Jerome Delvin, *District 1*
Michael Alvarez, *District 2*
Will McKay, *District 3*

Jerrod MacPherson
County Administrator
Matt Rasmussen
Deputy County Administrator

Agenda – Board of County Commissioners

To view items in detail, click highlighted areas.

Regular Board of Commissioners Meeting
Tuesday, March 28, 2023 9:00 AM
Benton County Courthouse, Prosser, WA

Notice: Meeting provided in-person, by live-broadcast and telephonically via WebEx (linked below):
https://www.co.benton.wa.us/agenda/commissioners

Call to Order

Pledge of Allegiance

Approval of Minutes: March 21, 2023

Review Agenda

Public Comment

To provide public comment, please come forward (if in-person), call 509-460-4941, or raise your hand in WebEx. Once called upon by the Chairman, state your name and address for the record and keep comments to 3 minutes or less.

Consent Agenda

Commissioners

a. Amendment 1 to Resolution 2022-877 Adopting the Final 2023-2024 Benton County Budgets
b. Amending Board Organization - 2023
c. Appointment of Non-Elected Members to the Benton Franklin Board of Health

Information Technology

d. Annual License Fee for Spatialest Comper, Property Record Card and Community for Assessor's Office From Spatialest, Inc.
e. Agreement w/Pend Oreille County for OnBase Administrator Services for Superior & District Court
f. Purchase of One Apple iPad Pro Tablet From StrictlyTech LLC for Superior Court Administration

Juvenile Justice

g. Contract w/Crest Counseling Services Crest Counseling Services for First-Time Adjudicated Sex Offender Treatment
h. Contract Amendment No. 3 w/Ideal Option for Medical Services to Detention Youth
i. Contract w/Cummins Sales & Services for Generator Services

Office of Public Defense

j. Superior Court Public Defense Services Agreement w/Kristen Du Bruille

Public Works

k. Certification of Road Fund Expenditures for Traffic Law Enforcement, Fish Passage Barrier Removal & Annual Certification

Purchasing

l. Purchase of Premark Thermoplastic Markings From TraffiCare, LLC for Public Works
m. Contract w/Sierra Electric, Inc. for On-Call Electrical Maintenance
n. Adopting Benton County Lease Policy
o. Agreement w/JRT Mechanical, Inc. for the Coroner's Autopsy Ventilation Upgrade Project
p. Purchase of HVAC Controls Equipment & Software From Basin Building Solutions for the Justice Center Building

Other Business

Executive Session

Review the Performance of a Public Employee ~ R Heard

Adjournment

MINUTES

BOARD OF BENTON COUNTY COMMISSIONERS

Draft

Regular Board Meeting
Benton County Courthouse, Prosser, WA
Tuesday, March 21, 2023, 9:00 a.m.
Meeting provided in-person, by Video Live-Broadcast and Telephonically via/WebEx

Present: Chairman Will McKay
Commissioner Michael Alvarez
County Administrator Jerrod MacPherson
Clerk of the Board Cami McKenzie

Absent: Commissioner Jerome Delvin (Excused)

Benton County Employees Present During All or a Portion of the Meeting: Deputy County Administrator Matt Rasmussen; Robert Heard, IT Manager; Public Works Manager Matt Mahoney; Michelle Cooke, Planning Manager; Carlee Nave, HR Manager; Greg Wendt, Community Development Director; Treasurer Ken Spencer; DPA Ryan Brown; DPA Steve Hallstrom; Robert Blain, Capital Projects Manager; Auditor Brenda Chilton; Amanda Hatfield, Elections.

Pledge of Allegiance

The Board recited the Pledge of Allegiance.

Approval of Minutes

The Minutes of March 14, 2023 were approved.

Review Agenda

Add the following items:

- Approval of Property Access Agreements for the Recovery Center
- Commissioners' Office Reorganization
- Executive Session – Potential Litigation
- Executive Session – Review Qualifications of Applicant for Public Employment

Public Comment

Tina Gregory, Kennewick (via/WebEx) expressed concerns about local action and standing against big pharma.

Consent Agenda

MOTION: Commissioner Alvarez moved to approve the consent agenda items "a" through "s". Commissioner McKay seconded and upon vote, the Board approved the following:

Corrections

a. Contract w/WA State Health Care Authority for Substance Use Disorder Services @ the Jail
b. Agreement w/City of Richland for Work Crew Program

Human Resources

c. Reappointment of Mary Hutchins to the Benton County Civil Service Commission
d. Reappointment of Paul Hart to the Benton County Civil Service Commission
e. Settlement Agreement and Release w/Teamsters Local 839 Representing Sheriff's Office & Corrections Dept Clerical Employees
f. Agreement w/Teamsters Local 839, Representing Road Department Employees

Information Technology

g. Renewing Twelve-Month Microsoft Enterprise Services Work Order w/Microsoft Corporation

Juvenile

h. Contract w/Comprehensive Healthcare for Multi-Systemic Therapy Service Delivery
i. Contract w/Comprehensive Healthcare for Outpatient Treatment Services
j. Rejecting Western States Equipment Bid for the Generator Maintenance

Office of Public Defense

k. Line Item Transfer, Fund No. 0010, Dept. No. 136
l. Superior Court Public Defense Services Agreement w/Angela Garratt

Purchasing

m. Agreement w/Cintas for Uniforms, Laundering & Facilities Services @ the Moderate Risk Waste Facility
n. Accepting Work Performed by Apollo Mechanical Contractors for the Courtroom HVAC Project @ the Kennewick Justice Center
o. Accepting Work Performed by Double J Excavating, Inc. for the Roadside Improvements Project
p. Contract w/Yoder, Inc. for As Needed Repair & Maintenance Services for Jail Kitchen Equipment

Sheriff

q. Contract w/Pronto Process Service, Inc. for Process & Delivery Services
r. Statement of Work w/Trinity Tactical Consulting LLC for Officer Wellness Programs

Sustainable Development

s. Support Letter for the Pacific Northwest Hydrogen Hub Community Benefits Plan

Public Hearing - Short Plat Vacation - SPV 2023-001

Michelle Cooke presented the Short Plat Vacation for vacation and relocation of a 20-foot emergency access and turnaround easement on Lot 2 of Short Plat 3310 to allow for additional usable area on the south side of the property for an onsite septic system. The applicant is proposing

to record a new emergency access and turnaround easement to replace the easement being vacated. Owners of property within 300 feet and all concerned agencies were notified and no objections or concerns were received to date.

The Planning Division, based on the information received, recommended approval as presented.

As there was no one present to testify, public testimony was closed.

MOTION: Commissioner Alvarez moved to approve the vacation of the twenty (20) foot emergency access and turnaround easement located on Lot 2 of Short Plat 3310, with the condition that the applicant record a new emergency access and turnaround easement on Lot 2 of Short Plat 3310 with the Benton County Auditor. The document must be recorded within 1 year of the date of approval by the Benton County Board of Commissioners or this approval will be null and void. Commissioner McKay seconded and upon vote, the motion carried.

Benton Franklin Behavioral Health Advisory Committee Update

BJ Olson, Chairman, updated the Board on the Benton Franklin Behavioral Health Advisory Committee as follows:

- Establishing the Committee Members
- Requests for Proposal – initially only one was received so a second RFP dividing up the system of care was proposed, and two proposals were received and currently scheduled to be interviewed. There was a misunderstanding by the original contractor that proposed, so they were revising their proposal and the Committee would also meet with that contractor
- Mobile Crisis Teams
- Crisis Response Center – Phased Implementation
- Mental Health Treatment Needs
- Substance Abuse Treatment Needs
- Workforce Development – due to a shortage of mental health providers, they were exploring with trainers and educational institutions what was needed to develop a plan for recruitment
- Public Communications
- Finance and Facilities

Agreement w/City of West Richland for Revision of Corporate Boundary

Matt Mahoney presented the agreement with the City of West Richland for revision of corporate boundary. The City of West Richland was seeking to revise a portion of the corporate boundary of the city that coincides with the north right of way line of SR 224 in coordination with Benton County, and the support of WSDOT. The proposed revision will not affect Benton County's calculation for gas tax revenues.

If the Board approved the Agreement, Mr. Mahoney said he would forward it to the City of West Richland for approval at the same time as their public hearing. After that time, he would forward the fully signed agreement to the Clerk of the Board.

MOTION: Commissioner Alvarez moved to approve the agreement between Benton County and the City of West Richland for the revision of corporate boundary for the City of West Richland as presented. Chairman McKay seconded.

Discussion

Chairman McKay asked about the maintenance issues and whether Benton County would have to maintain anything. Mr. Mahoney stated the City of West Richland and DOT would work out the maintenance agreement. Upon vote, the motion carried.

Capital Projects Update

Robert Blain said the County took possession of the old fire station and he was proposing to remodel the newly acquired fire station building to permanently house the Voting Center. This would align with the County's goal of bringing the majority of County services onto one central campus to better serve the citizens of Benton County. He said the estimate to complete both the remodel of the building and the construction of a new access road off Quinault Ave was $2.2 million dollars, to be paid from Capital Projects Fund.

The Auditor currently had a voting center at River's Edge Plaza, and they would vacate that lease and move into the new facility.

Auditor Brenda Chilton said they excited about this project and a number of years ago they put together a strategic plan that included moving Elections to the Tri-Cities and they did that, however, paid quite a bit of rent there. Additionally, they needed long term storage and a better reception area for voters. He said they were working with the Board and Mr. Blain on a plan that really optimized the facility, including security, both physical and cyber security. Additionally, it was important the public had confidence in the system, and they were going to be able to do that at this location and make the necessary modifications and gain some efficiencies.

The Board agreed to move forward with the project as presented.

Other Business

Property Access Agreements – Recovery Center

Matt Rasmussen said a grant program was identified through Benton-Franklin COG that required studies to be done as part of the grant program. He said the County would have to pay for these studies anyway, but by signing the access agreements, now COG would be paying for those studies. He requested the Board approve the access agreements to those facilities to complete the studies.

MOTION: Commissioner Alvarez moved to approve the property access agreements between Benton County and Stantec Consulting Services and authorize the Chairman to sign on behalf of Benton County. Commissioner McKay seconded and upon vote, the motion carried.

Commissioners' Office Reorganization

Matt Rasmussen said GIS and Facilities previously adopted a reorganization that left enough funding to create a new position for an Administrative Assistant. They identified a need for a grant manager as there were several grants currently being pursued, as well as looking at economic development, real property management, administrative assistance, and grant programs for Benton County. He said they proposed the existing classification of Administrative Assistant and would use the funding saved and create the position. He said this would still leave $36,000.00 in savings.

MOTION: Commissioner Alvarez moved to approve the Line Item Transfer in the amount of $223,725.00 for the General Fund, Dept. 107 and 131 as presented. Commissioner McKay seconded and upon vote, the motion carried.

The Board briefly recessed, reconvening at 9:43 a.m.

Executive Session – Potential Litigation

The Board went into executive session at 9:45 a.m. for up to 30 minutes to discuss potential litigation. Also present were Carlee Nave, Stephen Hallstrom, Beth Kennar (Risk Pool), Jerrod MacPherson, and Matt Rasmussen.

The Board came out at 10:14 a.m. No decisions were made in executive session.

Executive Session – Review Qualifications of Applicant for Public Employment

The Board went into executive session at 10:14 a.m. for up to five minutes to review the qualifications of an applicant for public employment. Also present were Carlee Nave, Jerrod MacPherson, Matt Rasmussen, and Cami McKenzie.

The Board came out at 10:19 a.m. No decisions were made in executive session.

MOTION: Commissioner Alvarez moved to approve the Salary Request Form as presented for the Communications Coordinator at a Non-Bargaining Grade 17D. Chairman McKay seconded and upon vote, the motion carried.

Other Business – Continued

Law & Justice Council – Public Safety Sales Tax

Commissioner Alvarez asked about the recommendations provided and who was in charge of writing the factual ballot measure language. Mr. Rasmussen said the Law & Justice Council was

ready to meet if there were any additional questions, and each jurisdiction sent what they spent tax dollars on. He said the next step was for the PA to write the ballot measure for the Board's approval by August. He said he would research who was in charge of writing the language for the Voter's pamphlet.

Girl Scouts

Commissioner Alvarez said the CEO of the Girl Scouts would be sending each of the Board members VIP special patches.

Noise/Distraction During Board Meetings

Commissioner Alvarez discussed noise and distraction coming from the hall during the Board meetings and made some suggestions on how to reduce that. Mr. Rasmussen said they would look at options.

Payroll

Check Date: 03/15/2023

Payroll Draw Checks
Total all funds: $110,758.25
Warrant #: 244076-244077
Direct Deposit #: 178791-178927

Payroll Draw Deductions/Transfers
Total all funds: $20,060.26
ACH #: 589

Accounts Payable

Check Date: 03/17/2023

Warrants #: 243633-243869
Total all funds: $2,755,743.13

EFT's #: 339-348
Transfers #: 557-563, 567-571, 574-579, 581-582, 588, 590-591
Total all funds: $76,021.41

Resolutions

2023-243: Contract w/WA State Health Care Authority for Substance Use Disorder Services @ the Jail

2023-244: Agreement w/City of Richland for Work Crew Program

2023-245: Reappointment of Mary Hutchins to the Benton County Civil Service Commission

2023-246: Reappointment of Paul Hart to the Benton County Civil Service Commission

2023-247: Settlement Agreement and Release w/Teamsters Local 839 Representing Sheriff's Office & Corrections Dept Clerical Employees

2023-248: Agreement w/Teamsters Local 839, Representing Road Department Employees

2023-249: Renewing Twelve-Month Microsoft Enterprise Services Work Order w/Microsoft Corporation

2023-250: Contract w/Comprehensive Healthcare for Multi-Systemic Therapy Service Delivery

2023-251: Contract w/Comprehensive Healthcare for Outpatient Treatment Services

2023-252: Bi-County - Rejecting Western States Equipment Bid for the Generator Maintenance

2023-253: Line Item Transfer, Fund No. 0010, Dept. No. 136

2023-254: Superior Court Public Defense Services Agreement w/Angela Garratt

2023-255: Agreement w/Cintas for Uniforms, Laundering & Facilities Services @ the Moderate Risk Waste Facility

2023-256: Accepting Work Performed by Apollo Mechanical Contractors for the Courtroom HVAC Project @ the Kennewick Justice Center

2023-257: Accepting Work Performed by Double J Excavating, Inc. for the Roadside Improvements Project

2023-258: Contract w/Yoder, Inc. for As Needed Repair & Maintenance Services for Jail Kitchen Equipment

2023-259: Contract w/Pronto Process Service, Inc. for Process & Delivery Services

2023-260: Statement of Work w/Trinity Tactical Consulting LLC for Officer Wellness Programs

2023-261: Agreement w/City of West Richland for Revision of Corporate Boundary

2023-262: Approving Property Access Agreements Between Benton County and Stantec Consulting Services

2023-263: Transfer of Funds Within General Fund Number 0010 Department Number 107 and 131

There being no further business before the Board, the meeting adjourned at approximately 10:25 a.m.

