bronze.
8. Closers - Surface mounted. Sprayed Lacquer or Powder Coat to Match.
9. Miscellaneous Hardware: US26D/BHMA 626 on Brass or Bronze.

B. Finishes, unless otherwise specified: Dark Bronze @ **ALUMINUM DOORS IN BASE BID**

1. Continuous Hinges: Dark Anodized Bronze.
2. Exit Devices: 313AN/710 Dark Bronze.
3. Door Trim: Dark Bronze
4. Overhead Stops and Holders: Dark Bronze
5. Closers - Surface mounted, Sprayed Lacquer or Powder Coat to Match. Dark Bronze
6. Thresholds and Weatherstripping: Clear mill finish aluminum thresholds, unless indicated otherwise; Dark Bronze Anodized weatherstrip housing.
7. Miscellaneous Hardware: Dark Bronze

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine doors, frames, and related items for conditions that would prevent the proper application of finish hardware. Do not proceed until defects are corrected.

3.2 INSTALLATION

A. Install finish hardware in accordance with reviewed hardware schedule and manufacturer's printed instructions. Prefit hardware before finish is applied, remove and reinstall after finish is completed. Install hardware so that parts operate smoothly, close tightly and do not rattle.

B. Installation of hardware shall comply with NFPA 80 and NFPA 101 requirements.

C. Set units level, plumb and true to line and location. Adjust and reinforce attachment to substrate as necessary for proper installation and operation.

D. Screws for hinges and lock fronts in wood doors shall have pilot holes pre-drilled to avoid splitting doors. Do not over-drill pilot holes or over-torque installation of screws.

E. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

F. For doors with door pulls and push plates, install door pulls with through bolted fasteners countersunk and flush with door face. Then install push plates over countersunk through bolts so they are concealed by push plate.

G. Ensure latches and dead latches are installed per manufacturers installation instructions, and adjustments are to be made to ensure that they are in alignment with strikes.

H. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant, forming tight seal between threshold and surface to which set. Securely and permanently anchor thresholds, using countersunk non-ferrous screws to match color of thresholds; stainless steel screws at aluminum thresholds.

3.3 FIELD QUALITY CONTROL

A. After installation has been completed, provide services of qualified hardware consultant to check Project to determine proper application of finish hardware according to schedule. Also check operation and adjustment of hardware items.

B. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

3.4 ADJUSTING AND CLEANING

A. At final completion, hardware shall be left clean and free from disfigurement. Make final adjustment to door closers and other items of hardware. Where hardware is found defective repair or replace or otherwise correct as directed.

B. Adjust door closers to meet opening force requirements of Uniform Federal Accessibility Standards.
   1. Force Requirements:
      a. Interior hinged doors and gates: 5 pounds maximum.
      b. Sliding or folding doors: 5 pounds maximum.

C. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of space or area, return to work during week prior to acceptance or occupancy, and make final check and adjustment of hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors.

D. Instruct Owner's personnel in proper adjustment and maintenance of door hardware and hardware finishes.

E. Clean adjacent surfaces soiled by hardware installation.

3.5 PROTECTION

A. Provide for proper protection of hardware items until the Owner accepts Project as complete.

3.6 HARDWARE GROUP MODIFIERS

A. Hardware Group modifiers added to numeric hardware group assignments on the schedule of openings indicate a variation to the group as defined below.

"**C**" – Add concealed overhead stop, or door closer stop arm. At exterior doors provide both stop arm and concealed overhead stop.

"**P**" – Add door position switch/contact for doors being monitored/alarmed, both leaves of pairs. Refer to Part 2 - Door Position Switches. Connection by Electrical.

"**W**" – Add weatherstrip, sweeps and rain drip, where applicable. Refer to Part 2 – Weatherstrip & Thresholds.
Provide thermally broken threshold that coordinates with Architectural details.
At aluminum assemblies, add rain drips, where applicable and not part of aluminum frame assembly – match door & frame finish, add thermally broken thresholds and sweeps, integral weatherstrip is provided by door manufacturer.

3.7 HARDWARE GROUPS

A. Provide all required door hardware for each specified opening to comply with requirements of this section in its entirety. Included are desired/intended functions, acceptable manufacturers and models, systems coordination, etc. for a complete installed opening.

B. Refer to the openings schedule for hardware group and modifiers assigned to each door opening. Ignore hardware groups and modifiers not assigned on the openings schedule.

<u>GROUP 44.43M</u> – Storeroom lock with closers (plus holders), active/inactive pair (non-rated) with semi-automatic (constant-latching) flushbolts & coordinator (storage and/or equipment rooms)
Hinges
1 set Flushbolts (semi-automatic / constant-latching)
1 each Lockset Storeroom Function (mortise lock)
Function: Latchbolt is retracted by lever inside only. Outside lever is always LOCKED. Key outside retracts latchbolt. Deadlocking latchbolt.
1 each EPT-10 power transfer – active leaf
1 each Coordinator
2 each Closers (cush stop and mechanical holder function)
2 each Armor Plates (push-side): 34-inches tall x 1-1/2-inches less-than-door width)
4 each Edge Guards (L-type; to wrap edge of door and push-side face of door. Coordinate size of edge guards with protection plates resulting in a smooth surface on the push-side of each door with not more than 1/8 of an inch between edge guard and protection plate.
1 Each overlapping metal astragal, provided by Door Manufacturer/Supplier, primed flat steel at hollow metal doors.
Prep for future card reader. Provide conduit from EPT location to head of frame

<u>GROUP 34.01</u> – Storeroom (mortise) with closer
Hinges
1 each Mortise Lockset Storeroom Function
Function: Latchbolt is retracted by inside lever only. Outside lever is always LOCKED. Key outside retracts latchbolt. Deadlocking latchbolt.
1 each Closer
1 each Armor Plate
1 each Stop, as required by opening conditions
Prep for future card reader. Provide conduit from strike location to head of frame

GROUP 50 – Single exit only with closer
Hinges
1 each exit device: 8810 or 12-8810 / 99EO or 99EO-F
Function: latchbolt is retracted by inside push rail. No outside operation.
1 each closer
1 each kickplate
1 each stop, as required by opening conditions
COORDINATION NOTE: provide signage stating: "exit only. There is no provision for re-entry." Signage provided by owner's signage consultant, g.c. to coordinate prior to building occupancy certification.

GROUP 254.11 – Single exit with pull & cylinder x electric latch retraction ("quiet" dogging) & access control (card reader and/or building control system)
Hinges
1 each Electric Hinge (or power transfer, as required by exit device)
1 each Electric Exit Device QEL99-NL
Function: Latchbolt is retracted electronically, by inside pushrail, and by outside key. Outside access by pull when latchbolt is retracted – mechanically or electronically.
1 each Closer
1 each Kickplate
1 each Stop
1 each Power Supply, for exit device
Access controls, request-to-exit device, and alarm (if utilized) by Security Contractor.
Connection by Electrical.
OPERATIONAL DESCRIPTION: Door is normally closed. Manual exit by depressing pushrail is possible at all times. Access control (card reader and/or building control system) retracts exit device latchbolt electronically to control entry. Latchbolt can be held retracted electronically for extended periods of time enabling push/pull operation. Fire-rated assemblies require fire alarm connection to release latchbolt upon activation of fire alarm.

GROUP 551.01 – Aluminum narrow-stile exit/panic with pull & cylinder plus electric latch retraction via electronic access control system
1 each Continuous Geared Hinge, match door and frame finish
1 each Electric Power Transfer Device, as required by exit/panic device
1 each Electrified Exit Device: RX-QEL35A-NL-OP x 8190
Function: Latchbolt is retracted electronically, by outside/pull-side key, and by inside pushrail. Outside access by pull when device latchbolt is electronically or mechanically retracted/dogged.
1 each Closer
1 each Heavy-Duty Stop
1 each Power Supply, as required for exit/panic device
1 each Door Position Switch/Contact, concealed
Electronic access control system/devices, request-to-exits, and monitoring/alarms are provided with Security System. Contractor to coordinate the provision and installation of products. Refer to documents with Security information for locations and types of controls. Connection by Electrical.
OPERATIONAL DESCRIPTION: Door is normally closed. Manual exit by depressing exit/panic pushrail is possible at all times. Electronic access control system/devices retracts, unlocks and extends, locks exit device latchbolt to control entry. When extended, locked, presenting authorization temporarily retracts latchbolt to allow entry by outside pull. Interruption of power, or fire alarm event at fire-rated openings releases/extends latchbolt to positively latch door, resulting in door being locked on the pull side and requiring key for entry.
NOTE: Opening door by outside key when secured electronically will send monitor alert to monitoring station, if utilized.

GROUP 580.11 – Aluminum pair with keyed removable mullion, narrow-stile exits/panics with pulls and cylinder x electric latch retraction via electronic access control system, with closers
2 each Continuous Hinges, match finish of aluminum door and frame assembly
1 each Electric Power Transfers
1 each Electrified Exit Device: 56-8510 x 862 / QEL-35A-EO x 8190
Function: Latchbolt is retracted electronically and by inside pushrail. Outside access by pull when latchbolt is retracted.
1 each Exit Device: 56-8504 x 862 / 35A-NL-OP x 8190

Function: Latchbolt is retracted electronically, by outside outside key, and by inside pushrail. Outside access by pull when device is electronically or mechanically dogged.
1 each Keyed Removable Alumminum Mullion, include keyed cylinder, match aluminum door and frame finish
2 each Closers
2 each Heavy-Duty Concealed Overhead Stops
1 each Power Supply, for exit devices
2 each Door Position Switches/Contacts
Electronic access control system/devices, request-to-exit devices, and monitoring/alarms are provided by Security Contractor. Refer to security documents for locations and types of controls. Connection by Electrical.
OPERATIONAL DESCRIPTION: Doors are normally closed. Manual exit is always possible through either door by depressing push rail on exit device of either leaf.
Entry is controlled by electronic access control system/devices which extends and retracts latchbolts on both leaves. When secured, presenting authorization temporarily retracts latchbolt allowing travel through either leaf. Interruption of power extends latchbolts to prohibit entry, requiring key for entry.