_____ _____

Clerk of the Board Chairman

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	3/28/2023
Subject:	Amendment 1 to Resolution 2022-877 Adopting the Final 2023-2024 Benton County Budgets
Presenter:	
Prepared By:	Linda Ivey
Reviewed By:	Matt Rasmussen

PA Review, Approval to Form: ☐ Yes ☐ No ☒ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☐ Execute Contract

Summary / Background Information

The Benton County Board of Commissioners adopted the Final 2023-2024 Benton County Budgets by Resolution 2022-877. Amendment 1 to Resolution 2022-877 accommodates for compliance with GASB 87 (Governmental Accounting Standard Board Statement No. 87) Leases.

GASB 87 is effective for fiscal year 2022 and applies to leases of tangible capital assets- including buildings, land, and equipment.

Applicable Leases will be accounted for in the County's Financial System in Debt Service Principal and Debt Service Interest and Issuance Costs (57000's and 57008's), within each Department. Currently the applicable Leases are accounted for in Supplies and Services (53000's and 54000's). The Capital Outlay will be accounted for in Capital Outlay-Leases (56601).

Fiscal Impact

None- is a clerical correction for accounting purposes.

Departments will need to line-item transfer budget from Supplies & Services to Debt Service Principal and Debt Service Interest and Issuance Costs in 2023.

The 2022 clerical correction will be completed by the Commissioners' staff.

Recommendation

The Finance Manager recommends the Benton County Board of Commissioners pass the Resolution. Move to Approve Amendment 1 to Resolution 2022-877 Adopting the Final 2023-2024 Benton County Budgets.

Suggested Motion

Approved as part of the consent agenda.

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF ADOPTING THE FINAL 2023-2024 BENTON COUNTY BUDGETS RE: APPROVAL OF AMENDMENT 1 TO RESOLUTION 2022-877 ADOPTING THE FINAL 2023-2024 BENTON COUNTY BUDGETS

WHEREAS, the Board of Benton County Commissioners adopted the Final 2023 – 2024 Benton County Budgets by Resolution 2022-877; and

WHEREAS, the Board of Benton County Commissioners desire to add to Resolution 2022-877 to accommodate compliance with GASB 87; **NOW THEREFORE,**

BE IT RESOLVED, that the Board of Benton County Commissioners hereby approves the following Amendment 1 to add to the Adoption the Final 2023 – 2024 Benton County Budget, Resolution 2022-877; and

BE IT FURTHER RESOLVED, line item transfers to/from a Debt Service Principal and Debt Service Interest and Issuance Costs (57000's and 58000's) to/from a Supplies (53000's) or Services (54000's) within each department will not need Board approval; and

BE IT FURTHER RESOLVED, Capital outlays (56000's) are adopted by the Board of Benton County Commissioners at the category level within each department with the exception of Capital Outlay Leases (56601), which is associated with GASB 87 and Leases, and is not budget checked; and

BE IT FURTHER RESOLVED, due to the clerical correction for accounting purposes to comply with GASB 87 in budget year 2022, and the initial 2022 expenses related to GASB 87 went through the 2022 budget check process, it is unnecessary to move 2022 budget for the clerical correction.

Dated this_____ day of _____, 2023.

_____
Chairman of the Board

_____
Commissioner

_____
Commissioner

Constituting the Board of Commissioners
of Benton County, Washington.

Attest.....
Clerk of the Board

Orig: Commissioners' Office
CC: All Dept; Auditor, Intranet

Prepared by Linda Ivey

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Amendment to Board Organization 2023
Presenter:	
Prepared By:	Cami McKenzie
Reviewed By:	Jerrod MacPherson

PA Review, Approval to Form: ☐ Yes ☐ No ☒ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☐ Execute Contract

Summary / Background Information

At the March 15, 2023 meeting, the Benton Franklin Board of Health recommended changing from three Commissioners to two Commissioners from each County.

Additionally, update the Resolution to include the new Communications Coordinator position on two committees, as well as change the name of the Benton Clean Air Authority to Agency and remove the Tri-County Metropolitan Transportation Board, which is no longer an active board.

Fiscal Impact

None.

Recommendation

Recommend the Board approve the Resolution amending the Organization of Benton County Commissioners for the Year 2023 as presented.

In accordance with WAC 246-90-030, the new Bi-County Board of Health shall become effective on April 19, 2023 and the current Bi-County Health Board will remain the same until that date.

New members: Michael Alvarez, Will McKay, and Jerome Delvin, Alt.

Suggested Motion

Approve as part of consent agenda.

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON

IN THE MATTER OF ORGANIZATION OF BENTON COUNTY COMMISSIONERS FOR THE YEAR 2023; RESCINDING RESOLUTION 2023-005

NOW, THEREFORE, BE IT HEREBY RESOLVED that the following constitutes the organization of the Benton County Commissioners and staff for the Year 2023 effective upon execution of this resolution.

CHAIRMAN OF THE BOARD ..... Will McKay

CHAIRMAN PRO TEM ..... Jerome Delvin

COUNTY ADMINISTRATOR ..... Jerrod MacPherson

CLERK OF THE BOARD ..... Cami McKenzie
..... Marilu Flores, Alt.

BENTON COUNTY ENGINEER ..... Matt Rasmussen

BENTON COUNTY PEST BOARD SUPERINTENDENT ..... Frank Wolf

BENTON COUNTY PURCHASING AGENT ..... Robert Blain

BENTON COUNTY WSU EXTENSION DIRECTOR ..... Gwen-Alyn Hoheisel

ACCESSIBLE COMMUNITIES ADVISORY COMMITTEE ..... Brenda Chilton
..... Glenn Vaagan

BI-PIN ..... Jerrod MacPherson
Matt Rasmussen, Alt.

BENTON-FRANKLIN REGIONAL REVOLVING LOAN FUND BOARD ..... Will McKay
..... Jerome Delvin, Alt.

BEN FRANKLIN TRANSIT BOARD ..... Will McKay
..... Michael Alvarez, Alt.

BENTON CITY LIBRARY CAPITAL FACILITIES AREA BOARD ..... Jerome Delvin
..... Michael Alvarez
..... Will McKay

BENTON CLEAN AIR AGENCY ..... Will McKay
..... Jerome Delvin, Alt.

BENTON COUNTY EMERGENCY SERVICES BOARD.....Michael Alvarez
.....Matt Rasmussen, Alt.

BENTON COUNTY FINANCE COMMITTEE (rotate w/chair) ..... Will McKay

BENTON COUNTY HISTORICAL PRESERVATION COMMITTEE..... Glenn Vaagan

BENTON COUNTY LEOFF DISABILITY BOARD.....Michael Alvarez

BENTON-FRANKLIN COUNCIL OF GOVERNMENTS .....Michael Alvarez
..... Will McKay, Alt.

BENTON-FRANKLIN LAW LIBRARY BOARD.....Jerome Delvin

BI-COUNTY HEALTH BOARD .....Michael Alvarez
..... Will McKay
.....Jerome Delvin, Alt.

*(The new Bi-County Health Board, which will include 4 non-elected members and 4 elected County Commissioners - 2 from Benton County and 2 from Franklin County – in accordance with WAC 246-90-030, shall become effective on April 19, 2023 and the current Bi-County Health Board will remain the same until that date)

COLUMBIA REGIONAL ECONOMIC DEVELOPMENT TRUST (CREDIT) ..... Will McKay

ENERGY COMMUNITIES ALLIANCE.....Jerome Delvin
.....Michael Alvarez
..... Adam Fyall, Alt.

GREATER COLUMBIA BEHAVIORAL HEALTH (ASO).....Michael Alvarez
Kyle Sullivan, Alt.

HANFORD ADVISORY BOARD .....Bob Suyama
..... Pam Larsen, Alt.

HANFORD AREA ECONOMIC INVESTMENT FUND COMMITTEE…. ..... Will McKay

HANFORD COMMUNITIES..... Governing Board – Jerome Delvin
.....Administrative Board – Adam Fyall

HOMELESS HOUSING..... Kyle Sullivan

HUMAN SERVICES ADMINISTRATOR ..... Kyle Sullivan

METRO .....Michael Alvarez
.....Matt Rasmussen, Alt.

NATIONAL ASSOCIATION OF COUNTIES (NACo).....Jerome Delvin

PARK BOARD ..... Adam Fyall

PROSSER ECONOMIC DEVELOPMENT ASSOCIATION (ex-officio).....Michael Alvarez

SOLID WASTE ADVISORY COMMITTEE ..... Will McKay
Matt Mahoney, Alt.

TRI-CITIES RIVERSHORE ENHANCEMENT COMMITTEE (TREC)
..... Strategic Committee – Adam Fyall
.....Technical Committee – Adam Fyall

TRI-CITY REGIONAL CHAMBER OF COMMERCE (ex-officio) ..... Will McKay

TRI-CITY VISITOR & CONVENTION BUREAU..... Will McKay

TRIDEC..... Will McKay
Jerome Delvin, Alt.

WASHINGTON COUNTIES INSURANCE FUND.....Jerome Delvin
Carlee Nave, Alt.

WASHINGTON STATE ASSOCIATION OF COUNTIES (WSAC)
Legislative Steering Committee (LSC) TRANSPORTATION ASSOCIATION..Michael Alvarez
Board of Directors ..... Will McKay
..... Michael Alvarez, Alt.
Columbia River Caucus.....Jerome Delvin

WEST RICHLAND AREA CHAMBER OF COMMERCE.....Jerome Delvin

WORKFORCE DEVELOPMENT COUNCIL..... Will McKay
Michael Alverez, Alt.

YAKIMA FISH & WILDLIFE RECOVERY BOARD .....Michael Alvarez
Adam Fyall, Alt.

YAKIMA BASIN INTEGRATED PLAN.....Michael Alvarez
Adam Fyall, Alt.

Dated this _____ day of March 2023.

_____
Chairman

ATTEST:

_____
Chairman Pro-Tem

_____
Clerk of the Board

_____
Commissioner
Constituting the Board of
Benton County Commissioners

cc: BOCC; Admin; website

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Appointment of Non-Elected Members to the Benton Franklin Board of Health
Presenter:	
Prepared By:	Cami McKenzie
Reviewed By:	Jerrod MacPherson

PA Review, Approval to Form: ☐ Yes ☐ No ☒ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☐ Execute Contract

Summary / Background Information

At the March 15, 2023 meeting, the Benton Franklin Board of Health took action to formally select and recommend non-elected member positions to the Benton Franklin Board of Health.

Per WAC 246-90-030, non-elected members of a local Board of Health shall be approved and appointed by a majority vote of the Board of County Commissioners.

Fiscal Impact

None.

Recommendation

Recommend the Board approve the Resolution to appoint the following non-elected members to the Benton Franklin Board of Health, effective April 19, 2023:

- Category: Public Health, Health Care Facilities, and Providers – Kathleen Nusbaum
- Category: Consumers of Public Health – Dr. Wassim Khawandi
- Category: Community Stakeholder – Marcella (Marcie) Appel

Suggested Motion

Approve as part of consent agenda.

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF APPOINTMENT OF NON-ELECTED MEMBERS TO THE BENTON FRANKLIN BOARD OF HEALTH

WHEREAS, at the March 15, 2023 meeting, the Benton Franklin Board of Health took action to formally select and recommend non-elected member positions to the Board of Health; and

WHEREAS, per WAC 246-90-030, non-elected members of a local Board of Health shall be approved and appointed by a majority vote of the Board of County Commissioners; and

WHEREAS, the Benton Franklin Board of Health would like to have the newly non-elected members in place prior to the April 19, 2023 regular Board of Health meeting;

NOW, THEREFORE,

BE IT RESOLVED the Board of Benton County Commissioners hereby appoints the following non-elected members to the Benton Franklin Board of Health, effective April 19, 2023:

- Category: Public Health, Health Care Facilities, and Providers – Kathleen Nusbaum
- Category: Consumers of Public Health – Dr. Wassim Khawandi
- Category: Community Stakeholder – Marcella (Marcie) Appel

Dated this . . . . . day of . . . . . , 2023.

Chairman of the Board

Chairman Pro Tem

Commissioner

Constituting the Board of County Commissioners of Benton County, Washington

Attest: . . . . . .
Clerk of the Board

cc: Admin; Commissioners; Benton Franklin Board of Health C. McKenzie

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Approving an Annual License Fee for Spatialest Comper, Property Record Card, and Community for the Assessor's Office from Spatialest Inc.
Presenter:	
Prepared By:	Robert Heard
Reviewed By:	Procurement Department

PA Review, Approval to Form: ☐ Yes ☐ No ☒ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☐ Execute Contract

Summary / Background Information

On October 24, 2017, per Resolution 2017-703, the Board approved the use of Spatialest as a complimentary software suite to the Assessor and Treasurer Property Assessment and Collection (PACS) system used to manage Benton County's property tax and collection processes. In addition to PACS, Spatialest is integrated with the county map which provides the public a singular visual for taxpayers to view their property values and other relevant property information.

The Benton County Assessor's Office has built many Spatialest processes that help evaluate properties including special toolsets for consolidating parcel and property details, aid in value sanitation, review of relevant sales information, check permits, deeds and tax bills.

Fiscal Impact

Amount: **$61,740 excluding WSST.**

Fund: **Information Technology (IT) approved 2023-2024 funds.**

Recommendation

Recommend the Board of Benton County Commissioners approve an annual license fee for Spatialest Comper, Property Record Card, and Community for the Assessor's Office in an amount not to exceed $61,740 excluding Washington State Sales Tax.

Suggested Motion

Consent Agenda

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF APPROVING AN ANNUAL LICENSE FEE FOR SPATIALEST COMPER, PROPERTY RECORD CARD, AND COMMUNITY FOR THE ASSESSOR'S OFFICE FROM SPATIALEST INC.

WHEREAS, ensuring fair and equitable property appraisal is a fundamental task of the Assessor's Office; and

WHEREAS, on October 23, 2017, per Resolution 2017-703, the Board approved the purchase of Spatialest software suite used to evaluate properties in Benton County for taxation purposes; and

WHEREAS, since 2017, the Assessor's Office has created several processes using Spatialest Comper (comparable sales data), Property Record Card, and Community modules to meet the changing needs of property assessments; and

WHEREAS, the Assessor has reviewed the annual Spatialest license fee and recommends that the Board approve the annual license fee payment so that Assessor staff may continue using Spatialest's special toolset; **NOW, THEREFORE,**

BE IT RESOLVED, the Board of Benton County Commissioners hereby concurs with the Assessor's recommendation and approves an annual license fee for Spatialest Comper, Property Record Card, and Community for the Assessor's Office from Spatialest Inc. in the amount not to exceed $61,740 excluding Washington State Sales Tax using approved Information Technology Department 2023-2024 budgeted funds; and

BE IT FURTHER RESOLVED, the Board authorizes the Information Technology Manager to renew the annual license fee for Spatialest Comper, Property Record Card, and Community in 2024.

Dated this 28 day of March , 2023

_____
Chairman of the Board

_____
Chairman Pro-Tem

_____
Commissioner

Constituting the Board of County Commissioners
of Benton County, Washington

Attest: _____
Clerk of the Board

Orig: Information Technology
cc: Auditor, Assessor

Prepared by: R. Heard

Spatialest Inc
15720 Brixham Hill Ave, Suite 300
Charlotte
NC 28277

Invoice

BENTON WA
5600 W Canal Dr.
Kennewick, WA 99336
United States

Invoice Number:	200866
Invoice Date:	11/30/2022
Due Date:	12/30/2022
Account:	BENT01
Purchase Order:	

Qty	Description	Rate	Total	Sales Tax
1	Annual Licence Fee for Spatialest to 24th Oct 23 (Includes 5% increase on original contact price Oct 2017)	23,100.00	23,100.00	1,986.60
1	Annual Licence Fee for Comper to 24th Oct 23 (Includes 5% increase on original contact price Oct 2017)	13,440.00	13,440.00	1,155.84
1	Annual Licence Fee for Property Record Card to 24th Oct 23 (Includes 5% increase on original contact price Oct 2017)	12,600.00	12,600.00	1,083.60
1	Annual Licence Fee for Community to 24th Oct 23 (Includes 5% increase on original contact price Oct 2017)	12,600.00	12,600.00	1,083.60

Total Net Amount:	$61,740.00
Sales Tax @ 8.6%:	$5,309.64
Invoice Total:	$67,049.64

Please make checks payable to Spatialest Inc and send to
Spatialest Inc
15720 Brixham Hill Ave
Suite 300
Charlotte NC 28277

RESOLUTION 2017 703

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF AUTHORIZING THE PURCHASE OF SPATIALEST APPRAISAL TOOLSET, COMPER, PROPERTY RECORD CARD, COMMUNITY INCLUDING IMPLEMENTATION, TRAINING, SET-UP, CALIBRATION AND DATA UPLOAD COSTS FROM SPATIALEST, DELAND, FLORIDA, FOR USE BY THE ASSESSOR'S OFFICE.

WHEREAS, ensuring fair and equitable property appraisal if a fundamental task of the Assessor's office; and

WHEREAS, the Benton County Assessor has researched an appraisal toolset to supplement the Property Assessment and Collection System(PACS) currently in use by Benton County departments; and

WHEREAS, after review, the Benton County Assessor has chosen Spatialest's Appraisal Toolset, Comper(Comparable Sales data), Property Record Card, and Community modules as the best solutions to meet the needs of his office; and

WHEREAS, Spatialest software suite, including Appraisal Toolset, Comper, Property Record Card, and Community are sole source; and

WHEREAS, a discounted quote was received by the Benton County Assessor's office for Spatialest Appraisal Toolset, Comper, Property Record Card, Community including where appropriate Training, Implementation, Set-up, Calibration and Data Upload fees; and

WHEREAS, the Assessor has reviewed the quote, made a presentation to the Board of County Commissioners and recommends the Spatialest products listed above as the most advantageous to the county with price and other factors considered; NOW, THEREFORE,

BE IT RESOLVED, that the Board of Benton County Commissioners, Benton County Washington authorizes Information Technology to purchase Spatialest Appraisal Toolset, Comper, Property Record Card, Community including Training, Implementation, Set-up Calibration and Data Upload costs from Spatialest, for an amount not to exceed $88,800 excluding Washington State Sales Tax; and

BE IT FURTHER RESOLVED, the Board of County Commissioners also approve the second year license and maintenance costs for these products not to exceed $58,800 excluding Washington State Sales Tax.

Dated this 24 day of Oct, 2017

Chairman of the Board

Member

Member

Attest: _____ Clerk of the Board

of Benton County, Washington.

Original: Central Services
Copies: Auditor

T Holmes

Teri Holmes

From: Bill Spencer
Sent: Tuesday, September 5, 2017 1:44 PM
To: Teri Holmes
Cc: Adam Morasch; Mary Christen
Subject: FW: Spatialest Quotes
Attachments: SpatialestProposal_BentonCoWA.PDF

Teri, the attached email is the discounted setup and first year...the PDF is what the org. proposal was and then yearly support etc....

Thank you,

Bill Spencer
Assessor
Benton County Assessor | 509.735.2394 ext. 2517
www.co.benton.wa.us | 5600 W. Canal Dr., Ste E, Kennewick WA 99336

CONFIDENTIALITY NOTICE:
This e-mail transmission may contain confidential information. This information is solely for the use of the individual(s) or entity to whom or which it was intended. If not an intended recipient, any review, copying, printing, disclosure, distribution or any other use is strictly prohibited.
If you have received this email in error, please immediately notify the sender by reply e-mail. Please delete this e-mail from your files if you are not the intended recipient. Thank you.

From: Ian Lamont [mailto:ian.lamont@spatialest.com]
Sent: Monday, September 04, 2017 5:42 AM
To: Bill Spencer <Bill.Spencer@co.benton.wa.us>
Cc: Adam Morasch <Adam.Morasch@co.benton.wa.us>
Subject: RE: Spatialest Quotes

Hi Bill,
Apologies for the delay in providing these as I took a few days of vacation time. Included below is a proposed cost structure for the acquisition of the suite of Spatialest Appraisal Solutions. I can provide this as a formal quotation with headed notepaper if required.

I hope you had a great Memorial Day weekend and thank you for your continued interest in the suite of Appraisal Tools from Spatialest.

Regards,
Ian

Item	Description	Cost ($)
1	Spatialest Appraisal Toolset	22,000
2	Spatialest Training, Implementation and Set Up (One time fee)	15,000
3	Comper	16,000
	Discount at 20%	-3,200
4	Comper Set up, calibration and data upload (One time fee)	3,000
5	Property Record Card	15,000
	Discount at 20%	-3,000
6	Property Record Card Set up, calibration and data upload (One time fee)	5,000
7	Community	15,000
	Discount at 20%	-3,000
8	Community Design, set up, calibration and data upload (One time fee)	7,000
	DISCOUNTED TOTAL	**88,800**

Spatialest

Ian Lamont
Director, Business Development
101 N Woodland Blvd, Suite A304, Deland, FL 32720
Cell: 615 856 8477 ¦ Office: 617 418 4531 ¦ Skype: 615 942-0583

From: Bill Spencer [mailto:Bill.Spencer@co.benton.wa.us]
Sent: Tuesday, August 29, 2017 11:19 PM
To: Ian Lamont <ian.lamont@spatialest.com>
Cc: Adam Morasch <Adam.Morasch@co.benton.wa.us>
Subject: RE: Spatialest Quotes

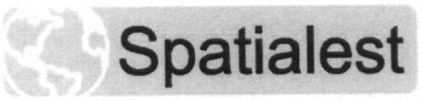
Ian,

Were you able to get those 4 deals worked up for me?

Hope you are having a good time in Denver!

Thank you,

Bill Spencer
Assessor
Benton County Assessor | 509.735.2394 ext. 2517
www.co.benton.wa.us | 5600 W. Canal Dr., Ste E, Kennewick WA 99336



Mr Bill Spencer
Benton County Assessor
7122 W Okanogan Pl
Bldg A
Kennewick, WA
99336

Spatialest Inc
101 N. Woodland
Blvd
Suite A304
Deland FL 32720

info@spatialest.com
www.spatialest.com

Cell: 615 856 8477
Office: 617 418 4531

21 July 2017

Dear Bill,

Re: Spatialest Appraisal Solutions

Please find below a quotation for Appraisal Toolsets by Spatialest for Benton County, WA. Training is optional but highly recommended.

An evaluation copy of the Spatialest Appraisal software is available but we highly recommend taking some training along with this to ensure a productive evaluation. An evaluation project costs $10,000 and includes a copy of the software for three months, a Spatialest Consultant onsite for 2 days to include set up, training and general assistance and support throughout the duration of the evaluation project. If the software is subsequently purchased then the Evaluation Project costs are discounted from the software licence.

Yours Sincerely,

Ian Lamont
Director, Business Development
Cell: 615 856 8477
Office: 617 418 4531

Spatialest Inc.

A. Product Description

Item	Description
1	Spatialest Appraisal Toolset
2	Comper
3	Property Record Card
4	Community

B. License Fees

Item	Description	Cost ($)
1	Spatialest Appraisal Toolset Annual License Fee	22,000
2	Comper Annual License Fee, Support, Maintenance, Hosting & Data Updates	16,000
3	Property Record Card Annual License Fee, Support, Maintenance, Hosting & Data Updates	15,000
4	Community Annual License Fee, Support, Maintenance, Hosting & Data Updates	15,000

C. Set Up Fees

Item	Description	Cost ($)
1	Spatialest Appraisal Toolset Training course, Installation and Set up	15,000
2	Comper Set up, Calibration and Data upload	3,000
3	Property Record Card Design, data upload, testing, deployent	5,000
4	Community Design, data upload, testing, deployment*	7,000

*Note: This is based on a standard package, details of which are attached separately.

D. Professional Services Fees

Item	Description	Cost ($)
1	Onsite per day	1,500
2	Offsite per day	1,000

E. Costs – Year One

Item	Description	Cost ($)
1	Spatialest Appraisal Toolset	22,000
2	Spatialest Training, Implementation and Set Up	15,000
3	Comper	16,000
4	Comper Set up, calibration and data upload	3,000
5	Property Record Card	15,000
6	Property Record Card	5,000
7	Community	15,000
8	Community Design and Deployment	7,000
	TOTAL	**98,000**

F. Costs – Subsequent Years

Item	Description	Cost ($)
1	Spatialest Appraisal Toolset	22,000
2	Comper	16,000
3	Property Record Card	15,000
4	Community	15,000
	TOTAL	**68,000**

Standard Community Functionality

Functionality
Charts
Pie, Line, Scatter, Column
Property / Permit / Sales Information
Search for Property by Parcel ID, Owner or Address
Include Property Characteristics
Include Property Images & Sketches (Client Hosted)
Include Image Server Hosting Services
Color Code & Select by Qualified / Unqualified Sales
Map Functions
Zoom In / Out
Zoom to Area
Previous Extent
Zoom to County Extent
Click to select a parcel
Clear Map
Thematic Map Layers with labels & legends
Select by User Defined Area (Polygon)
Select by Existing Geography
Highlight outline of selected parcel
Clickable Markers with mouse over popups
Distance measurement function
Area measurement function
Thematic Map Layers with % Opacity
Add ability to search for government facilities

Add parcel labels, such as ID, Owner or House Number viewable at an appropriate scale
Add Tour function
Export Functions
Print List
Add ability to generate a printable map with property information
Export List: Mailing List or Excel
External Data Sources
ESRI REST Integration
Socrata Integration

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Approving an Interlocal Agreement between Benton County and Pend Oreille County for Delivery of OnBase Administrator Services
Presenter:	
Prepared By:	Robert Heard
Reviewed By:	Procurement, Eric Andrews

PA Review, Approval to Form: ☒ Yes ☐ No ☐ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☒ Execute Contract

Summary / Background Information

Per Resolution 2023-097, the Board approved funds to pay for OnBase case management system support services\licenses for Superior Court Clerk and District Court from ImageSoft, Inc. Benton County's Superior Court Clerk is in the process of implementing ImageSoft's "TrueFiling" application, a public facing electronic court document filing system that allows the public to file court documents online. TrueFiling has the potential of improving Superior Court Clerk Office operations and compliment existing OnBase applications, workflows, and processes.

Pend Oreille County Superior Court Clerk hired a dedicated OnBase Administrator to help their county with their TrueFiling implementation and other OnBase superior court document applications, workflows, and processes. To help pay for their OnBase Administrator, Pend Oreille County has Interlocal Agreements with Chelan, Douglas, Klickitat, Skamania, and Walla Walla Counties who also see the value in having access to an OnBase Administrator. IT and Benton County Superior Court Clerk see the same benefit and have created an Interlocal Agreement with Pend Oreille County that would allow Benton County to use Pend Oreille County OnBase Administrator services.

Prosecuting Attorney's Office, Civil Division has reviewed and approved to form the Interlocal Agreement between Benton County and Pend Oreille County.

Fiscal Impact

Amount: **$18,500 excluding WSST.**

Fund: **Superior Court Clerk 2023-2024 Trial Court Improvement funds.**

Recommendation

Information Technology Department recommends that the Board approve the Interlocal Agreement between Benton County and Pend Oreille County for Delivery of OnBase Administrator Services in an amount not to exceed $18,500 excluding WSST.

Suggested Motion

Consent Agenda

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF APPROVING AN INTERLOCAL AGREEMENT BETWEEN BENTON COUNTY AND PEND OREILLE COUNTY FOR DELIVERY OF ONBASE ADMINISTRATOR SERVICES

WHEREAS, on January 31, 2023, per Resolution 2023-097, the Board approved funds to pay for OnBase case management system support services\licensing for Superior Court Clerk and District Court; and

WHEREAS, OnBase plays a critical part in the Superior Court Clerk's plans for a paperless court document system which includes "TrueFiling" an electronic court document system that the public can use to file court documents; and

WHEREAS, Pend Oreille County has a dedicated OnBase Administrator that helps Pend Oreille's Superior Court Clerk improve similar OnBase court document applications, workflows, and processes; and

WHEREAS, Chelan, Douglas, Klickitat, Skamania, and Walla Walla Counties see the value in having an OnBase Administrator and have Interlocal Agreements to share Pend Oreille County's OnBase Administrator services; and

WHEREAS, Benton County's Superior Court Clerk also sees the benefits of having access to an OnBase Administrator to help her office with implementing TrueFiling as well as helping improve existing court document workflows, and processes needed to support a fully paperless court document system; and

WHEREAS, the Information Technology Department fully supports the Superior Court Clerk's decision to use the OnBase Administrator services from Pend Oreille County; and

WHEREAS, the Prosecuting Attorney's Civil Division has reviewed the Interlocal Agreement between Benton County and Pend Oreille County for Delivery of OnBase Administrator Services and has approved to form; **NOW, THEREFORE,**

BE IT RESOLVED, the Board of Benton County Commissioners, Benton County, Washington, hereby approves the Interlocal Agreement between Benton County and Pend Oreille County including a payment not to exceed $18,500 excluding Washington State Sales Tax; and

BE IT FURTHER RESOLVED, upon signature by both Benton County and Pend Oreille County Board members, said Interlocal Agreement shall remain in effect for one year.