GROUP 700.01 – Single Aluminum, push-bar and pull with automatic operator
1 each Continuous Hinge
1 each Push Bar / Offset pull combo – 9190 IVES
1 each Automatic Operator: LCN 4640 Series– or reuse existing – GC to verify
2 each Actuators: 8310-853 LCN– or reuse existing – GC to verify
1 each Stop, heavy-duty concealed overhead
Connection by Electrical.
OPERATIONAL DESCRIPTION: Door is normally close, no latching. Manual passage is always possible both directions of travel. Depressing either actuator switch opens door automatically.

<u>GROUP 720.22</u> – Aluminum narrow-stile exit/panic with pull & cylinder, controlled entry via electronic access control system & electric strike (fail-secure entry) with automatic operator
1 each Continuous Hinge
1 each Exit/Panic Device 33A-NL-OP x 8190
Function: Latchbolt is retracted by outside key and inside pushrail. Outside access by pull when latchbolt is retracted or device is dogged.
1 each Electric Strike (fail-secure entry)
1 each Automatic Operator LCN 4640 Series– or reuse existing – GC to verify
2 each Actuators 8310-853 LCN– or reuse existing – GC to verify
1 each Heavy-Duty Concealed Overhead Stop
Connection by Electrical.
OPERATIONAL DESCRIPTION: Door is normally closed. Manual exit is allowed at all times by depressing exit/panic pushrail. Automatic exit is allowed (except during power interruption) by depressing inside wall actuator switch which temporarily releases electric strike and then opens door.
Entry is normally secured mechanically and electronically. Outside actuator operable during business hours. Outside key retracts latchbolt to allow manual entry. Presenting authorization temporarily releases electric strike and allows manual or automatic entry.

END OF SECTION

SECTION 088000
GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Monolithic glass.
   2. Insulating vision glass.
   3. Insulating spandrel glass.

1.2 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.

C. Interspace: Space between lites of an insulating-glass unit that contains dehydrated air or a specified gas.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each type of product; 12 inches square.

C. Calculations: Structural design shall be performed by a Professional Engineer, licensed in the state where Project is located. Signed engineering calculations shall be submitted to Architect/Engineer.
   1. Structural design calculations are required per IBC Section 2403, for glass not supported on 4 sides, including glass supports and framing, indicating structural integrity of glass size, glass support members, anchors, fasteners and connections to building, in accordance with specified criteria.
   2. Engineering Responsibility: Calculations shall be reviewed for stated design assumptions, general compliance to specified requirements, and forces imposed on glass structure. The accuracy of the design calculations shall be the sole responsibility of the Contractor's Professional Engineer.

1.4 INFORMATIONAL SUBMITTALS

A. Insulating Glass Certification: Submit data verifying compliance with IGCC, Class A level.

B. Compatibility Certification: After testing and review, certify compatibility of materials in contact and in close proximity to glazing sealant materials.

C. Wind Pressure and Thermal Stress Analysis: Submit thermal stress analysis of glass where thermal stress may occur.

D. Product Certificates: For glass and glazing products, from manufacturer.

E. Preconstruction adhesion and compatibility test report.

F. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for this Project; whose work has resulted in glass installations with a record of successful in-service performance; and who employs glass installers for this Project who are certified under the National Glass Association Glazier Certification Program as Level 2 (Senior Glaziers) or Level 3 (Master Glaziers).

B. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the inspecting and testing agency, Insulating Glass Certification Council.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

1.7 FIELD CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1.8 GLASS WARRANTY

A. Warranty for Insulating Units: Warranty sealed insulating glass units for minimum period of ten (10) years, with manufacturer's replacement guarantee, covering as minimum: Defective or failure of seal; material vision obstruction as result of dust collection or film formation between panels or other similar failure and the following specific conditions:
   1. Reflective glass whose reflective coating cracks, peels or discolors shall be replaced at no charge (material only) for minimum ten (10) year period beginning on date of Substantial Completion.
   2. In addition to replacement of insulated units, provide removal and reinstallation of new units without cost to Owner during first five (5) years of guarantee.

B. Spandrel Glass Warranty: Spandrel glass whose opacifier delaminates, cracks, peels, wrinkles, discolors, or stains shall be replaced at no charge (material only) for minimum five (5) year period beginning on date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Glass Design: Glass thicknesses indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites for various size openings in nominal thicknesses indicated, but not less than thicknesses complying with ASTM E 1300 and in strengths (annealed or heat treated) required to meet or exceed the following criteria:
   1. Specified Design Wind Loads: Determine design wind loads applicable to Project from basic wind speed indicated in miles per hour at 33 feet above grade, according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 6.4.2, "Analytic Procedure," based on mean roof heights above grade indicated on Drawings.
   2. Probability of Breakage for Vertical Glazing: 8 lites per 1000 for lites set vertically or not more than 15 degrees off vertical and under wind action.
      a. Load Duration: 60 seconds or less.
   3. Maximum Lateral Deflection: For the following types of glass supported on all four edges, provide thickness required that limits center deflection at design wind pressure to 1/50 times the short side length or 1 inch, whichever is less.
      a. For monolithic-glass lites heat treated to resist wind loads.
      b. For insulating glass.
   4. Minimum Glass Thickness for Exterior Lites: Not less than 6 mm.
   5. Thickness of Tinted and Heat-Absorbing Glass: Provide the same thickness for each tint color indicated throughout Project.

C. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): 120 deg F , ambient; 180 deg F, material surfaces.

D. Thermal and Optical Performance Properties: Provide glass with performance properties specified based on manufacturer's published test data, as determined according to procedures indicated below:
   1. For monolithic-glass lites, properties are based on units with lites 6 mm thick.
   2. For insulating-glass units, properties are based on units with lites 6 mm thick and a nominal 1/2”- wide interspace.
   3. Center-of-Glass U-Values: NFRC 100 methodology using LBL-35298 WINDOW 4.1 computer program, expressed as Btu/ sq. ft. x h x deg F .
   4. Center-of-Glass Solar Heat Gain Coefficient: NFRC 200 methodology using LBL-35298 WINDOW 4.1 computer program.
   5. Solar Optical Properties: NFRC 300

E. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.
   1. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

2.2 MANUFACTURERS

A. Single Source Responsibility: Provide materials obtained from one source for each type of insulating glass and glazing product indicated.

B. Manufacturers of Flat Glass Substrate:
   1. AGC Glass Company
   2. AFG Industries, Inc..
   3. ACH.
   4. Guardian Industries Corp..
   5. Pilkington North America, Inc..
   6. Vitro Architectural Glass (formerly PPG).
   7. Saint-Gobain.
   8. Schott North America, Inc..

2.3 GLASS PRODUCTS

A. Glass Thicknesses: Specified glass thickness and thickness of individual glass plies of laminated glass descriptions are minimum. Provide glass of greater thickness as required for size and conditions indicated.

B. Heat-Strengthened Float Glass: ASTM C1048, Kind HS (heat strengthened). Provide heat-strengthened as required for wind pressure or thermal stress.

C. Fully-Tempered Float Glass: ASTM C1048, Kind FT (fully tempered). Provide as required to comply with safety code requirements and as indicated with “T” in the Material Identification Abbreviation. Provide safety glazing labeling, as applicable.

D. Clear Float Glass: ASTM C1036, Type I (transparent glass, flat), Class 1 (clear), Quality Q3 (glazing select).

E. Tinted Annealed Float Glass: ASTM C1036, Type I, Class 2 (tinted), Quality-Q3.
   1. Basis of Design: Vitro Solarbronze.

F. Ceramic-Coated Spandrel Glass: ASTM C1048, Type I, Condition B, Quality-Q3.

G. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190, and complying with other requirements specified.
   1. Dual Seal: Manufacturer’s standard silicone dual sealing system, color as indicated in Glazing Schedule.
   2. Spacer: Manufacturer’s standard warm edge spacer.
   3. Desiccant: Molecular sieve or silica gel, or blend of both.

H. High-performance Low-Emissivity (Low E) Coating:

1. Basis of Design: Vitro Solarban 70.

2.4 GLAZING SCHEDULE

A. Glazing type locations as indicated on Drawings. Provide tempered glass where safety glass is required by code.

B. (GL-1) Clear Float Glass: 1/4-inch (6 mm) minimum thickness.

C. (GL-1T) Clear Float Glass, Fully-Tempered: 1/4-inch (6 mm) minimum thickness.

D. (GL-21) Insulating Vision Glass:
   1. Configuration: 1-inch thick unit as follows:
      a. Outboard Lite: 1/4 inch, tinted; heat-treated, Low E coating applied to No. 2 surface.
         1) Basis of Design: Vitro Solarban 70XL.
      b. Airspace: 1/2 inch, argon-filled.
      c. Inboard Lite: 1/4 inch, clear; heat-treated.
   2. Performance:
      a. Visible Transmittance: 39 percent.
      b. Ultraviolet Transmission: 7 percent.
      c. Nighttime Winter U-value: 0.24
      d. Solar Heat Gain Coefficient: 0.20

E. (GL-21T) Insulating Vision Glass, Fully-Tempered: Same as GL-21 except all glass fully-tempered.

F. (GL-22) Insulating Vision Glass with UV Bird Collision Mitigation coating:
   1. Configuration: 1-inch thick unit as follows:
      a. Outboard Lite: 1/4 inch, tinted; heat-treated, Low E coating applied to No. 2 surface and UV bird deterrent coating on No. 1 surface.
         1) UV Coating Basis of Design: : “AviProtek T” by Pilkington
      b. Airspace: 1/2 inch, argon-filled, with manufacturer’s standard warm edge spacer.
      c. Inboard Lite: 1/4 inch, clear; heat-treated glass.

G. (GL-22T) Insulating Glazing Glass with UV Bird Collision Mitigation coating, Fully-Tempered: Same as GL-22 except all glass fully-tempered.

H. (GL-41) Insulating Spandrel Glass.
   1. Configuration: 1-inch thick unit as follows:
      a. Outboard Lite: 1/4-inch thick, tinted glass, heat-strengthened with Low E coating on No. 2 surface
      b. Airspace: 1/2-inch, argon-filled space.
      c. Inboard Lite: 1/4-inch thick, clear glass, heat-strengthened, with opaque ceramic coating on No. 4 surface.
         1) Ceramic Frit:
            (a) Pattern: Solid, Opaque.
            (b) Color: as selected by Architect from Manufacturer’s standards
   2. Performance:
      a. Nighttime Winter U-value: 0.24

2.5 GLAZING ACCESSORIES

A. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
   1. Structural Sealant: Capable of withstanding tensile and shear stresses imposed by structural-sealant-glazed curtain walls without failing adhesively or cohesively. When tested for preconstruc-tion adhesion and compatibility, cohesive failure of sealant shall occur before adhesive failure.
      a. Adhesive failure occurs when sealant pulls away from substrate cleanly, leaving no sealant material behind.
      b. Cohesive failure occurs when sealant breaks or tears within itself but does not separate from each substrate because sealant-to-substrate bond strength exceeds sealant's internal strength.

B. Adhesion Testing: Prior to application of sealants, test each application condition to ensure sealant satisfactorily adheres to substrate.
   1. Conduct test in field or by submission of representative substrate sample to manufacturer for factory test.
   2. Apply sealant to sample substrate and perform hand-pull tab test in accordance with ASTM C1193, Method A.
   3. Determine if primer is required. If so, re-test using primer.
   4. Structural-Sealant Adhesion: Test structural sealant according to recommendations in ASTM C 1401, Destructive Test Method A, "Hand Pull Tab (Destructive)," Appendix X2.

C. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
   1. Compatibility Testing: Prior to application of sealants, test gaskets, spacers, setting blocks, and other glazing accessories being provided for project to determine compatibility with structural silicone sealants.
      a. Submit representative samples of accessories to manufacturer for factory testing.
      b. Perform testing in accordance with ASTM C1087.
      c. Incompatible accessories shall be replaced with ones recommended by and tested by manufacturer as acceptable.

D. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, A, and O; SWRI validation.
   1. Basis of Design: Dow Corning Corporation, 795 Silicone Building Sealant

E. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, and A; SWRI validation.
   1. Basis of Design: Dow Corning Corporation, 995 Silicone Structural Sealant

F. Single-Component, Nonsag, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT, G, and A.
   1. Basis of Design: Dow Corning Corporation, 999-A Silicone Building & Glazing Sealant.

G. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
   1. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
   2. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

H. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:
   1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
   2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

I. High-Bond Structural Glazing Tape: Pressure-sensitive, conformable acrylic closed-cell foam tape with high-performance acrylic adhesive on both faces, 2.3 mm thick, black color.
   1. Basis of Design for Product Type and Performance: B23F VHB Tape by 3M.
   2. Provide Basis of Design product or other product as recommended by tape Manufacturer for intended use.

J. Setting Blocks: Neoprene, 80 to 90 shore "A" durometer hardness, chemically compatible with glazing sealant or compound, length as recommended by glass manufacturer.

K. Spacers and Shims: Neoprene, 40 to 50 shore "A" durometer hardness, chemically compatible with glazing sealant or compound, length as recommended by glass manufacturer.

2.6 FABRICATION

A. Heat-Treated Float Glass: ASTM C 1048. Fabricate using horizontal roller heating process only. Roll wave distortion parallel to bottom edge of glass as installed. Deviation from flatness at any peak (peak to valley deviation): shall not exceed 0.003 inches in the center of a lite and shall not exceed 0.008 inches within 10.5 inches of the leading or trailing edge.

B. Insulating Glass Units:
   1. Fabricate using both primary and secondary seals and as otherwise required to comply with the IGCC CBA classification.
   2. Fabricate using glass from the same manufacturer throughout the Project.
   3. Seal Construction: Dual seal design with primary seal of PIB and Silicone Secondary Seal, unless specifically indicated otherwise.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Examine areas and conditions under which Work is to be performed and identify conditions detrimental to proper or timely completion.
   1. Verify glazing channels are free of burrs, irregularities, and debris.
   2. Verify glass is free of edge damage or face imperfections.
   3. Inspect door and frames to determine that frames, sash, and stops are set true and straight. Sash rabbets and stops shall be clean and dry at time of glazing.
   4. Do not proceed until unsatisfactory conditions have been corrected.

B. Beginning of installation means acceptance of substrate.

3.2 PREPARATION

A. Provide glass manufacturer's recommended edge clearances when sizing glass.

B. Remove protective coatings from surfaces to be glazed.

C. Clean glass and glazing surfaces to remove dust, oil, and contaminants, and wipe dry.

D. Verify measurements of sash and openings at Project.

E. Coordinate with and check Shop Drawings furnished by other suppliers of Work affecting this Section to avoid field installation problems.

3.3 INSTALLATION

A. Comply with glass fabricators recommendations.

B. Except where storefront, window, entrance or glass manufacturer recommends otherwise, comply with Flat Glass Marketing Association (FGMA) Sealant Manual and FGMA Glazing Manual.

C. Glaze insulated units as recommended by glass and frame manufacturers.

D. Do not apply glazing materials at temperatures below manufacturer's recommendations or to damp or frosted surfaces. Apply glazing material according to the manufacturer's instructions using proper primers as required.

E. Set glass using neoprene setting blocks and spacers to insure proper edge clearance and uniform beads of compound. Clearances shall conform to FGMA Glazing Manual requirements. Center glass in glazing rabbets.

F. Check openings to confirm proper clearance at perimeters and between glass and stops.
   1. Clean surfaces of rabbet (including stops) and surface of glass which will come into contact with sealant. Use solvents and methods which insure clean, dry surfaces without film or foreign material when sealant is placed.

G. Remove and replace glazing beads carefully to avoid marking or defacing any portion of frame, sash, or fastenings.

1. Set glass in full bed of glazing tape or sealant. Clean glazing material after stops are installed. Clean excess compound, etc. from glass after setting in conformance with glass manufacturer's recommendations.
2. If recommended prime surfaces prior to glazing.

H. Set glass with reams (waves) running horizontally. Set glass with factory attached labels in place.

I. Setting Blocks: Place setting blocks at locations recommended by glass manufacturer, generally between 1/4 points and 6 inches from corner, except at glazed doors.
   1. At glazed doors, provide one block at sill, located 3 inches up from edge of glass at hinge side; one block at hinge side jamb, located 3 inches up from lower edge of glass; one block at head, located 3 inches from edge of glass at latch side of door; and, one block at jamb at lock side of door, located 3 inches down from edge of glass at top corner.
   2. Use blocks of length required to properly support glass. Offset approximately 1 inch from shims.

J. Glass Installation in Steel (Hollow Metal) Frames:
   1. Glaze frames using pre-shimmed tape on both sides. Firmly glaze in place with joints sealed, free of rattles.
   2. Set glass on setting blocks with a full bed of sealant or glazing tape.

K. Glass Installation in Aluminum Frames:
   1. Glaze aluminum frames using preformed EPDM elastomeric glazing extrusion separately or in combination with sealant and pre-shimmed glazing tape in compliance with aluminum frame supplier's recommendations.
   2. Set glass on setting blocks as recommended by manufacturer.
   3. Apply tape and/or sealant to produce uniform sight line even with frame.
   4. Set glass in gaskets with corners sealed.

L. Glazing Sealant: Along entire bottom edge of light, and up at least 6 inches at each jamb, gun in continuous full bed of sealant to fill voids.
   1. Fill entire space, full width of pane, full depth of glass, with sufficient sealant to form heel along inside face and edge of glass.
   2. At other edges (top and sides) gun in continuous heel bead of sealant along edges of glass perimeter to set stop against and into, acting as fill between glass and stop.
   3. Immediately after setting glass, at entire perimeter of glass, gun in sealant between stop and glass so space above spacer is completely filled, without voids.
   4. Place sealant flush with daylight edge of stops, with slight watershed at exterior. Provide straight, smooth surface meeting at opening corners with sharp intersection.
   5. Leave no sealant on exposed surfaces of stops and glass.

3.4 CLEANING

A. Remove surplus materials.

B. Final cleaning of glass by Contractor.

END OF SECTION

NEW BERLIN CITY HALL WINDOW REPLACEMENT

City of New Berlin

NEW BERLIN CITY HALL
WINDOW REPLACEMENT

HGA
333 EAST ERIE STREET
MILWAUKEE, WISCONSIN 53202
TELEPHONE: 414.278.8200

CONSTRUCTION DOCUMENTS

hga commission number: 4970-001-00

JANUARY 4, 2023

PROJECT INFORMATION

PROJECT NAME: NEW BERLIN CITY HALL WINDOW REPLACEMENT

PROJECT DESCRIPTION:
REPLACEMENT OF WINDOWS INCLUDING STOREFRONT ASSEMBLIES AND RELATED DOORS ON THE EXISTING CITY HALL.