Dated this 28 day of March , 2023

_____
Chairman of the Board

_____
Chairman Pro-Tem

_____
Commissioner

Constituting the Board of County Commissioners
of Benton County, Washington

Attest: _____
Clerk of the Board

Orig: Information Technology
cc: Auditor, Superior Court Clerk

Prepared by: R. Heard

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INTERLOCAL AGREEMENT BETWEEN BENTON COUNTY AND PEND OREILLE COUNTY FOR DELIVERY OF ONBASE ADMINISTRATOR SERVICES

THIS IS AN AGREEMENT, entered into under the authority of the Interlocal Cooperation Act, Ch 39.34 RCW, between Benton County, Washington, a political subdivision of the State of Washington (hereinafter Benton County and Pend Oreille County, Washington, a political subdivision of the State of Washington, through its Superior Court Clerk's Office (hereinafter "Pend Oreille"). Each a "Party" or together the "Parties". This AGREEMENT provides for the Benton County to contract for specified OnBase Administrator services from Pend Oreille County and for Pend Oreille County to provide such OnBase Administrator Services upon the Terms and Conditions agreed to herein.

NOW THEREFORE,

BENTON COUNTY AND PEND OREILLE COUNTY agree as follows:

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TERMS AND CONDITIONS

SECTION 1-PURPOSE.

The purpose of this Agreement is to define the services to be provided and the terms and conditions under which they will be provided to Benton County by Pend Oreille County.

SECTION 2-TERMINOLOGY.

As used in this Agreement, certain terms shall have the following meanings:

"Day/Days' shall mean calendar days.

"Force Majeure" means an occurrence that is beyond the control of a party and the effects of which could not have been avoided or mitigated by exercising reasonable diligence. *Force Majeure* shall include acts of nature (including: fire, floods, earthquakes, epidemics, or other natural disasters), acts of war, labor disruptions acts or omissions or defaults by third parties, and official governmental or judicial action not the fault of the party failing or delaying in performance, or other similar occurrences.

"Provider" shall mean the party to this Agreement as providing the service to the other party.

"Recipient" shall mean the party to this Agreement as receiving services from or through the other party.

"Services" shall generally represent the "Scope of Services" and may represent any combination of labor, whether by the Provider's employees, use of facilities, equipment, software or material goods utilized or consumed in providing the Services.

SECTION 3-EFFECTIVE DATE/TERM.

The effective date for this Agreement is on the date of execution by both parties and remains in effect until termination, as set forth in Section 4 of this Agreement.

SECTION 4-TERMINATION.

4.1 TERMINATION FOR CONVENIENCE- Either party may terminate this Agreement for convenience, after first providing written notice of the intent to terminate to the other party, 180 days in advance.

4.2 TERMINATION FOR BREACH- Except in the case of delay or failure resulting from circumstances beyond the control of and without the fault or negligence of a party, or of a party's suppliers or subcontractors, the Recipient shall be entitled, by written notice to cancel Agreement, for breach of any of its terms, and to retain all other rights against the Provider by reason of the Provider's breach as provided by law.

A breach shall mean one or more of the following events: (1) the Provider fails to perform the Services by the time and date required and such failure is not caused by a Force Majeure event; (2) the Provider breaches any warranty or fails to perform or comply with

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any term or condition in this Agreement. If it is subsequently found that the Provider was not in breach, the rights and obligations of the parties shall be the same as if a Notice of Termination had been issued pursuant to subparagraph 4.1.

The Recipient shall issue a written notice of breach providing a period not to exceed thirty (30) days in which the Provider shall have an opportunity to cure. If the cure requires more than 30 days, the Provider shall provide a plan acceptable to the Recipient, and if exercising due diligence shall have a reasonable time to cure. Time allowed for cure shall not diminish or eliminate the Provider's liability for damages.

If the breach remains, after the Provider has been provided the opportunity to cure, the Recipient may do one or more of the following:

(1) Exercise any remedy provided by law.

(2) Terminate this Agreement or portions thereof, by written notice.

(3) Seek damages.

4.3 TERMINATION BY MUTUAL AGREEMENT- The parties may terminate this Agreement in whole or in part, at any time, by mutual agreement.

4.4 In the event written notice of termination is given by either party, both parties shall work to accomplish a complete transition of services being terminated without interruption of, or adverse impact on, the services enjoyed by either party under this Agreement.

SECTION 5-OVERSIGHT AND ADMINISTRATION.

There shall be no separate legal entity created by this Agreement. The Pend Oreille County Superior Court Clerk and Benton County Information Technology Manager or their designees shall administer this Agreement.

The Administrators or their designees shall meet not less than annually (or otherwise mutually agreed) to review the performance of with regard to material aspects, as well as the effectiveness and value of the Services provided between the Provider and the Recipient.

The Administrators will review service levels and rates of compensation under this Agreement not less than annually.

SECTION 6-DISPUTE RESOLUTION.

In the event of a dispute between Pend Oreille County and Benton County regarding the delivery of services under this Agreement, the Administrators noted in Section 5 above or their designees shall review the dispute and options for resolution. The decision of the Administrators of this Agreement or his/her designee, regarding the dispute shall be written as an addendum to this Agreement and shall be final as between the Parties.

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Any controversy or claim arising out of or relating to the alleged breach of this Agreement that cannot be resolved by the Administrators, or their designees, may be submitted to mediation.

SECTION 7-VENUE AND CHOICE OF LAW.
In the event that any litigation should arise concerning the construction or interpretation of any of the terms of this Agreement, the venue of such action shall be in the courts of the State of Washington in and for the County of Pend Oreille. This Agreement shall be governed by the law of the State of Washington. Each party shall be responsible for its own attorney fees.

SECTION 8-RIGHTS AND REMEDIES.
The duties and obligations imposed by this Agreement and the rights and remedies available hereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

SECTION 9-INDEPENDENT CONTRACTOR.
Pend Oreille County is and shall at all times be deemed to be an independent contractor in the provision of the services set forth in this Agreement. Nothing herein shall be construed as creating the relationship of employer and employee, or principal and agent, between Benton County and Pend Oreille County or any of the employees or agents of either party. Pend Oreille County shall retain all authority and responsibility for the provision of services, standards of performance, discipline and control of personnel, and other matters incident to the performance of services by Pend Oreille County pursuant to this Agreement.

The Parties shall comply with all relevant Federal, State, and municipal laws, rules and regulations. Nothing in this agreement shall make an employee of Benton County an employee of Pend Oreille County or any employee of Pend Oreille County and employee of Benton County for any purpose, including but not limited to, withholding of taxes, payment of benefits, workers' compensation pursuant to Title 51 RCW, or any other rights or privileges afforded to said employees by virtue of their employment.

This section 9 shall survive termination of this Agreement.

SECTION 10-HOLD HARMLESS/INDEMNIFICATION.

10.1 Each party agrees to indemnify, defend, save and hold harmless the other, its officials, employees and volunteers from any and all liability, demands, claims, causes of action, suits or judgments including costs, attorney fees and expenses, arising out of or resulting from the negligent acts, errors or omissions of Pend Oreille County relating to or arising out or in connection with, or incident to, its negligent acts or omissions under this Agreement. Without limiting the generality of the foregoing, the parties further expressly agrees to indemnify, defend, save and hold harmless the other party, its officials, employees, and agents from and against any and all liability, claims, demands, losses, damages, costs, causes of action, suits or judgments, including attorney fees, costs or expenses incurred in connection therewith, for deaths or injuries to person arising out of,

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in connection with, or incident to the performance of this Agreement by a Provider, its officials, employees or agents.

10.2 In the event that any suit based on such a claim, demand, loss, damage, cost or cause of action is brought against either party relating to a Service provided under this Agreement, the other party reserves the right to participate in said suit if any principal of government or public law is involved.

10.3 This indemnity and hold harmless shall include any claim made against a Recipient by an employee of the Provider or subcontractor or agent of the Provider, even if the Provider is thus otherwise immune from liability pursuant to the workers' compensation statute, Title 51 RCW; provided however, this paragraph does not purport to indemnify the Recipient against the liability for damages arising out of bodily injuries to person caused by or resulting from the sole negligence of the Recipient, its elected officials, officers, employees and agents.

10.4 This indemnity and hold harmless shall further include any claim made against either party regarding payment of any taxes other than state sales tax on tangible goods.

10.5 In the event of litigation between the parties to enforce the rights under this section, each party shall bear its own attorney's fees and costs.

10.6 This Section 10 shall survive the termination of this Agreement.

SECTION 11-ASSIGNMENT/SUBCONTRACTING.

Neither the Recipient nor the Provider shall transfer or assign, in whole or in part, any or all of their respective rights or obligations under this Agreement without the prior written consent of the other.

SECTION 12-NON-DISCRIMINATION.

In connection with the provision of services pursuant to this Agreement, the Parties shall not discriminate against any employee or applicant for employment or against any consumer of or applicant for services because of age, sex, race, creed, religion, color, national origin, marital status, pregnancy, veteran status, the presence of any physical, mental or sensory disability, or perceived or actual sexual orientation. The Parties certify that they are Equal Employment Opportunity Employers.

SECTION 13-NO THIRD-PARTY BENEFICIARY.

Benton County and Pend Oreille County do not intend there by any third-party beneficiary under this Agreement. Neither party intends, by this Agreement, to assign any contractual obligations to or assume any contractual obligations by any party, other than between Benton County and Pend Oreille County. However, this does not limit or restrict either party from engaging a third-party to provide similar services under separate agreements.

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SECTION 14-NOTICE.
Any notices to be given under this Agreement shall be in writing and shall, at a minimum, be delivered, postage prepaid and addressed to:

If to Pend Oreille County:

PEND OREILLE COUNTY
PO Box 5020
Newport, Washington 99156
Attn: Superior Court Clerk

If to Benton County:

BENTON COUNTY
7122 W. Okanogan Pl.
Kennewick, Washington 99336
Attn: Information Technology

Either party giving the other party notice of such change as provided in this Section 14 may change the name and address to which notices shall be directed.

SECTION 15-WAIVER.
No waiver by either Party of any term or condition of this Agreement shall be deemed or construed to constitute a waiver of any other term or conditions or any subsequent breach, whether of the same or different provision.

SECTION 16-CONFIDENTIALITY.
The Provider acknowledges that its employees may have access to sensitive and confidential materials. The Provider employees shall not disclose to a third-party any information accessed, downloaded, obtained, reviewed etc., as part of providing the services under this Agreement without the written permission of the Recipient, by court order, or if such disclosure is required pursuant to the Public Records Act (Chapter 42.56 RCW).

SECTION 17-ENTIRE AGREEMENT.
Except as provided in Section 20 (Services), this Agreement contains all of the agreements of the parties with respect to the subject matter covered or mentioned therein, and no prior Agreements shall be effective to the contrary.

SECTION 18-AMENDMENT.
The provisions of this Agreement may be amended with the mutual consent of the parties. No additions to, alterations of, the terms of this Agreement shall be valid unless made in writing and formally approved by and executed by the Pend Oreille County Board of Commissioners, or their designee and the Benton County Board of Commissioners or their designee.

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SECTION 19-SEVERABILITY/CAPTIONS.

If any section or provision of this Agreement is held by a court to be invalid, such action shall not affect the validity of any other section or provisions of this Agreement. The captions in this Agreement are for convenience only and do not in any way limit or amplify particular provisions.

SECTION 20-SERVICES.

20.1 Pend Oreille County shall provide on-going support and maintenance for the OnBase document/workflow management system for the reported OnBase licenses in Exhibit A. Services include but are not limited to:

a. Configuring OnBase software to create workflows and automate manual processes in the application.
b. Plan and test software updates. Assists in troubleshooting and resolving update issues.
c. Assist with e-filing related to the OnBase software.
d. Assist with the integration of other software/applications to the OnBase software.

20.2 Where the Recipient requests services under this Agreement, such services should be requested via email or phone to the Provider's assigned employee who will document the request in the form of an E-Ticket which will be generated by the Provider's employee.

The intent of this provision is to ensure clear communication and documentation of the service(s) being requested prior to either party taking action or incurring costs. Both parties will act in good faith to identify requirements, expectations and to adhere to the commitments specified with this Agreement.

20.3 All service requests are subject to the terms and conditions of this Agreement.

20.4 Duration of a service request shall be defined in the email or phone communication and may be (1) of a limited time period which is concluded upon accomplishment of specified deliverables or (2) of a continuing service with regular renewal review.

SECTION 21-RATES FOR SERVICE AND BILLING PROCESS.

21.1 Rates for Service. During the term of this Agreement, and in consideration for the Services provided by the Pend Oreille County as set forth herein, Benton County promises to pay Pend Oreille County an annual sum determined according to Exhibit A, which is attached and incorporated by reference. Rates may change from year to year and will be discussed between the parties as provided in Section 5 during the annual review.

21.2 Annual costs for OnBase services will include $300 per county owned OnBase license, Exhibit A, Price Per License Rate. OnBase maintenance and support licensing must be current and is the sole responsibility of the participating county. In addition to the Price Per License Rate, a one-time annual Base Rate of $5,000 will be paid, Exhibit A, Base Rate each year for services. In addition to Section 5, Pend Oreille County may be asked

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by Benton County to disclose how the costs are being divided up by Pend Oreille County and other participating counties for OnBase support and maintenance services.

21.2 If it is necessary for Provider's employee to travel by motor vehicle to the Recipient's Facilities in order to provide Services under this Agreement, the Recipient shall reimburse Provider at the current Standard Mileage Rate set by the IRS. If it is necessary for a Provider's employee to drive to a location other than the Recipient's facilities for the purposes of this Agreement, the Provider shall first obtain permission from Recipient prior to incurring any travel costs.

21.3 Recipient shall be responsible and liable for all costs incurred in the acquisition of its own equipment (data processing and telecommunication) and third-party vendor fees.