PROJECT ADDRESS:
NEW BERLIN CITY HALL
3805 S CASPER DRIVE
NEW BERLIN, WI 53151

CONTACT INFORMATION

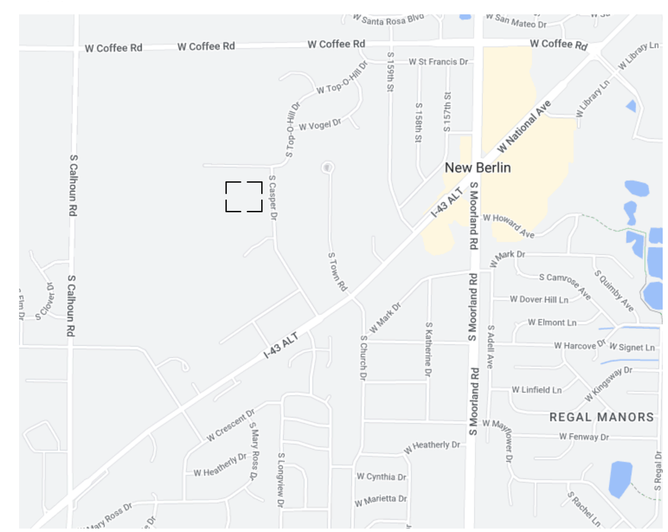
OWNER: CITY OF NEW BERLIN — PHONE: (262) 797-2467
CONTACT: ROBERT LOOHAUIS — EMAIL: rloohauis@newberlin.org

ARCHITECT: HAMMEL, GREEN AND ABRAHAMSON — PHONE: 414-278-3542
CONTACT: JOHN FOX — EMAIL: jfox@hga.com

DRAWING INDEX

REV #	NUMBER	SHEET NAME
1-GENERAL		
	G000	COVERSHEET
8-ARCHITECTURAL		
	A010	GENERAL NOTES AND SYMBOLS
	A200	FLOOR PLAN - LOWER LEVEL
	A201	FLOOR PLAN - FIRST FLOOR
	A400	OVERALL EXTERIOR ELEVATIONS
	A401	OVERALL EXTERIOR ELEVATIONS
	A402	EXTERIOR FRAME TYPES
	A403	TYPICAL DETAILS AND ALTERNATE WORK
Grand total: 8		

key plan:



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A	
A/E	ARCHITECT/ENGINEER
ACOUS	ACOUSTICAL
AD	ACCESS DOOR
ADA	THE AMERICANS WITH DISABILITIES ACT
ADD	ADDENDUM
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
ADJC	ADJACENT
AED	DEFIBRILATOR
AF	ACCESS FLOOR
AFF	ABOVE FINISH FLOOR
AL	ALUMINUM
ALT	ALTERNATE
AP	ACCESS PANEL
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT(URAL)
ASC	ABOVE SUSPENDED CEILING
ASPH	ASPHALT
B	
BD	BOARD
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BRKT	BRACKET
BS	BACKSPLASH
BSMT	BASEMENT
BTW	BETWEEN
BYND	BEYOND
C	
CAB	CABINET
CEN	CENT(ER) (TRAL)
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CG	CORNER GUARD
CIP	CAST IN PLACE
CJ	CONTROL/CONSTRUCTION JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR(ANCE)
CLR	CLEAR
CMPST	COMPOSITE
CMU	CONCRETE MASONRY UNIT
CNTFG	CENTRIFUGE
CNTR	COUNTER
CO	CASED OPENING; CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNEC(TION)
CONST	CONSTRUCTION
CONT	CONTINU(E) (OUS) (ATION)
CONT	CONTINUOUS
CORR	CORRIDOR
CR	CARD READER
CYL	CYLINDER
D	
D	DEEP, DEPTH
DBL	DOUBLE
DED	DEDICATED
DEG	DEGREE
DEMO	DEMO(LISH) (LITION)
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DO	DATA OUTLET
DR	DOOR
DWG(S)	DRAWING(S)
E	
(E), EXIST	EXISTING
E	ELEVATOR
EA	EACH
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
EMER	EMERGENCY
EMI	ELECTROMAGNETIC INTERFERENCE
ENCL	ENCLOSURE
EO	ELECTRICAL OUTLET
EOS	EDGE OF SLAB
EP	ELECTRICAL PANEL
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EPRF	EXPLOSION PROOF
EQ	EQUAL

EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EXCL	EXCLUD(E) (ED) (ING)
EXG	EXISTING
EXH	EXHAUST
EXP	EXPAN(D) (SION)
EXT	EXTERIOR
EXTR	EXTERIOR
F	
F/F	FACE TO FACE
FA	FIRE ALARM
FACP	FIRE ALARM PANEL
FAS	FASTEN(ED) (ER)
FB	FLAT BAR
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FLOOR FINISH
FHC	FIRE HOSE CABINET
FHP	FULL HEIGHT PARTITION
FIN	FINISH
FL	FLASHING
FLR	FLOOR(ING)
FO	FACE OF
FOC	FACE OF CONCRETE
FOW	FACE OF WALL
FP	FILLER PANEL
FSTR	FASTEN(ED) (ER)
FT	FOOT, FEET
FTG	FOOTING
G	
G	GAS
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GL	GLASS
GR	GRADE
GWB	GYPSUM WALL BOARD
H	
H	HIGH, HEIGHT
HB	HOSE BIB
HD	HEAD
HDW	HARDWARE
HDWD	HARDWOOD
HGT	HEIGHT
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HO	HOLD OPEN
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HANDRAIL(S)
HT	HEIGHT
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HYDR	HYDRAULIC
I	
ID	INSIDE DIAMETER/DIMENSION
IN	INCH(ES)
INCL	INCLU(DE) (DED) (DING) (SIVE)
INSUL	INSULAT(E) (ED)
INT	INTERIOR
INTR	INTERIOR
J	
JAN	JANITOR
JST	JOIST
JT	JOINT
K	
KOP	KNOCKOUT PANEL
KPL	KICK PLATE
KS	KNEE SPACE
L	
L	ANGLE (STRUC SHAPE)
LAB	LABORATORY
LAV	LAVATORY
LB	POUND
LENGTH	LONG, LENGTH
LF	LINEAR FOOT
LFFEET	LINEAL FOOT, FEET
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LKR	LOCKER
LNTL	LINTEL
LT	LIGHT
LTG	LIGHTING
LTWT	LIGHTWEIGHT
LVL	LEVEL

LVR	LOUVER
M	
MACH	MACHINE
MAINT	MAINTENANCE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MARKERBOARD
MECH	MECHANICAL(LY)
MED	MEDIUM
MEMB	MEMBRANE
MET	METAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MT(D)	MOUNT(ED)
MTL	METAL
MUL	MULLION
MVBL	MOVABLE
N	
N	NORTH; NITROGEN
N/A	NOT APPLICABLE
NEC	NECESSARY
NIC	NOT IN CONTRACT
NO2	NITROUS OXIDE
NOM	NOMINAL
NTS	NOT TO SCALE
O	
O	OXYGEN
O2	OXYGEN
OC	ON CENTER
OD	OUTSIDE DIAMETER/DIMENSION
OF	OUTSIDE FACE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFF	OFFICE
OFOI	OWNER FURNISHED, OWNER INSTALLED
OFVI	OWNER FURNISHED, VENDOR INSTALLED
OH	OVERHEAD
OH	OPPOSITE HAND
OHSC	OVERHEAD SERVICE CARRIER
OPG	OPENING
OPP	OPPOSITE
OPT	OPTION(AL)
P	
PA	POWER ASSIST
PAR	PARALLEL
PART	PARTICLE; PARTIAL
PB	PANIC BAR
PC	PRECAST
PERF	PERFORATED
PERIM	PERIMETER
PGBD	PEG BOARD
PL	PLATE
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNEU	PNEUMATIC
PNL	PANEL
PR	PAIR
PRCST	PRECAST
PREFAB	PREFABRICATED
PTD	PAINTED
PTN	PARTITION
PTS	PNEUMATIC TUBE STATION
Q	
QTY	QUANTITY
R	
R	RADIUS; RADII; RISER (STAIR)
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REC	RECESSED
RECP	RECEPTACLE
REF	REFER(ENCE)
REFR	REFRIGERATOR
REINF	REINFORC(E) (ED) (ING) (EMENT)
REQD	REQUIRED
RESIL	RESILIENT
REV	REVIS(E) (ED) (ION)
RH	RIGHT HAND
RHR	RIGHT HAND REVERSE
RM	ROOM
RO	ROUGH OPENING
S	
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FOOT/FEET

SHT	SHEET(ING)
SHTG	SHEATHING
SIM	SIMILAR
SKLT	SKYLIGHT(S)
SPEC(S)	SPECIFICATION(S)
SPK	SPEAKER
SS	STAINLESS STEEL
ST	STREET
STAG	STAGGER
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUC	STRUCTUR(E) (AL)
SUSP	SUSPENDED
SYM	SYMMETR(Y) (ICAL)
T	
T	TREAD
T&G	TONGUE AND GROOVE
T/D	TELEPHONE DATA OUTLET
TEL	TELEPHONE
TEMP	TEMPORARY
TER	TERRAZZO
THK	THICKNESS
TME	TO MATCH EXISTING
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TV	TELEVISION
TYP	TYPICAL
U	
UC	UNDER CABINET
UCL	UNDER CABINET LIGHTING
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
UR	URINAL
UV	ULTRAVIOLET
V	
VAC	VACUUM
VAR	VAR(Y) (IES) (IATION)
VCT	VINYL COMPOSITION TILE
VEN	VENEER
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
W	
W	WIDE, WIDTH
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WP	WATERPROOFING
WSCT	WAINSCOT
WT	WEIGHT
X	
XP(D)	EXPOSE(D)

SPECIAL SYMBOLS			
&	AND	#	NUMBER
∠	ANGLE(STRUC SHAPE)	/	PER
@	AT	⊥	PERPENDICULAR
℄	CENTERLINE	±	PLUS/MINUS
ø	DIAMETER		

GENERAL NOTES

A. THESE GENERAL NOTES APPLY TO THE CONSTRUCTION DOCUMENTS AND SHALL GOVERN UNLESS NOTED OTHERWISE BY GENERAL NOTES OR KEYNOTES ON SPECIFIC SHEETS.

B. COORDINATE ALL PROJECT PHASING WITH OWNER OR AS SPECIFIED AND/OR SHOWN ON THE DRAWINGS.

C. PROVIDE A SAFE MEANS OF EGRESS THROUGH AND/OR AROUND THE BUILDING AND SITE PER APPLICABLE CODES AT ALL TIMES DURING THE CONSTRUCTION PROCESS. MINIMIZE DISRUPTION TO ADJACENT AREAS/FLOORS AS MUCH AS POSSIBLE.

D. MINIMIZE NOISE TO LEVEL ACCEPTABLE WITH THE OWNER. SCHEDULE TASKS CREATING EXCESSIVE NOISE OR NEAR SENSITIVE AREAS WITH THE OWNER.

E. PROVIDE DUST CONTROL BETWEEN CONSTRUCTION AREAS AND OCCUPIED AREAS AT ALL TIMES AS SPECIFIED.

F. NOTIFY ARCHITECT PROMPTLY IF INFORMATION SHOWN IN ONE CONSTRUCTION DOCUMENT CONFLICTS WITH INFORMATION SHOWN ON ANOTHER.

G. NOTIFY ARCHITECT PROMPTLY IF CONSTRUCTION DOCUMENTS ARE INCONSISTENT WITH THE CURRENT APPLICABLE CODES AND REGULATIONS.

H. NOTIFY ARCHITECT PROMPTLY IF ANY EXISTING CONDITIONS CONFLICT WITH THE CONSTRUCTION DOCUMENTS.

M. WOOD BLOCKING WITHIN THE WALL SYSTEM SHALL BE FIRE RETARDANT TREATED. ALL EXTERIOR WOOD BLOCKING SHALL BE MOISTURE TREATED. WOOD MAY NOT BE USED IN AN EXPOSED LOCATION UNLESS IT IS A FINISH MATERIAL IN A NON-COMBUSTIBLE ASSEMBLY OR AS SPECIFIED.

SHEET NUMBER EXPLANATION

1. ARCHITECTURAL
THIS CHARACTER DENOTES THE SHEET IS AN ARCHITECTURAL DRAWING.

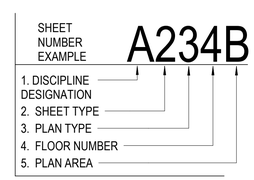
2. SHEET TYPE
THIS CHARACTER DENOTES THE TYPE OF INFORMATION ON THE SHEET

1. DEMOLITION PLANS
2. FLOOR PLANS
3. CEILING PLANS
4. EXTERIOR DETAILING
5. VERTICAL CIRCULATION
6. INTERIOR DETAILING
7. SCHEDULES
8. LAB (IF USED)
9. SHEET SPECIFICATIONS (IF USED)

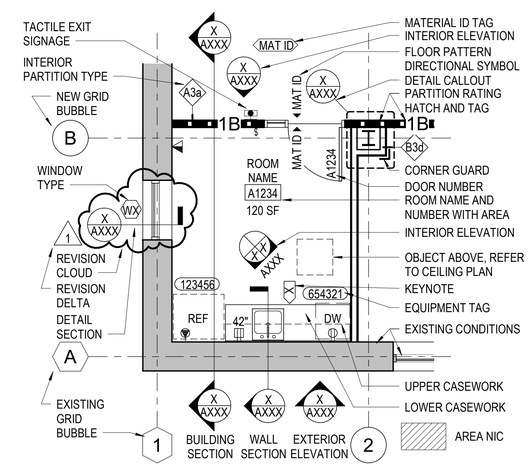
3. PLAN TYPE
THESE CHARACTERS DENOTE THE SUB CATEGORY OF THE SHEET TYPE

4. FLOOR NUMBER
THESE CHARACTERS DENOTE THE FLOOR SHOWN ON THE SHEET

5. PLAN AREA
THESE CHARACTERS DENOTE THE AREA PLAN SHOWN ON THE SHEET (IF USED)



2 ARCHITECTURAL SHEET NUMBER DESIGNATIONS



OTHER FLOOR PLAN SYMBOL DESIGNATIONS	
EXISTING DOOR TO REMAIN	EXISTING DOOR TO DEMO
EXISTING WALL TO REMAIN	EXISTING WALL TO DEMO
NEW WALL	TEMPORARY BARRIER
NEW RATED WALL	

1 SYMBOL DESIGNATIONS - FLOOR PLAN (REFERENCE)
1/4" = 1'-0"

HGA
333 East Erie Street
Milwaukee, Wisconsin 53202
Telephone 414.278.8200

City of New Berlin

CITY OF NEW BERLIN
3805 S CASPER DRIVE
NEW BERLIN, WI 53151

CITY HALL WINDOW REPLACEMENT

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 4970-001-00

GENERAL NOTES AND SYMBOLS

DATE: JANUARY 04, 2023

PROJECT STATUS

A010

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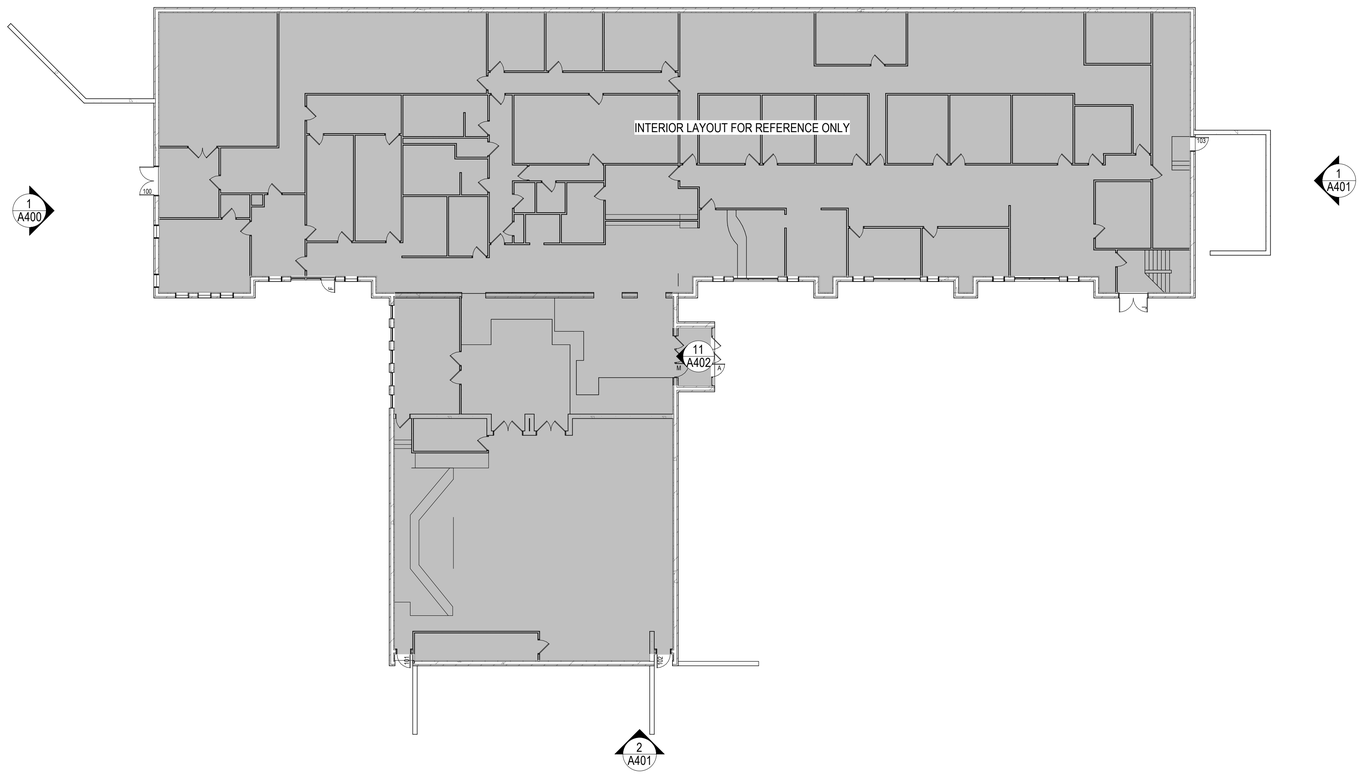