21.4 Billing Process. Benton County will be billed in annually for services rendered. The payments are due within 30 days after invoicing by Pend Oreille County. Payments shall be made to:

Pend Oreille County Clerk's Office
P.O. Box 5020
Newport, WA 99156

SECTION 22-REQUEST FOR SERVICES OUTSIDE OF THIS AGREEMENT.

Recipient may desire to have Provider perform additional services, not covered by this Agreement. In such case, Recipient may solicit a response and cost proposal from Provider for the performance of specified services. If the services provided or risks involved are deemed significantly different than those under the current Agreement, a separate memorandum of understanding may be jointly developed by Recipient and Provider to identify the terms and conditions for these additional services, including terms for termination. Recipient may accept or reject Provider's proposal for services.

SECTION 23-PERSONNEL.

23.1 Assigned Staff. Provider shall designate the personnel to provide services to Recipient. Recipient reserves the right to review the qualifications of personnel providing services under this Agreement.

23.2 If Recipient believes that the performance or conduct of any person employed or retained by the Provider to perform obligations under this Agreement, is unsatisfactory for any reason, or is not in compliance with the provision of this Agreement, Recipient shall notify the Provider designated in Section 5 of this Agreement. The Provider will establish a plan to resolve the issue with a deadline mutually agreed upon by the Recipient. If a mutually acceptable solution is cannot be reached, parties to follow the dispute resolution procedures outlined in Section 6 of this Agreement.

23.3 Access to Recipient Facilities. Recipient, depending on requirements of the request for service, in its sole discretion, may approve any Provider employees requiring access to

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any Recipient facility. Should Recipient refuse access to any Provider employee attempting to act in accordance with this Agreement, the Provider shall not be held in breach of the Agreement as to the Services affected.

23.4 Background Checks. As may be required by the Recipient and the requirements of a request for service, the Provider shall be responsible for conducting a background check on all personnel hired after the effective date of this Agreement. The background investigation shall include but not be limited to a credit check and criminal records check for misdemeanors and felonies. Limited background checks will be performed on current employees that have access to the Recipient's sensitive data.

23.5 Staff Substitution. In the event that Recipient notifies Provider that it wishes Provider to replace an employee of the Provider providing services to Recipient, Recipient and Provider shall meet to attempt to resolve Recipient's concerns. If the parties are not able to resolve Recipient's concerns within ten (10) days after Recipient's notice to Provider (or such later date agreed upon by both parties), Provider shall exercise reasonable diligence to honor Recipient's requests to replace the staff member.

23.6 Staff Direction. In situations where Benton County staff receives directions from Pend Oreille County's staff or Pend Oreille County staff receives direction from Benton County staff that may be in conflict with Pend Oreille County or Benton County policy, guidelines, terms and conditions of this Agreement, or that may result in potential risk to either Party, the involved staff will notify one another and the Administrators noted in Section 5 of this Agreement of such potential conflict and of the relevant policy, guideline, term or condition of this Agreement or risk and delay action implementing such direction, unless immediate action is required to ensure business continuity, until the direction can be confirmed with the Administrators in consultation. The Administrators will make best efforts to expedite identification and resolution of conflicts and provide prompt directions to their respective staff members. If they are unable to resolve the conflict, the provisions of Section 6 shall apply.

23.7 Employees physically working at a facility of the other party will act in accordance with all policies and procedures regarding appropriate conduct in that party's workplace.

SECTION 24-WARRANTY.

The Provider warrants and represents that the services provided shall be performed in a good, workmanlike and professional manner in accordance with industry standards and practices. Except as expressly stated herein, there are no express or implied warranties, including but not limited to the warranties of merchantability and fitness for a particular purpose respecting this agreement or the services provided.

SECTION 25- REAL OR PERSONAL PROPERTY.

The terms of this Agreement do not contemplate the acquisition of any real or personal property. In the event that joint property is acquired, then it shall be distributed, when the Agreement is

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terminated, to the parties in proportion to that party's monetary contribution to purchase such property.

SECTION 26- RECIPIENT COUNTY RESPONSIBILITIES.
To meet its obligations under this Agreement, Benton County will:

26.1 Work cooperatively with the appropriate Pend Oreille County staff to define and set priorities for Benton County OnBase projects to be accomplished.

26.2 Compensate Pend Oreille County for services provided within this Agreement.

26.3 Provide or fund upgrades, replacement or additional equipment authorized within the scope of this Agreement and if possible, as recommended by the Pend Oreille County OnBase Administrator as necessary to keep a current infostructure.

SECTION 27-DOCUMENTATION.
Pend Oreille County will maintain documentation accessible by Benton County that contains up to date documentation regarding activities, schedules and processes related to the services provided under this Agreement.

SECTION 28-DOCUMENT EXECUTION.
The parties agree that there shall be two (2) duplicate originals of this Agreement procured and distributed for signature by the necessary officials of the parties. Upon execution, one executed original of this Agreement shall be retained by each County Clerk of the Board. This Agreement shall be filed pursuant to the provisions of RCW 39.34.040.

IN WITNESS WHEREOF: The parties have caused this Agreement to be executed in their respective names by their duly authorized officers and have caused this Agreement to be dated as of the _____ day of _____, 2023.

BOARD OF COUNTY COMMISSIONERS
PEND OREILLE COUNTY, WASHINGTON:

_____
Brian Smiley, Chair

_____
Robert Rosencrantz, Commissioner

_____
John Gentle, Commissioner

BOARD OF COUNTY COMMISSIONERS
BENTON COUNTY, WASHINGTON

_____
Will McKay, Chairman

_____
Jerome Delvin, Chairman Pro-Tem

_____
Michael Alvarez, Commissioner

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Attest:

Crystal Zieske, Clerk of the Board

Cami McKenzie, Clerk of the Board

Recommended for Signature by:

Tammie Ownbey
Pend Oreille County Superior Court Clerk

Approved as to Form:

Dolly N. Hunt
Prosecuting Attorney

Approved as to Form:

DocuSigned by:
Eric Andrews
B4F7673BB8A1486...

Eric Andrews
Deputy/Prosecuting Attorney

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EXHIBIT A

Services and Rates for Budget Year 2023

Rate(s) associated with the OnBase Administrator Services provided by Pend Oreille County:

Benton County	# of OnBase Licenses	Price per License	Base Rate	Price of License	Totally Annually
	45	$300.00	$5,000	$13,500	$18,500

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Approving the Purchase of One 11-Inch Apple iPad Pro (4th Generation) Tablet for Superior Court Administration from StrictlyTech LLC.
Presenter:	
Prepared By:	Robert Heard
Reviewed By:	Procurement Department

PA Review, Approval to Form: ☐ Yes ☐ No ☒ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☐ Execute Contract

Summary / Background Information

The Superior Court Administrator has requested to purchase one 11-inch iPad for their department. Resolution 2019-753 requires that all non-budgeted devices purchased over $500 be coded to the department's 3508 expenditure code and be approved by the Board of Benton County Commissioners.

Fiscal Impact

Amount: **$748.05 excluding WSST.**

Fund: **Approved Superior Court Administration 2023-2024 budgeted funds.**

Recommendation

Information Technology recommends that the Board approve the purchase of one 11-inch Apple iPad Pro (4th Generation) Tablet in an amount not to exceed $748.05 excluding WSST. All equipment purchased will be added to Central Services Replacement Fund (3201).

Suggested Motion

Consent Agenda

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF APPROVING THE PURCHASE OF ONE 11-INCH APPLE IPAD PRO (4TH GENERATION) TABLET FOR SUPERIOR COURT ADMINISTRATION FROM STRICTLY TECHNOLOGY LLC.

WHEREAS, the Superior Court Administrator has made a request to purchase one Apple iPad for their department use; and

WHEREAS, Information Technology reviewed quotes from three vendors in Southern Computer Warehouse, Strictly Technology LLC, and GovConnection Inc.; and

Southern Computer Warehouse	11-Inch Apple iPad Pro (4th Generation)	$843.87
Strictly Technology LLC	**11-Inch Apple iPad Pro (4th Generation)**	**$748.05**
GovConnection, Inc.	11-Inch Apple iPad Pro (4th Generation)	$880.18

WHEREAS, Information Technology recommends purchasing one 11-inch Apple iPad Pro (4th Generation) tablet from Strictly Technology LLC.; and

WHEREAS, the Purchasing Department has reviewed this purchase and found it complies with Procurements, Leasing, and Contracting Policy; and

WHEREAS, per Resolution 2019-753 of the Computer Replacement Policy requires all new computer equipment over $500 receive approval by the Board of Benton County Commissioners before purchasing; **NOW, THEREFORE,**

BE IT RESOLVED, the Board of Benton County Commissioners, Benton County, Washington, hereby concurs with Information Technology's recommendation and approves the purchase of one 11-inch Apple iPad Pro (4th Generation) tablet for Superior Court Administration in an amount not to exceed $748.05 excluding Washington State Sales Tax; and

BE IT FURTHER RESOLVED, newly purchased tablet will be enrolled into Central Services Replacement Fund (3201).

Dated this 28 day of March , 2023

Chairman of the Board

Chairman Pro-Tem

Commissioner

Constituting the Board of County Commissioners
of Benton County, Washington

Attest:

Clerk of the Board

Orig: Information Technology
cc: Auditor, SC Admin

Prepared by: R. Heard

StrictlyTech
we make IT happen

2300 NW 55th Court, Suite 110,
Fort Lauderdale, FL 33309
Phone: 954-606-5440 Fax: 954-606-5441

Quotation

Number: **18825**

Date: **03/14/2023**

Quote prepared for: **Robert Heard**

Bill To:
Benton County WA (1530)
Robert Heard
PO Box 608
Prosser, WA 99350
Phone: (509)786-5710
Email: Robert.Heard@co.benton.wa.us

Ship To:
Benton County WA (1530)
Robert Heard
PO Box 608
Prosser, WA 99350
Phone: (509)786-5710
Email: Robert.Heard@co.benton.wa.us

Item #	Mfr. Part	Product Image	Description	Price	Qty.	Extended
*1	IPAD-PRO		Apple iPad Pro (4th Generation) Tablet - 11" - Octa-core) - 8 GB RAM - 128 GB Storage - iPadOS 16 - Silver - Apple M2 SoC - 2388 x 1668 - Liquid Retina Display, In-plane Switching (IPS) Technology, True Tone Technology Display - 12 Megapixel Front Camera **Mfr: APPLE, INC** **UNSPSC : 43211509**	$ 748.05	1	**$ 748.05**
			1 item(s)		**Sub-Total**	**$ 748.05**
					Tax @ 8.7%	**$ 0.00**
					Freight	**$ 0.00**
					Total	**$ 748.05**
						(*) Tax exempted Part(s)

Quote Valid Until: 04/13/2023

Payment Details

Pay by: Company PO
Payment Term: Net 30

Shipping and Delivery Details

Shipping via: FEDEX Ground
(DropShip)

CAGE: 70BA0
DUNS: 078817964
FEIN: 46-2619818
Woman-Owned Small Business (WOSB)
Primary NAICS: 423430
Unique Entity ID (SAM): DEGDRGZ32898

Terms and Conditions

Prices exclude applicable taxes, insurance, shipping and special handling charges unless stated. All prices are subject to change without notice. Supply subject to availability. Due to pricing fluctuations from OEM manufacturers as well as supply chain constraints, pricing is valid for a period of 7 days from the submission of this quote. Please check pricing, availability and/or delivery estimates with your Client Executive prior to placing orders.

Prepared by: **Keith Nguyen** Email: **keithn@strictlytech.com** Phone: **954-606-5440**

Connection
PUBLIC SECTOR SOLUTIONS
we solve IT

SALES QUOTE

GovConnection, Inc.
732 Milford Road
Merrimack, NH 03054

Account Executive: Julie Browning
Phone:
Fax:
Email: julie.browning@connection.com

Account Manager:
Phone:
Fax:
Email:

 # 25469671.01
PLEASE REFER TO THE ABOVE QUOTE # WHEN ORDERING

Date: 3/13/2023
Valid Through: 4/12/2023
Account #: S01994

Customer Contact: Robert Heard **Phone:** (509) 737-3529
Email: robert.heard@co.benton.wa.us **Fax:**

QUOTE PROVIDED TO:	SHIP TO:
AB#: 7718457 **BENTON COUNTY CENTRAL SERVICES** ACCOUNTS PAYABLE PO BOX 608 PROSSER, WA 99350 (509) 786-5603	AB#: 7718459 **BENTON COUNTY CENTRAL SERVICES** 620 MARKET ST PROSSER, WA 99350

DELIVERY	FOB	SHIP VIA	SHIP WEIGHT	TERMS	CONTRACT ID#
5-30 Days A/R/O	Destination	Small Pkg Ground Service Level	3.00 lbs	Net 30	

Important Notice: --- THIS QUOTATION IS SUBJECT TO THE FOLLOWING Terms of Sale: All purchases from GovConnection, Inc. are subject to the Company's Standard Terms of Sale, which describe important legal rights and obligations. You may review the Company's Standard Terms of Sale on the Company's website: www.govconnection.com, or you may request a copy via fax, e-mail, or mail by calling your account representative. The only exception to this policy is if your order is being placed under any one of our many national, state, educational or cooperative Agreements, in which case the Terms and Conditions of your Purchase Order are already pre-negotiated and stated in that Agreement. No other Terms and Conditions shall apply and any other terms and conditions referenced or appearing in your Purchase Order are considered null and void. Due to the industry-wide constraints and fluctuations, we reserve the right to change pricing at any time. Please refer to our Quote Number in your order.

*	Line #	Qty	Item #	Mfg. Part #	Description	Mfg.	Price	Ext
	1	1	41540152	MNXF3LL/A	iPad Pro 11" 256GB / Wi-Fi / Space Gray Apple Computer Cto	Apple Computer Cto	$ 880.18	$ 880.18

Subtotal	**$ 880.18**
Fee	**$ 0.00**
Shipping and Handling	**$ 0.00**
Tax	**$ 76.58**
Total	**$ 956.76**

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PUBLIC SECTOR SOLUTIONS
we solve IT™

ORDERING INFORMATION

GovConnection, Inc. DBA Connection

Please contact your account manager with any questions.

Ordering Address	**Remittance Address**
GovConnection, Inc.	GovConnection, Inc.
732 Milford Road	Box 536477
Merrimack, NH 03054	Pittsburgh, PA 15253-5906

Please reference the Contract # on all purchase orders.

TERMS & CONDITIONS

Payment Terms:	NET 30 (subject to approved credit)
FOB Point:	DESTINATION (within Continental US)
Maximum Order Limitation:	NONE
FEIN:	52-1837891
DUNS Number:	80-967-8782
CEC:	80-068888K
Cage Code:	OGTJ3
Business Size:	LARGE
Erate Spin Number:	143026005

WARRANTY: Manufacturer's Standard Commercial Warranty

NOTE: It is the end user's responsibility to review, understand and agree to the terms of any End User License Agreement (EULA).

Important Notice: --- THIS QUOTATION IS SUBJECT TO THE FOLLOWING Terms of Sale: All purchases from GovConnection, Inc. are subject to the Company's Standard Terms of Sale, which describe important legal rights and obligations. You may review the Company's Standard Terms of Sale on the Company's website: www.govconnection.com or you may request a copy via fax, e-mail, or mail by calling your account representative. The only exception to this policy is if your order is being placed under any one of our many national, state, educational or cooperative Agreements, in which case the Terms and Conditions of your Purchase Order are already pre-negotiated and stated in that Agreement. No other Terms and Conditions shall apply and any other terms and conditions referenced or appearing in your Purchase Order are considered null and void. Due to the industry-wide constraints and fluctuations, we reserve the right to change pricing at any time. Please refer to our Quote Number in your order.

If you require a hard copy invoice for your credit card order, please visit the link below and click on the Proof of Purchase/Invoice link on the left side of the page to print one:**https://www.govconnection.com/web/Shopping/ProofOfPurchase.htm**

Please forward your Contract or Purchase Order to:
SLEDOPS@connection.com
QUESTIONS: Call 800-800-0019

Southern Computer Warehouse
1395 S. Marietta Parkway
Building 300
Marietta, Georgia 30067
United States
http://www.scw.com
(P) 877-GOTOSCW
(F) 770.579.8937

Quote (Open)

Date
Mar 13, 2023 02:13 PM EDT

Modified Date
Mar 15, 2023 10:54 AM EDT

Quote #
1770028 - rev 1 of 1

Description
iPad Pro 11 4th Generation

SalesRep
Ortiz, Andres
(P) 877-GOTOSCW ext. 320

Customer Contact
Heard, Robert
(P) 509-786-5603
Robert.Heard@co.benton.wa.us

Customer
Benton County WA (A11627)
Heard, Robert
620 Market Street
Prosser, WA 99350
United States
(P) 509-786-5603

Bill To
Benton County WA
Services, Central
620 Market Street
Prosser, WA 99350
United States
(P) 509-786-5603
teri.holmes@co.benton.wa.us

Ship To
Benton County WA
REF#, ATTN
620 Market Street
Prosser, WA 99350
United States

Customer PO:	**Terms:**	**Ship Via:**
	Undefined	GROUND
Special Instructions:		**Carrier Account #:**

#	Image	Description	Part #	Tax	Qty	Unit Price	Total
1		Apple - Apple 11-inch iPad Pro Wi-Fi 4th generation - tablet - 256 GB - 11" IPS (2388 x 1668) - silver	MNXG3LL/A	Yes	1	$843.87	$843.87

Note: 56 in stock.

Contract
Open Market - Open Market

Quote valid for 30 days unless formal bid provides different term. Promotional pricing is valid only during term of promotion and while supplies last. All returns must be authorized and clearly marked with a valid RMA number. RMA's are subject to restock fees when applicable.

These prices may not include applicable taxes, insurance, shipping, delivery, setup fees, or any cables or cabling services or material unless specifically listed above. Please note that expedited shipping charges are estimated, and could decrease or increase when invoiced. All prices are subject to change without notice. Supply subject to availability.

Subtotal:	**$843.87**
Tax (8.7000%):	$73.42
Shipping:	$0.00
Total:	**$917.29**

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	FC 03/14/23 BC 03/28/23
Subject:	Personal Services Contract with Crest Counseling Services, P.S.
Presenter:	N/A
Prepared By:	Rosa Garcia
Reviewed By:	David Wheeler

PA Review, Approval to Form: ☒ Yes ☐ No ☐ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☒ Execute Contract

Summary / Background Information

Julie Crest of Crest Counseling Services, P.S. provides services and treatment for first time adjudicated sex offenders. Julie Crest has provided services through the Juvenile Justice Center since 2011.

The current contract is set to expire on June 30, 2023. The Juvenile Justice Center desires to continue services with Julie Crest of Crest Counseling Services, P.S. The attached Personal Services Contract commences July 1, 2023 and expires on June 30, 2025.

Fiscal Impact

The fiscal amount is not to exceed $75,000.00. These services are paid from state funds under the SSODA treatment program. There is no fiscal impact to the county budgets.

Recommendation

We recommend that the Board of Commissioners of Benton County and the Board of Commissioners of Franklin County sign the Personal Services Contract between Julie Crest of Crest Counseling Services, P.S. and Benton-Franklin Counties Juvenile Justice Center for services.

Suggested Motion

Approved as part of consent agenda.

JOINT RESOLUTION

BENTON COUNTY RESOLUTION NO. _____

FRANKLIN COUNTY RESOLUTION NO. _____

BEFORE THE BOARDS OF THE COMMISSIONERS OF BENTON AND FRANKLIN COUNTIES, WASHINGTON;

IN THE MATTER OF AWARDING CREST COUNSELING SERVICES, P.S. A PERSONAL SERVICES CONTRACT TO PROVIDE SERVICES AND TREATMENT TO FIRST-TIME ADJUDICATED SEX OFFENDERS

WHEREAS, per resolution 2021-233, "County need not advertise or follow a formal competitive bidding procedure for service contracts, but rather the County may instead evaluate and utilize the procedures it deems best under the individual circumstances in order to obtain services of the highest quality at the lowest cost"; and

WHEREAS, Benton and Franklin Counties has a Contract with Julie Crest of Crest Counseling Services, P.S. to provide services and treatment to first-time adjudicated sex offenders from July 1, 2021 through June 30, 2023 via Benton County Resolution numbered 2021-477 and Franklin County Resolution numbered 2021-119; and

WHEREAS, the Juvenile Administrator recommends entering into a new Personal Services Contract; **NOW, THEREFORE**

BE IT RESOLVED, by the Board of Benton County Commissioners, Benton County Washington and by the Board of Franklin County Commissioners, Franklin County Washington the Boards concur with the Juvenile Administrator's recommendation and hereby award the Personal Service Contract to Julie Crest of Crest Counseling Services, P.S., in an amount not to exceed $75,000.00; and

BE IT FURTHER RESOLVED, that the Chairs are authorized to sign the attached Personal Service Contract; and

BE IT FURTHER RESOLVED, the term of the attached Contract commences July 1, 2023 and expires on June 30, 2025.

DATED this ____ day of _____ 2023

BENTON COUNTY BOARD OF COMMISSIONERS

_____
Chairman of the Board

_____
Commissioner

_____
Commissioner

Constituting the Board of
County Commissioners,
Benton County, Washington

Attest:

_____
Clerk of the Board

DATED this ____ day of _____ 2023

FRANKLIN COUNTY BOARD OF COMMISSIONERS

_____
Chair of the Board

_____
Chair Pro Tem

_____
Member

Constituting the Board of
County Commissioners,
Franklin County, Washington

Attest:

_____
Clerk of the Board

BENTON-FRANKLIN COUNTIES
PERSONAL SERVICES CONTRACT
TERMS AND CONDITIONS

THIS CONTRACT is made and entered into by and between BENTON COUNTY, a political subdivision, with its principal offices at 620 Market Street, Prosser, WA 99350 and Franklin County, a political subdivision of the State of Washington, with its principal offices at 1016 North Fourth Avenue, Pasco, WA 99301, by and for the Benton-Franklin Counties Juvenile Justice Center, a bi-county agency located at 5606 West Canal Place, Suite 106, Kennewick, WA 99336 (hereinafter collectively referred to as "COUNTIES"), and **Julie Crest of Crest Counseling Services, P.S.**, a corporation organized under the laws of the State of Washington with her principal office at 412 South 12th Avenue, Yakima, WA 98902(hereinafter "CONTRACTOR").

In consideration of the mutual benefits and covenants contained herein, the parties agree as follows:

1. DURATION OF CONTRACT

The term of this Contract shall begin on **July 1, 2023** and shall expire on **June 30, 2025.** The CONTRACTOR shall complete all work by the time(s) specified herein, or if no such time is otherwise specified, no later than the expiration date.

2. SERVICES PROVIDED

a. Pursuant to RCW 13.40.160, the CONTRACTOR shall provide the following services for selected first-time, adjudicated sex offenders:

1. Assess offenders prior to disposition of a sex offense to determine amenability to treatment and risk to the community. The assessment shall be completed by the Washington State certified sex offender treatment provider and shall include:

a. Respondent's version of the facts;
b. Official version of the facts;
c. Respondent's offense history;
d. Assessment of problems in addition to the alleged deviant behaviors;
e. Respondent's, social, educational, and employment situation;

f. Other evaluation measures used; and
g. Amenability to treatment and risk to the community.

2. Develop a proposed treatment plan that includes:
   a. Frequency and type of contact between offender and treatment providers;
   b. Specific issues to be addressed in the treatment and description of planned treatment modalities;
   c. Monitoring plans including any requirement regarding living conditions; lifestyle requirements, and monitoring by family members, legal guardians, or others;
   d. Anticipated length of treatment, and
   e. Recommended crime-related prohibitions.

3. Provide treatment that complies with WAC Chapter 246-930 and the rules adopted by the Department of Health, and that consists of a combination of services identified in the Sex Offender Treatment Provider assessment, and the Washington State Juvenile Court Risk Assessment, deemed most effective to decrease recidivism, increase youth protective factors, and decrease youth risk factors. Specifics of family, group, or individual sessions shall be identified in the provider treatment plan provided during assessment and shall be updated quarterly. Group and Individual treatment services may be provided by the CONTRACTOR in the group treatment room located at the Benton-Franklin Counties Juvenile Justice Center, 5606 W. Canal Place, Suite 106, Kennewick, WA, at the discretion of the Juvenile Justice Center Administrator.

4. Submit, at the request of the Juvenile Probation Counselor, a six-month Court Review Treatment Report, that includes at minimum the following: Dates of attendance, respondent's compliance with requirements, treatment activities, respondent's relative progress in treatment, formal risk assessments to include at minimum the Structured Assessment of Violence Risk Youth (SAVRY) and Estimate of Risk of Adolescent Sexual Offense Recidivism (ERASOR), modifications to the treatment plan, and any other material specified by the court at the time of disposition.

b. The CONTRACTOR agrees to provide its own labor and materials. Unless otherwise provided in this Contract, no material, labor, or facilities will be furnished by the COUNTIES.

c. The CONTRACTOR shall perform the work specified in this Contract according to standard industry practice.

d. The CONTRACTOR shall complete its work in a timely manner and in accordance with the schedule agreed by the parties.

e. The CONTRACTOR shall confer with the COUNTIES from time to time during the progress of the work. The CONTRACTOR shall prepare and present status reports and other information that may be pertinent and necessary, or as may be requested by the COUNTIES.

3. CONTRACT REPRESENTATIVES

Each party to this Contract shall have a contract representative. Each party may change its representative upon providing written notice to the other party. The parties' Contract Representatives are as follows:

a. For CONTRACTOR: Julie Crest
Crest Counseling Services, P.S.
412 South 12th Avenue
Yakima, WA 98902
Phone: (509) 575-8989
Email: jdcrest66@gmail.com

b. For COUNTIES: David Wheeler
Benton-Franklin Juvenile Justice Center
5606 West Canal Place, Suite 106
Kennewick, WA 99336
Phone: (509) 737-2745
Email: David.Wheeler@co.benton.wa.us

4. COMPENSATION

a. For the services performed under this Contract, the CONTRACTOR shall be paid at the rate of $85.00 per hour for each hour of service provided for individual and/or family counseling. A quarterly report, as required by RCW 13.40.160 addressing client's treatment progress is to be included in this hourly rate.

b. At the rate of $800.00 for each typed assessment that meets SSODA requirements.

c. At the rate of $170.00 per group to provide weekly group sex offender therapy. This rate will include staff consultation and case planning regarding juvenile sex offenders following group sessions.

d. At the rate of $80.00 per hour for Provider meetings.

e. At the flat rate of $80.00 for each six-month Court Review Treatment Report.

f. The maximum total amount payable by the Counties to the Contractor under this Contract shall not exceed Seventy-Five Thousand Dollars ($75,000.00).

g. No payment shall be made for any work performed by the CONTRACTOR, except for work identified and set forth in this Contract.

h. The CONTRACTOR may submit invoices to the COUNTIES not more than once per month during the progress of the work for partial payment of the work completed to date. Invoices shall cover the time CONTRACTOR performed work for the COUNTIES during the billing period. The COUNTIES shall pay the CONTRACTOR for services rendered in the month following the actual delivery of work and will remit payment within thirty (30) days from the date of receipt of the invoice.

i. The CONTRACTOR shall not be paid for services rendered under this Contract unless and until they have been performed to the satisfaction of the COUNTIES.

j. In the event the CONTRACTOR has failed to perform any substantial obligation to be performed by the CONTRACTOR under this Contract and such failure has not been cured within ten (10) days following notice from the COUNTIES, the COUNTIES may, in its sole discretion, upon written notice to the CONTRACTOR, withhold any and all monies due and payable to the CONTRACTOR, without penalty, until such failure to perform is cured or otherwise adjudicated. "Substantial" for the purposes of this Contract means faithfully fulfilling the terms of this Contract with variances only for technical or minor omissions or defects.

k. Unless otherwise provided in this Contract or any exhibits or attachments hereto, the CONTRACTOR will not be paid for any billings or invoices presented for services rendered prior to the execution of this Contract or after its termination.

5. AMENDMENTS AND CHANGES IN WORK

a. In the event of any errors or omissions by the CONTRACTOR in the performance of any work required under this Contract, the CONTRACTOR shall make any and all necessary corrections without additional compensation. All work submitted by the CONTRACTOR shall be certified by the CONTRACTOR and checked for errors and omissions. The CONTRACTOR shall be responsible for the accuracy of the work, even if the work is accepted by the COUNTIES.

b. No amendment or modification shall be made to this Contract, unless set forth in a written Contract Amendment signed by both parties' authorized representatives. Work under a Contract Amendment shall not proceed until the Contract Amendment is duly executed by the COUNTIES.