1 FLOOR PLAN - LOWER LEVEL
1/16" = 1'-0"

HGA
333 East Erie Street
Milwaukee, Wisconsin 53202
Telephone 414.278.8200

City of New Berlin

CITY OF NEW BERLIN
3805 S CASPER DRIVE
NEW BERLIN, WI 53151

CITY HALL
WINDOW
REPLACEMENT

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 4970-001-00

FLOOR PLAN - LOWER LEVEL

DATE: JANUARY 04, 2023

PROJECT STATUS

A200

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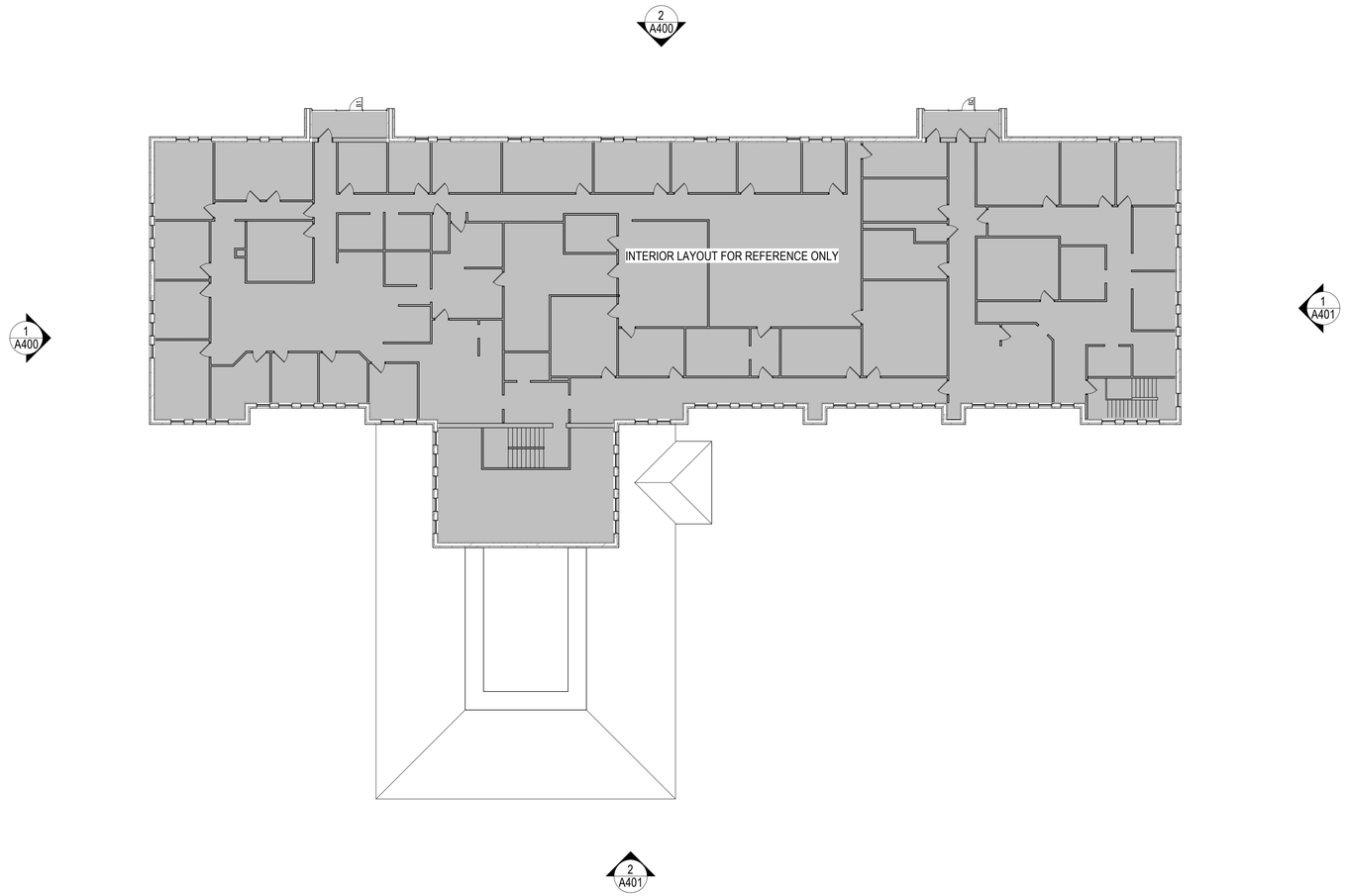

1 FLOOR PLAN - UPPER LEVEL
1/16" = 1'-0"

HGA
333 East Erie Street
Milwaukee, Wisconsin 53202
Telephone 414.278.8200

City of New Berlin

CITY OF NEW BERLIN
3805 S CASPER DRIVE
NEW BERLIN, WI 53151

CITY HALL
WINDOW
REPLACEMENT

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 4970-001-00

FLOOR PLAN - FIRST FLOOR

DATE: JANUARY 04, 2023

PROJECT STATUS

A201

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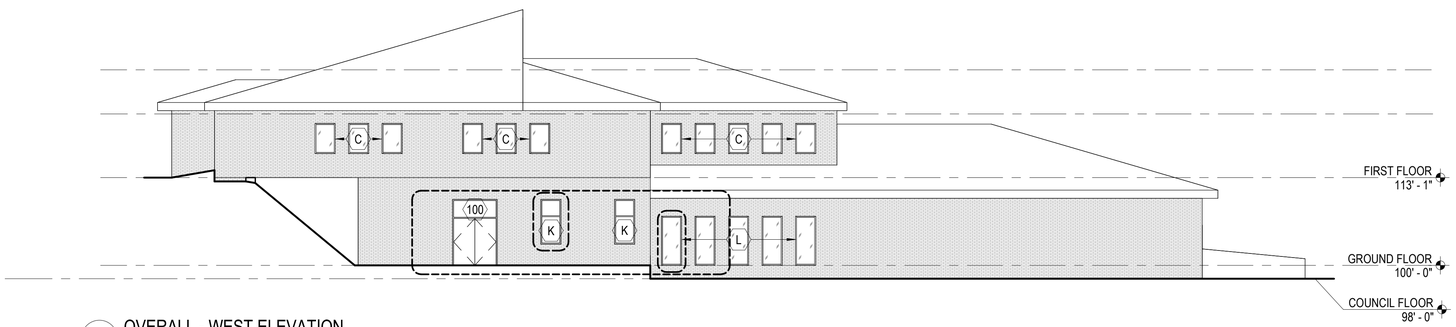
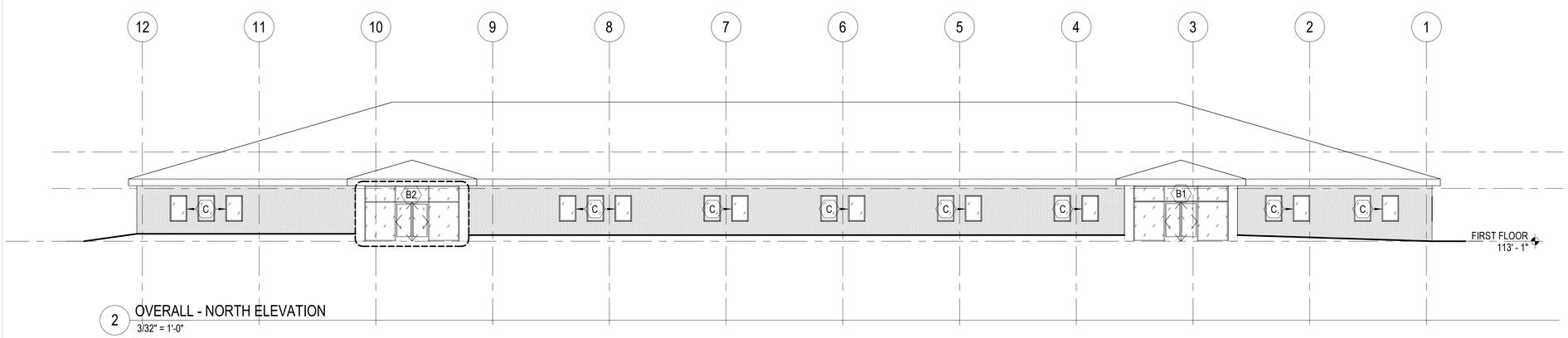
GENERAL NOTES - EXTERIOR ELEVATIONS

A. DRAWINGS ARE BASED ON AS-BUILT DRAWINGS PROVIDED BY THE OWNER. THE DATA MAY NOT BE COMPLETE AND THE ACTUAL EXISTING CONDITIONS MAY VARY. ALL INFORMATION AND DIMENSIONS MUST BE FIELD VERIFIED AND COORDINATED BETWEEN NEW AND EXISTING CONSTRUCTION.
B. ALL SCHEDULED WINDOWS TO REPLACE EXISTING. DEMOLISH EXISTING WINDOWS PRESERVING AND PROTECTING ADJACENT FINISHES.
C. MULLION SPACINGS TO MATCH EXISTING
D. CLEAR WIDTH OF DOORS SHALL BE MAINTAINED IN NEW CONSTRUCTION.
E. CONTRACTOR TO MAKE NOTE OF ANY CHANGES IN GLASS TYPE IN EXISTING WINDOWS AND INFORM ARCHITECT AND OWNER.
F. ALL GLAZING TO BE IG-1 UNLESS NOTED OTHERWISE.