6. HOLD HARMLESS AND INDEMNIFICATION

a. The CONTRACTOR shall hold harmless, indemnify and defend the COUNTIES and its officers, officials, employees and agents, from and against any and all claims, actions, suits, liabilities, losses, expenses, damages, and judgments of any nature whatsoever, including reasonable costs and attorneys' fees in defense thereof, for injury, sickness, disability or death to persons or damage to property or business, arising in connection with the work performed under this Contract, or caused or occasioned in whole or in part by reason of the presence of the CONTRACTOR or its subcontractors or their property upon or in the proximity of the property of the COUNTIES. PROVIDED, that the CONTRACTOR'S obligation hereunder shall not extend to injury, sickness, death or damage caused by or arising out of the sole negligence of the COUNTIES or its officers, officials, employees or agents.

b. In any and all claims against the COUNTIES and its officers, officials, employees and agents by any employee of the CONTRACTOR, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this Section shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR or subcontractor under Workers Compensation acts, disability benefit acts, or other employee benefit acts, it being clearly agreed and understood by the parties hereto that the CONTRACTOR expressly waives any immunity the CONTRACTOR might have had under such laws, including but not limited to Title 51 of the Revised Code of Washington. **By executing this Contract, the CONTRACTOR acknowledges that the foregoing waiver has been mutually**

negotiated by the parties and that the provisions of this Section shall be incorporated, as relevant, into any contract the CONTRACTOR makes with any subcontractor or agent performing work hereunder. CONTRACTOR'S obligations under this Section [6] shall survive termination and expiration of this Contract.

c. The CONTRACTOR'S obligations hereunder shall include, but are not limited to, investigating, adjusting and defending all claims alleging loss from action, error or omission, or breach of any common law, statutory or other delegated duty by the CONTRACTOR, or the CONTRACTOR'S employees, agents or subcontractors.

7. INSURANCE

a. **Professional Liability Insurance:** Prior to the start of work under this Contract, the CONTRACTOR shall secure and maintain at its own expense Professional Liability Insurance appropriate to the CONTRACTOR'S profession and shall be written subject to limits of not less than one million dollars ($1,000,000) each claim and in the aggregate. Such insurance will be provided by an insurance carrier with a Best's Rating of not less than A-VII.

The coverage shall apply to liability for a professional error, act or omission arising out of the scope of the CONTRACTOR'S services defined in this Contract. Coverage shall not exclude hazards related to the work rendered as part of the Contract or within the scope of the CONTRACTOR'S services as defined by this Contract. If the policy is claims made, the retroactive date shall be prior to or coincident with the effective date of this Contract. CONTRACTOR is required to maintain claims made professional liability insurance for a minimum of 36 months after the effective date of termination or completion of this Contract. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, the CONTRACTOR must purchase "extended reporting" coverage for a minimum of 36 months after the completion of work. The CONTRACTOR shall annually provide COUNTIES with proof of all such insurance.

b. **Workers Compensation:** CONTRACTOR acknowledges and represents that Contractor currently does not have any employees and, therefore, does not maintain workers compensation insurance. To the extent Contractor hires any employees; however, Contractor shall comply with all State of Washington workers compensation statutes and regulations. Workers compensation

coverage shall be provided for all employees of CONTRACTOR and employees of any subcontractor or sub-subcontractor. Coverage shall include bodily injury (including death) by accident or disease, which arises out of or in connection with the performance of this Contract.

If CONTRACTOR, subcontractor, or sub-subcontractor fails to comply with all State of Washington workers compensation statutes and regulations and COUNTIES incurs fines or is required by law to provide benefits to or obtain coverage for such employees, CONTRACTOR shall indemnify the COUNTIES. Indemnity shall include all fines, payment of benefits to CONTRACTOR or subcontractor employees, or their heirs or legal representatives, and the cost of effecting coverage on behalf of such employees. Any amount owed to COUNTIES by CONTRACTOR pursuant to the indemnity agreement may be deducted from any payments owed by COUNTIES to CONTRACTOR for performance of this Contract.

c. **Commercial General Liability and Employers Liability Insurance:** Prior to the start of work under this Contract, CONTRACTOR shall maintain commercial general liability coverage (policy form CG0001 or equivalent) to protect the CONTRACTOR from claims for wrongful death, bodily injury, personal injury and property damage that may arise from any actions or inactions under this Contract by CONTRACTOR or by anyone directly employed by or contracting with CONTRACTOR. The minimum commercial general liability insurance limits shall be as follows:

$2,000,000 General Aggregate
$2,000,000 Products/Completed Operations Aggregate
$1,000,000 Personal Injury and Advertising Injury
$1,000,000 Each Occurrence

The commercial general liability policy must contain an endorsement naming the COUNTIES and its elected and appointed officials, employees and agents as an Additional Insured and an endorsement that specifically states that CONTRACTOR'S commercial general liability policy shall be primary, and not contributory, with any other insurance maintained by the COUNTIES.

The CONTRACTOR must provide commercial general liability coverage that does not exclude any activity to be performed in fulfillment of this Contract and does not exclude liability pursuant to the indemnification requirement under Section [6]. CONTRACTOR'S commercial general liability policy shall provide cross liability coverage, indicating essentially that

except with respect to the limits of insurance and any rights or duties specifically assigned in this coverage part to the first named insured, this insurance applies as if each named insured were the only named insured, and separately to each insured against whom claims are made or suit is brought.

CONTRACTOR shall also provide Stop Gap Employer's Liability Insurance coverage with minimum limits as follows:

$1,000,000 Each Accident
$1,000,000 Policy Limit for Disease
$1,000,000 Each Employee for Disease.

d. **Automobile Liability:** The CONTRACTOR shall maintain, during the life of this Contract, Automobile Liability Insurance (ISO Form Number CA0001 or equivalent) covering any autos owned by the CONTRACTOR (Symbol 1), or if the CONTRACTOR has no owned autos, any hired (Symbol 8) and non-owned autos (Symbol 9), in the amount of not less than one million dollars ($1,000,000) per accident for Bodily Injury and Property Damage to protect CONTRACTOR from claims which may arise from the performance of this Contract, whether such operations are by the CONTRACTOR or by anyone directly or indirectly employed by the CONTRACTOR.

e. **Other Insurance Provisions:**

1. The CONTRACTOR'S liability insurance provisions shall be primary with respect to any insurance or self-insurance programs covering the COUNTIES or its elected and appointed officers, officials, employees or agents. CONTRACTOR'S liability insurance policies must be endorsed to show this primary coverage. Any insurance, self-insured retention, deductible, or risk retention maintained or participated in by the COUNTIES shall be excess and not contributory to CONTRACTOR'S insurance policies.

2. The CONTRACTOR'S liability insurance policies shall contain no special limitations on the scope of protection afforded to the COUNTIES as an additional insured.

3. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the COUNTIES or its officers, officials, employees or agents.

4. The CONTRACTOR'S insurance shall apply separately to

each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

5. The CONTRACTOR shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.

6. The insurance limits mandated for any insurance coverage required by this Contract are not intended to be an indication of exposure nor are they limitations on indemnification. **If the CONTRACTOR maintains higher limits than the minimums required in this contract, the COUNTIES shall be entitled to coverage for the higher limits maintained by the CONTRACTOR.**

7. The CONTRACTOR shall maintain all required policies in force from the time services commence until services are completed. Certificates, policies, and endorsements expiring before completion of services shall be promptly replaced. All liability insurance required under this Contract, except for professional liability under Section **[7(a)]**, shall be written on an Occurrence Policy form.

8. CONTRACTOR hereby agrees to waive subrogation with respect to each insurance policy maintained under this Contract. When required by an insurer, or if a policy condition does not permit CONTRACTOR to enter into a pre-loss agreement to waive subrogation without an endorsement, then CONTRACTOR agrees to notify the insurer and obtain such endorsement. This requirement shall not apply to any policy which includes a condition expressly prohibiting waiver of subrogation by the insured or which voids coverage should the CONTRACTOR enter into such a waiver of subrogation on a pre-loss basis.

9. Compensation and/or payments due to CONTRACTOR under this Contract are expressly conditioned upon CONTRACTOR'S strict compliance with all insurance requirements. Payment to CONTRACTOR may be suspended in the event of non-compliance. Upon receipt of evidence of CONTRACTOR'S compliance, such payments not otherwise subject to withholding or set-off will be released to CONTRACTOR.

f. **Verification of Coverage and Acceptability of Insurers:**

All insurance required under this Contract shall be issued by companies authorized to do business under the laws of the State of Washington that have a A. M. Best's rating of at least A-VII or better in the most recently published edition of Best's Reports. Any exception to this requirement must be reviewed and approved in writing by the Benton and Franklin Counties Risk Managers. If an insurer is not admitted to do business within Washington State, all insurance policies and procedures for issuing the insurance policy must comply with Chapter 48.15 RCW and Chapter 284-15 WAC.

1. All insurance to be maintained by the CONTRACTOR, other than Professional Liability and Auto Liability shall specifically include the COUNTIES and its elected officials, employees, and volunteers as an "Additional Insured" by way of endorsement and shall not be reduced or canceled without thirty (30) days prior written notice to the COUNTIES. Any insurance or self-insurance maintained by the COUNTIES and its elected and appointed officials, employees and agents shall be excess of the CONTRACTOR'S insurance and shall not contribute to it.

2. Certificates of Liability Insurance with endorsements attached, must be provided to the COUNTIES' Contract Representative referenced in Section 3.b.

3. All written notices under this Section **[7]** and notice of cancellation or change of required insurance coverages shall be mailed to the COUNTIES' Contract Representative referenced in Section 3.b.

4. The CONTRACTOR or its broker shall provide a copy of any and all insurance policies specified in this Contract upon request of the Benton and Franklin Counties Risk Manager to the following address: Benton-Franklin Counties Juvenile Justice Center 5606 West Canal Place, Suite 106 Kennewick WA 99336.

8. TERMINATION

a. The COUNTIES may terminate this Contract in whole or in part whenever the COUNTIES determines, in its sole discretion, that such termination is in the best interests of the COUNTIES. The COUNTIES may terminate this Contract upon giving ten (10) days written notice by certified mail to the CONTRACTOR. In that event, the COUNTIES shall pay the CONTRACTOR for all costs incurred by the CONTRACTOR in

performing the Contract up to the date of such notice. Payment shall be made in accordance with the Compensation Section of this Contract.

b. In the event that funding for this project is withdrawn, reduced or limited in any way after the effective date of this Contract, the COUNTIES may summarily terminate this Contract notwithstanding any other termination provision in this Contract. Termination under this subsection shall be effective upon the date specified in the written notice of termination sent by COUNTIES to the CONTRACTOR. After the effective date, no charges incurred under this Contract shall be allowed.

c. If the CONTRACTOR breaches any of its obligations hereunder, and fails to cure the breach within ten (10) days of written notice to do so by the COUNTIES, the COUNTIES may immediately terminate this Contract by so notifying the CONTRACTOR, in which case the COUNTIES shall pay the CONTRACTOR only for the costs of services accepted by the COUNTIES, in accordance with the Compensation Section of this Contract. Upon such termination, the COUNTIES, at its discretion, may obtain performance of the work elsewhere, and the CONTRACTOR shall bear all costs and expenses incurred by the COUNTIES in completing the work and all damage sustained by the COUNTIES by reason of the CONTRACTOR'S breach.

d. The CONTRACTOR shall have a right to terminate this Agreement upon ten (10) days advance written notice to the COUNTIES in the event the COUNTIES fails to comply with any of the provisions of this Agreement or upon thirty (30) days written notice without cause.

9. ASSIGNMENT, DELEGATION AND SUBCONTRACTING

a. The CONTRACTOR shall perform the terms of this Contract using only its bona fide employees or agents, and the obligations and duties of the CONTRACTOR under this Contract shall not be assigned, delegated, or subcontracted to any other person or firm without the prior express written consent of the COUNTIES.

b. The CONTRACTOR warrants that it has not paid nor has it agreed to pay any company, person, partnership, or firm, other than a bona fide employee working exclusively for CONTRACTOR, any fee, commission, percentage, brokerage fee, gift, or other consideration contingent upon or resulting from the award or making of this Contract.

10. NON-WAIVER OF RIGHTS

The parties agree that the excuse or forgiveness of performance, or waiver of any provision(s) of this Contract does not constitute a waiver of such provision(s) or future performance, or prejudice the right of the waiving party to enforce any of the provisions of this Contract at a later time. All waivers of any provision(s) of this Contract shall be in writing and signed by the waiving parties' authorized representatives, and in the absence of such, no action or inaction shall be construed to be such a waiver.

11. INDEPENDENT CONTRACTOR

a. The CONTRACTOR'S services shall be furnished by the CONTRACTOR as an independent contractor and not as an agent, employee or servant of the COUNTIES. The CONTRACTOR specifically has the right to direct and control CONTRACTOR'S own activities in providing the agreed services in accordance with the specifications set out in this Contract.

b. The CONTRACTOR acknowledges that the entire compensation for this Contract is set forth in Section **[4]** of this Contract, and neither the CONTRACTOR nor its employees are entitled to any COUNTIES' benefits, including, but not limited to: vacation pay; holiday pay; sick leave pay; medical, dental, or other insurance benefits; fringe benefits; or any other rights or privileges afforded to COUNTIES' employees.

c. The CONTRACTOR shall have and maintain complete responsibility and control over all of its subcontractors, employees, agents, and representatives. No subcontractor, employee, agent, or representative of the CONTRACTOR shall be, deem to be, act, or purport to act as an employee, agent, or representative of the COUNTIES.

d. CONTRACTOR shall pay for all taxes, fees, licenses, or payments required by federal, state or local law that are now or may be enacted during the term of this Contract.

e. The CONTRACTOR agrees to immediately remove any of its employees or agents from their assignment to perform services under this Contract upon receipt of a written request to do so from the COUNTIES' Contract Representative or designee.

12. COMPLIANCE WITH LAWS

The CONTRACTOR shall comply with all applicable federal, state and local laws, rules and regulations in performing this Contract.

13. OTHER PROVISIONS

The CONTRACTOR shall comply with the following other provisions for all services provided under this Contract.

a. Background Check/Criminal History

1. CONTRACTOR shall authorize Counties to conduct a background check of the CONTRACTOR. The background check may include, but is not limited to, a review of records on file with the Washington State Patrol, the FBI National Criminal Information Computer (NCIC) and Interstate Identification Index (III), local law enforcement agencies, the Department of Licensing, courts of law, and other agencies, and also may, depending upon assignment of CONTRACTOR, involve fingerprinting.