1 OVERALL - WEST ELEVATION
3/32" = 1'-0"



2 OVERALL - NORTH ELEVATION
3/32" = 1'-0"

HGA
333 East Erie Street
Milwaukee, Wisconsin 53202
Telephone 414.278.8200

City of New Berlin

CITY OF NEW BERLIN
3805 S CASPER DRIVE
NEW BERLIN, WI 53151

CITY HALL WINDOW REPLACEMENT

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 4970-001-00

OVERALL EXTERIOR ELEVATIONS

DATE: JANUARY 04, 2023

PROJECT STATUS

A400

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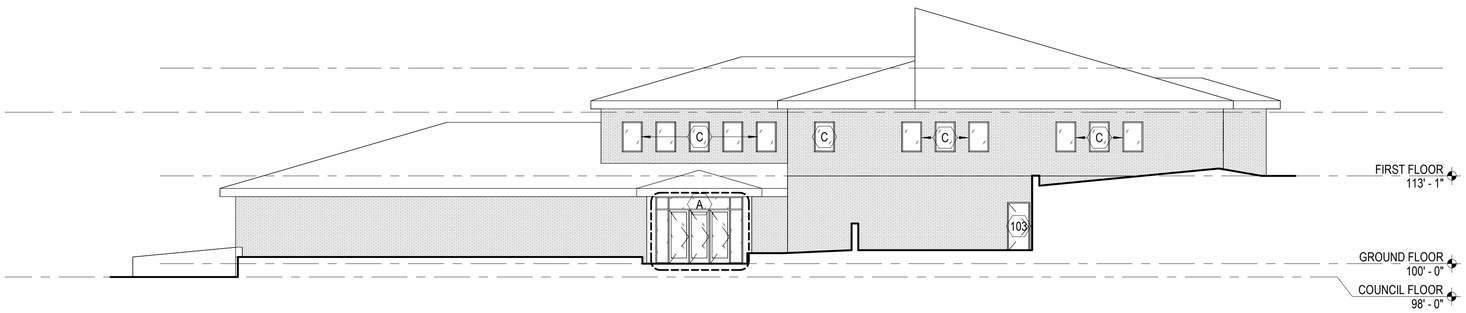
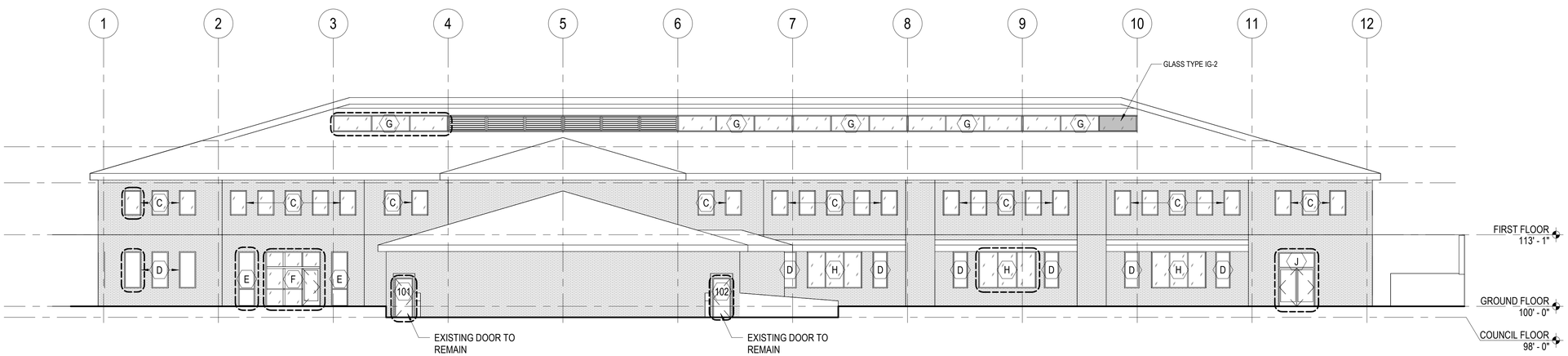


1 OVERALL - EAST ELEVATION
3/32" = 1'-0"



2 OVERALL - SOUTH ELEVATION
3/32" = 1'-0"

HGA

333 East Erie Street
Milwaukee, Wisconsin 53202
Telephone 414.278.8200

City of New Berlin

CITY OF NEW BERLIN
3805 S CASPER DRIVE
NEW BERLIN, WI 53151

CITY HALL
WINDOW
REPLACEMENT

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 4970-001-00

OVERALL
EXTERIOR
ELEVATIONS

DATE: JANUARY 04, 2023

PROJECT STATUS

A401

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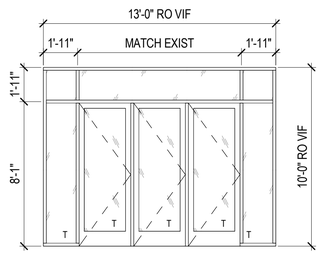
GENERAL NOTES - EXTERIOR ELEVATIONS

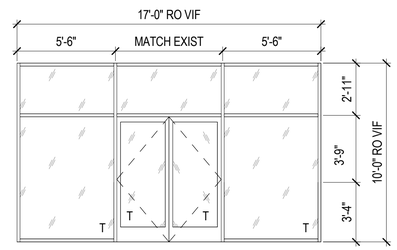
A. DRAWINGS ARE BASED ON AS-BUILT DRAWINGS PROVIDED BY THE OWNER. THE DATA MAY NOT BE COMPLETE AND THE ACTUAL EXISTING CONDITIONS MAY VARY. ALL INFORMATION AND DIMENSIONS MUST BE FIELD VERIFIED AND COORDINATED BETWEEN NEW AND EXISTING CONSTRUCTION.
B. ALL SCHEDULED WINDOWS TO REPLACE EXISTING. DEMOLISH EXISTING WINDOWS PRESERVING AND PROTECTING ADJACENT FINISHES.
C. MULLION SPACINGS TO MATCH EXISTING
D. CLEAR WIDTH OF DOORS SHALL BE MAINTAINED IN NEW CONSTRUCTION.
E. CONTRACTOR TO MAKE NOTE OF ANY CHANGES IN GLASS TYPE IN EXISTING WINDOWS AND INFORM ARCHITECT AND OWNER.
F. ALL GLAZING TO BE IG-1 UNLESS NOTED OTHERWISE.

GLAZING NOTES

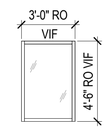
1. ALL GLAZING TO BE GL-21 UNLESS NOTED OTHERWISE.
2. ADD ALTERNATE NO. 1 REPLACES GL-21/GL-21T WITH GL-22/GL-22T GLAZING WHICH INCLUDES A UV BIRD COLLISION MITIGATION COATING.



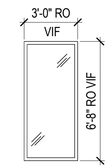
1 FRAME TYPE A - STOREFRONT
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



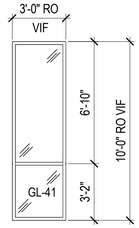
2 FRAME TYPE B1/B2 - STOREFRONT
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



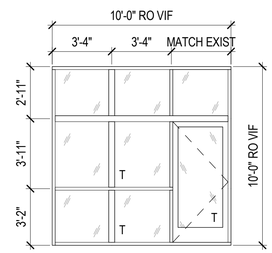
3 FRAME TYPE C
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



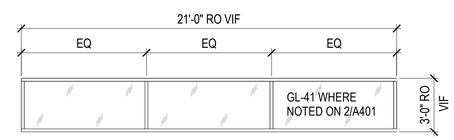
4 FRAME TYPE D
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



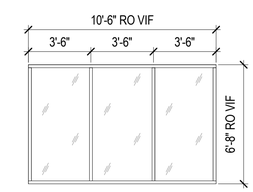
5 FRAME TYPE E
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



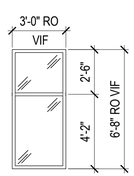
6 FRAME TYPE F - STOREFRONT
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



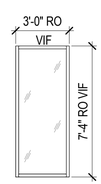
7 FRAME TYPE G
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



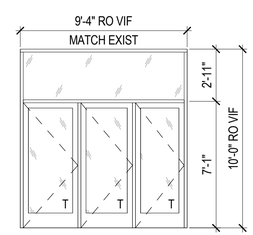
8 FRAME TYPE H
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



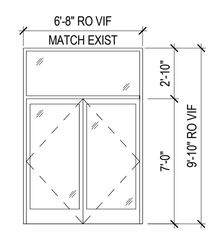
9 FRAME TYPE K
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



10 FRAME TYPE L
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD



11 FRAME TYPE M - STOREFRONT
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD
NON-THERMALLY BROKEN INTERIOR STOREFRONT



12 FRAME TYPE J
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD

HGA
333 East Erie Street
Milwaukee, Wisconsin 53202
Telephone 414.278.8200

City of New Berlin

CITY OF NEW BERLIN
3805 S CASPER DRIVE
NEW BERLIN, WI 53151

CITY HALL WINDOW REPLACEMENT

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 4970-001-00

EXTERIOR FRAME TYPES

DATE: JANUARY 04, 2023

PROJECT STATUS

A402

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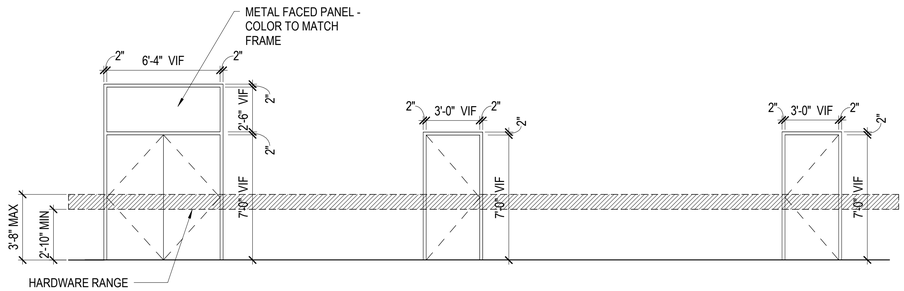
HOLLOW METAL DOORS AND FRAMES - ADD ALTERNATE

NOTES:
A. HOLLOW METAL DOORS AND FRAMES TO BE PRICED AS A SEPARATE ADD ALTERNATE FOR THE OWNER'S CONSIDERATION.
B. REFER TO GENERAL NOTES.
C. COLOR OF DOOR AND FRAMES TO MATCH WINDOW FRAMES.
D. ALL SCHEDULED DOORS TO REPLACE EXISTING. DEMOLISH EXISTING WINDOWS PRESERVING AND PROTECTING ADJACENT FINISHES.



1 INSULATED METAL DOOR TYPE 100
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD

2 INSULATED METAL DOOR TYPE 101/103
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD

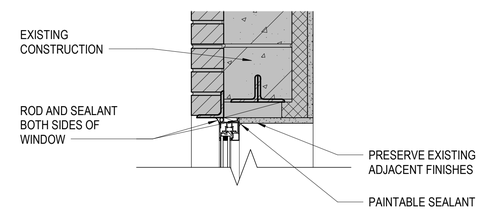
3 INSULATED METAL DOOR TYPE 102
1/4" = 1'-0"
VERIFY ALL DIMENSIONS IN FIELD

DOOR AND FRAME...

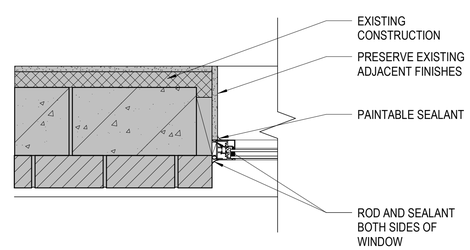
REV #	IDENTIFICATION DOOR NUMBER	HDW GROUP	NOTES
COUNCIL FLOOR			
	101	ALT_254.11 CW	
	102	ALT_50 CW	
LEVEL 01			
	100	ALT_44.43M CPW	
	103	ALT 34.1 CPW	
	A	720.22 CPW	
	F	551.01 CW	
	J	580.11 CPW	
	M	700.01	
FIRST FLOOR			
	B1	551.01 CW	
	B2	551.01 CW	

GENERAL NOTES - EXTERIOR ELEVATIONS

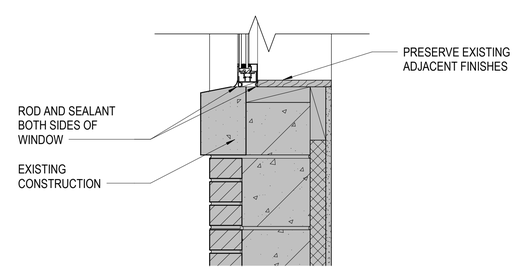
A. DRAWINGS ARE BASED ON AS-BUILT DRAWINGS PROVIDED BY THE OWNER. THE DATA MAY NOT BE COMPLETE AND THE ACTUAL EXISTING CONDITIONS MAY VARY. ALL INFORMATION AND DIMENSIONS MUST BE FIELD VERIFIED AND COORDINATED BETWEEN NEW AND EXISTING CONSTRUCTION.
B. ALL SCHEDULED WINDOWS TO REPLACE EXISTING. DEMOLISH EXISTING WINDOWS PRESERVING AND PROTECTING ADJACENT FINISHES.
C. MULLION SPACINGS TO MATCH EXISTING
D. CLEAR WIDTH OF DOORS SHALL BE MAINTAINED IN NEW CONSTRUCTION.
E. CONTRACTOR TO MAKE NOTE OF ANY CHANGES IN GLASS TYPE IN EXISTING WINDOWS AND INFORM ARCHITECT AND OWNER.
F. ALL GLAZING TO BE IG-1 UNLESS NOTED OTHERWISE.



5 TYPICAL WINDOW HEAD
1 1/2" = 1'-0"



6 TYPICAL WINDOW JAMB DETAIL
1 1/2" = 1'-0"



7 TYPICAL WINDOW SILL
1 1/2" = 1'-0"

HGA
333 East Erie Street
Milwaukee, Wisconsin 53202
Telephone 414.278.8200

City of New Berlin

CITY OF NEW BERLIN
3805 S CASPER DRIVE
NEW BERLIN, WI 53151

CITY HALL WINDOW REPLACEMENT

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 4970-001-00

TYPICAL DETAILS AND ALTERNATE WORK

DATE: JANUARY 04, 2023

PROJECT STATUS

A403

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Committee of the Whole
MEETING MINUTES

January 23, 2024 - 6:00 PM
Council Chambers
3805 S. Casper Drive

Please note: Minutes are unofficial until approved at the next regular scheduled meeting.

MINUTES

1. CALL MEETING TO ORDER

Mayor Ament called the meeting to order at 6:08 PM

2. ROLL CALL; DECLARATION OF QUORUM; PUBLIC NOTICE

Rubina Medina took the roll call as follows:
Present: Alderperson Hopkins, Alderperson Harenda, Alderperson Stribl, Alderperson Horbinski, Alderperson Kroupa, Mayor Ament, Alderperson La Fever
Excused: Alderperson Dave Maxey

Staff Present: City Attorney Mark Blum, Municipal Court Manager Catherine Hausen, Utility Finance Coordinator John Sughroue, Utility Manager Jim Hart, City Clerk Rubina Medina
City Clerk Rubina Medina stated that a quorum had been established, and the meeting was properly noticed.

3. APPROVAL OF MINUTES

A. January 9, 2024 Committee of the Whole Meeting

MOTION: Motion to Approve

VOTE: Motion by: Alderperson Harenda
Second by: Alderperson Kroupa
Motion Passed 6-0

4. UTILITY & FINANCE

A. Discussion and recommendation to Common Council approval of the January 24, 2024 Water Utility claims in the amount of $112,586.99 for 2023 Invoices and $19,402.89 for 2024 Invoices. Sewer Utility claims in the amount of $26,388.58 for 2023 Invoices and $900 for 2024 Invoices. General City Claims in the amount of $1,596,525.66 for 2023 Invoices and $349,721.86 for 2024 Invoices. Tax overpayment checks totaling $13,359.31 were also generated. US Bank VISA EFT of $42,668.13 for November and December 2023 and We Energies EFT of $53,923.85 for November 2023.

MOTION: Motion to Approve

VOTE: Motion by: Alderperson Stribl
Second by: Alderperson Kroupa
Motion 6-0

5. MISCELLANEOUS

A. Municipal Court Department Update
Municipal Court Manager Cathy Hausen provided a department update to the Council. The presentation is included with the agenda packet.

B. New Berlin Utility Adjustment of Water Rates - Possible discussion, no action

Utility Finance Coordinator John Sughroue and Utility Manager Jim Hart provided an update to the Council regarding the New Berlin Utility adjustment of water rates.

C. Discussion and recommendation to the Common Council approval to hold the February 13, 2024, COW/CC meetings and the Prusinski appeal regarding the Transient/Short Term Lodging denial via Zoom

City Attorney Mark Blum stated that the City Clerk was in receipt of an email from Ms. Prusinski requesting to withdraw her application. Ald. Stribl stated that the property was listed for sale and has sold.

D. Discussion and recommendation to the Common Council to authorize the change from a Streets Manager Position to a Deputy Director position within the Department of Public Works as outlined in the RAS.

MOTION: Motion to Approve

VOTE: Motion by: Alderperson Harenda
Second by: Alderperson La Fever
Motion Passed 6-0

6. ADJOURN

MOTION: Motion to Adjourn at 6:40 PM

VOTE: Motion by: Alderperson Stribl
Second by: Alderperson Kroupa
Motion 6-0

Respectfully Submitted,
Rubina R. Medina, City Clerk

REQUESTED ACTION STATEMENT

To: New Berlin Common Council

From: Alderman John Hopkins

Date: January 31, 2024

Requested Action:

To amend Section 6-7 of the City Code to remove references to the New Berlin Volunteer Fire Department and the procedure for dealing with vacancies in the office of Fire Chief.

Financial fiscal impact:

None.

Background/Rationale:

Section 6-7 of the City Code currently describes the composition of the Police and Fire Commission, as well as how members of that Commission are appointed and the term of those appointments. The Section as currently written also contains references to the New Berlin Volunteer Fire Department and references presentation of candidates for the position of Fire Chief when that position may become vacant. Since the City no longer has a Volunteer Fire Department and since the process for dealing with vacancies in the Department is dealt with under Wisconsin Statute Sec. 62.13, it is recommended that this Ordinance Section be amended to reflect these necessary changes.

Respectfully Submitted,

Alderman John Hopkins

JH/jb

STATE OF WISCONSIN : CITY OF NEW BERLIN : WAUKESHA COUNTY

ORDINANCE NO. 2690

ORDINANCE TO AMEND SECTION 6-7 OF THE CITY OF NEW BERLIN MUNICIPAL CODE REGARDING THE POLICE & FIRE COMMISSION

The Common Council of the City of New Berlin do ordain as follows:

SECTION I

Section 6-7 of the Municipal Code of the City of New Berlin is hereby amended to read as follows:

6-7 Police and Fire Commission

The Police and Fire Commission shall consist of five citizens, one of whom shall be appointed annually by the Mayor, subject to confirmation by the City Council, for a term of five years pursuant to §62.13, Wis. Stats. The Commission shall have the powers and duties prescribed by §62.13, Wis. Stats.

SECTION II

All Ordinances or parts of Ordinances contravening the terms and conditions of this Ordinance are hereby to that extent repealed.

SECTION III

The several sections of this Ordinance shall be considered severable. If any section shall be considered by a court of competent jurisdiction to be invalid, such a decision shall not affect the validity of the other portions of the Ordinance.

SECTION IV

This Ordinance shall take effect upon passage and publication as approved by law, and the City Clerk shall so amend the Code of Ordinances of the City of New Berlin and shall indicate the date and number of this amending ordinance therein.

PASSED AND ADOPTED by the Common Council this _____ day of _____, 2024.

APPROVED:

Countersigned:

_____
David Ament, Mayor

_____
Rubina R. Medina, Clerk

REQUESTED ACTION STATEMENT

TO:	**Common Council** **Mayor Dave Ament**
FROM:	**Joe Stribl, Alderman 5th District**
RE:	**Requested Action Statement for the approval to revisit the RFP process looking for Companies to erect a Digital Out Of Home Sign near the intersection of Wall Street and Moorland Rd on the ARC Property**
DATE:	**Feb 13th, 2024**
REQUESTED ACTION:	**Requested Action Statement for the approval to revisit the RFP process looking for companies to erect a two-sided Digital Out Of Home Sign near the intersection of Wall Street and Moorland Rd on the ARC Property**
FISCAL IMAPCT:	**None**
SOURCE OF FUNDS:	**N/A**

RATIONALE / BACKGROUND:

The Community Development office has been working on this project and it was first brought up and presented three years ago with no pushback from that council at the time. We would like to revisit this and get a consensus from this council on this project. The goal would be to select an Out of Home Company with the best favorable terms to run and operate and a two-sided Digital Out of Home sign. The profits from this could be directed to debt service for the Arc as this was our initial plan. We will select the provider who can meet the design standards as well as projected revenue terms that best support the city and current market conditions. Most leases are for 15 years. So we would be looking at revenue for 15+ years.