2. In accordance with chapters 388-700 WAC, 72.05 RCW, and 43.20A RCW the CONTRACTOR and/or Counties shall be required to conduct background check/criminal history clearance for all employees, subcontractors, and/or volunteers who may or will have regular access to any client/juvenile.

3. In addition, the CONTRACTOR and/or Counties may also be required to conduct background check/criminal history clearance for employees, subcontractors, and/or volunteers, who may or will have limited access to any client/juvenile.

b. Sexual Misconduct

1. The CONTRACTOR shall ensure all employees, subcontractors, and/or volunteers are knowledgeable about the requirements of RCW 13.40.570 and of the new crimes included in RCW 9A.44, Sex Offenses.

2. The CONTRACTOR shall ensure that written notification must occur within seven (7) days of a conviction or plea of guilty to any offenses as defined in RCW 9.94A.030 and RCW 9A.44.130, any crime specified in Chapter 9A.44 RCW when the victim is a juvenile and any violent offense as defined in RCW 9.94A.030. Such notification will be directed to the Office of the Juvenile Court Administrator, Benton-Franklin Counties Juvenile Justice Center, 5606 West Canal Place, Suite 106, Kennewick WA 99336-1388.

14. INSPECTION OF BOOKS AND RECORDS

The COUNTIES may, at reasonable times, inspect the books and records of the CONTRACTOR relating to the performance of this Contract. The CONTRACTOR shall keep all records required by this Contract for six (6) years after termination of this Contract for audit purposes. The CONTRACTOR shall also keep all fiscal and clinical books, records, documents and other material relevant to this Contract in accordance with WAC 388-805-320 and the WAC Implementation Guide.

15. NONDISCRIMINATION

The CONTRACTOR and its assignees, delegates, and subcontractors shall not discriminate against any person in the performance of any of their obligations hereunder on the basis of race, religion, color, national origin, sex, age, honorably discharged veteran or military status, sexual orientation, marital status, the presence of any sensory, mental, or physical disability, or any other protected status.

16. OWNERSHIP OF MATERIALS/WORKS PRODUCED

a. All reports, drawings, plans, specifications, all forms of electronic media, and data and documents produced in the performance of the work under this Contract shall be "works for hire" as defined by the U.S. Copyright Act of 1976 and shall be owned by the COUNTIES. Ownership includes the right to copyright, patent, and register, and the ability to transfer these rights. The COUNTIES agree that if it uses any materials prepared by the CONTRACTOR for purposes other than those intended by this Contract, it does so at its sole risk and it agrees to hold the CONTRACTOR harmless there from to the extent such use is not agreed to in writing by the CONTRACTOR.

b. An electronic copy of all word processing documents shall be submitted to the COUNTIES upon request and/or at the expiration of the Contract, using the word processing program and version specified by the COUNTIES.

17. PATENT/COPYRIGHT INFRINGEMENT

The CONTRACTOR shall hold harmless, indemnify and defend the COUNTIES and its officers, officials, employees and agents, from and against any claimed action, cause or demand brought against the COUNTIES, where such action is based on the claim that information supplied by the CONTRACTOR or subcontractor infringes any patent or copyright. The CONTRACTOR shall be notified promptly

in writing by the COUNTIES of any notice of such claim.

18. DISPUTES

Disputes between the CONTRACTOR and the COUNTIES, arising under and by virtue of this Contract, shall be brought to the attention of the COUNTIES at the earliest possible time in order that such matters may be settled or other appropriate action promptly taken. Any dispute relating to the quality or acceptability of performance and/or compensation due the CONTRACTOR shall be decided by the COUNTIES' Contract Representative or designee. All rulings, orders, instructions and decisions of the COUNTIES' Contract Representative shall be final and conclusive, subject to CONTRACTOR'S right to seek judicial relief.

19. CONFIDENTIALITY

The CONTRACTOR and its employees, subcontractors, and subcontractors' employees shall maintain the confidentiality of all information provided by the COUNTIES or acquired by the COUNTIES in performance of this Contract, except upon the prior written consent of the COUNTIES' authorized representatives or an order entered by a court of competent jurisdiction. The CONTRACTOR shall promptly give the COUNTIES written notice of any judicial proceeding seeking disclosure of such information.

20. CHOICE OF LAW, JURISDICTION AND VENUE

a. This Contract has been and shall be construed as having been made and delivered within the State of Washington and it is agreed by each party hereto that this Contract shall be governed by the laws of the State of Washington, both as to its interpretation and performance.

b. Any action at law, suit in equity, or judicial proceeding arising out of this Contract shall be instituted and maintained only in any of the courts of competent jurisdiction in Benton and Franklin Counties, Washington.

21. SUCCESSORS AND ASSIGNS

The COUNTIES, to the extent permitted by law, and the CONTRACTOR each bind themselves, and their partners, successors, executors, administrators, and assigns to the other party to this Contract and to the partners, successors, administrators, and assigns of such other party in respect to all covenants to this Contract.

22. SEVERABILITY

a. If a court of competent jurisdiction holds any part, term or provision of this Contract to be illegal, or invalid in whole or in part, the validity of the remaining provisions shall not be affected, and the parties' rights and obligations shall be construed and enforced as if this Contract did not contain the particular provision held to be invalid.

b. If it should appear that any provision of this Contract is in conflict with any statutory provision of the State of Washington, said provision which may conflict therewith shall be deemed inoperative and null and void insofar as it may be in conflict therewith, and shall be deemed modified to conform to such statutory provision.

23. ENTIRE AGREEMENT

The parties agree that this Contract is the complete expression of their agreement. Any oral or written representations or understandings not incorporated in this Contract are specifically excluded.

24. NOTICES

Any notices provided under this Contract shall be effective if personally served upon the other party or if mailed by registered or certified mail, return receipt requested, to the mailing addresses set out in Section 4 of this Contract. Notice may also be given via e-mail to the Contract Representatives' e-mail addresses identified in Section 4 of this Contract, with the original notice to follow by regular mail. Notice shall be deemed to be given three (3) days following the date of mailing or immediately if personally served. For service by e-mail, service shall be effective at the beginning of the next working day.

25. SURVIVABILITY

All Contract terms, which by their context are clearly intended to survive the termination and/or expiration of this Contract, shall so survive. These terms include, but are not limited to, indemnification provisions (Sections **[6]** and **[17]**); extended reporting period requirements for professional liability insurance (Section **[7(a)]**); inspection and keeping of records and books (Section **[14]**); litigation hold notice (Section **[26]**); Public Records Act (Section **[27]**) and confidentiality (Section **[19]**).

26. LITIGATION HOLD NOTICE

In the event the COUNTIES learn of circumstances leading to an increased likelihood of litigation regarding any matter where the

records kept by CONTRACTOR pursuant to Section **[14]** of this Contract may be of evidentiary value, the COUNTIES may issue written notice to CONTRACTOR of such circumstances and direct the CONTRACTOR to "hold" such records. In the event that CONTRACTOR receives such written notice, CONTRACTOR shall abide by all directions therein whether or not such written notice is received at a time when a Contract between CONTRACTOR and the COUNTIES is in force. Such directions will include, but will not be limited to, instructions to suspend the six (6) year purge schedule required by Section **[14]** of this Contract.

27. PUBLIC RECORDS ACT

The CONTRACTOR hereby acknowledges that the COUNTIES are a governmental entity and as such is subject to the requirements of the Public Records Act, Chapter 42.56 RCW. Accordingly, CONTRACTOR understands that to the extent a proper request is made, the COUNTIES may be required by virtue of that Act to disclose any records related to this Contract actually in its possession or in CONTRACTOR'S possession. This may include records that CONTRACTOR regards as confidential or proprietary. To the extent that CONTRACTOR provides any records to the COUNTIES that it regards as confidential or proprietary, CONTRACTOR agrees to conspicuously mark the records as such. The CONTRACTOR also hereby waives any and all claims or causes of action for any injury it may suffer by virtue of COUNTIES' release of records covered under the Public Records Act. The COUNTIES agree to take all reasonable steps to notify CONTRACTOR in a timely fashion of any request made under the Public Records Act that will require disclosure of any records marked by CONTRACTOR as confidential or proprietary, so that CONTRACTOR may seek a judicial order of protection if necessary.

- This section left blank intentionally -

IN WITNESS WHEREOF, the parties have caused this Contract to be signed by their duly constituted legal representatives, and it is effective on **July 1, 2023.**

The parties specifically certify that the provisions contained within Section 7 are mutually negotiated.

Crest Counseling Services, P.S.	**Benton Franklin Counties Juvenile Justice Center**
Julie Crest 2/21/22	2/24/2023
Julie Crest Date Owner	David Wheeler Date Juvenile Court Administrator

BENTON COUNTY APPROVAL	**FRANKLIN COUNTY APPROVAL**
Approved as to Form: Stephen Hallstrom 02/23/23	Approved as to Form:
Stephen Hallstrom, Deputy Prosecuting Attorney Date	Civil Deputy Prosecuting Attorney Date
By: _____ Name: _____ Title: Chairman, Board of Commissioners Date: _____	By: _____ Name: _____ Title: Chair, Board of Commissioners Date: _____
Attest:	Attest:
Clerk of the Board: _____	Clerk of the Board: _____

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	FC 03/14/23 BC 03/28/23
Subject:	Ideal Option, PLLC Professional Service Contract Amendment No. 3
Presenter:	N/A
Prepared By:	Rosa Garcia
Reviewed By:	David Wheeler

PA Review, Approval to Form: ☒ Yes ☐ No ☐ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☒ Execute Contract

Summary / Background Information

Per Benton County Resolution No. 2021-660 and Franklin County Resolution No. 2021-202 both dated August 31, 2021 the Board of Benton and Franklin County Commissioners entered into a contract with Ideal Option, LLC to provide medical services to detention youth.

Amendment No. 1 BC Res 2022-125 and FC Res 2022-023 amended Section 2 "Contract Duration" to allow up to "three (3) one-year terms for a total of four (4) years" of contract renewals.

The purpose of this Amendment No. 3 is to amend Section 1 "Contract Documents" to replace Exhibit A in its entirety, amend Section 2 "Contract Duration" to extend contract 12-months, Section 4(b) update Counties "Contract Representatives", and Section 5(g) "Compensation" to increase the maximum total amount payable up to $759,552 to cover the additional 12-months of medical service expenditures.

Due to the 12-month extension, the contract "do not exceed" limit will need to be increased by $286,208 above the current contract amount of $473,344, therefore, we are amending the contract to increase the do not exceed limit to $759,552.00.

The attached contract Amendment No. 3 shall commence on September 1, 2021 and shall expire on April 30, 2024.

Fiscal Impact

The amount not to exceed of $759,552.00 will be paid out of Current Expense Dept. 171 Operations Budget. No supplemental required.

Recommendation

We recommend that the Board of Commissioners of Benton County and the Board of Commissioners of Franklin County sign contract Amendment No. 3 between Ideal Option, PLLC and the Benton-Franklin Counties Juvenile Justice Center for services.

Suggested Motion

Approved as part of consent agenda.

JOINT RESOLUTION

BENTON COUNTY RESOLUTION NO. _____

FRANKLIN COUNTY RESOLUTION NO. _____

BEFORE THE BOARDS OF THE COMMISSIONERS OF BENTON AND FRANKLIN COUNTIES, WASHINGTON;

IN THE MATTER OF THE REQUEST FOR SIGNATURE FROM THE CHAIR OF THE BOARDS OF BENTON AND FRANKLIN COUNTY COMMISSIONERS ON THE PROFESSIONAL SERVICE CONTRACT AMENDMENT NO. 3 BETWEEN THE BENTON-FRANKLIN COUNTIES JUVENILE JUSTICE CENTER AND IDEAL OPTION, PLLC; APPROVED BY BENTON COUNTY RES. NO 2021 660 AND FRANKLIN COUNTY RES. NO. 2021 202

WHEREAS, the Benton-Franklin Counties Juvenile Justice Center currently contracts with Ideal Option, PLLC to provide medical services to detention youth; and

WHEREAS, the Resolution for Amendment No. 1 BC Res 2022-125 and FC Res 2022-023 allows up to three (3) one-year term contract renewal; and

WHEREAS, the additional 12-month medical service expenditures need to be increased by $286,208, for a total consideration amount of $759,552; and

WHEREAS, the do not exceed amount shall be increased to $759,552; and

WHEREAS, the purpose of this Amendment No. 3 is to amend Section 1 "Contract Documents" to replace Exhibit A in its entirety, Section 2 "Contract Duration", Section 4(b) "Contract Representative", and Section 5(g) "Compensation"; **NOW, THEREFORE**

BE IT RESOLVED, that the Chair of the Board of Benton County Commissioners and the Chair of the Board of Franklin County Commissioners are hereby authorized to sign, on behalf of their respective county, the Professional Service Contract Amendment No. 3 between Benton-Franklin Counties Juvenile Justice Center and Ideal Option, PLLC for the consideration amount of $759,552; and

BE IT FURTHER RESOLVED, that the term of the Professional Services Contract Amendment No. 3 shall commence on September 1, 2021 and shall expire on April 30, 2024.

DATED this_____ day of _____ 2023

BENTON COUNTY BOARD OF COMMISSIONERS

_____
Chairman of the Board

_____
Commissioner

_____
Commissioner

Constituting the Board of
County Commissioners,
Benton County, Washington

Attest:

_____
Clerk of the Board

DATED this_____ day of _____ 2023

FRANKLIN COUNTY BOARD OF COMMISSIONERS

_____
Chair of the Board

_____
Chair Pro Tem

_____
Member

Constituting the Board of
County Commissioners,
Franklin County, Washington

Attest:

_____
Clerk of the Board

Originals (2): 1-BC Commissioners, 1-FC Commissioners, Electronic (2): 1-Ideal Option, 1-Juvenile R. Garcia

JUDGES
Hon. Jacqueline J. Shea-Brown
Hon. Joseph M. Burrowes
Hon. Samuel P. Swanberg
Hon. David L. Petersen
Hon. Jacqueline I. Stam
Hon. Norma Rodriguez
Hon. Diana N. Ruff

BENTON-FRANKLIN COUNTIES JUVENILE JUSTICE CENTER

DAVID WHEELER, Administrator
Juvenile Court Services

SUPERIOR COURT OF THE STATE OF WASHINGTON

5606 W CANAL PLACE, SUITE 106 • KENNEWICK, WASHINGTON 99336-1388
PHONE (509) 783-2151 • FAX (509) 736-2728

DARIN R. CAMPBELL
ARTHUR D. KLYM
BRANDON P. HOLT
Court Commissioners

AMENDMENT NO. 3 TO PROFESSIONAL SERVICES CONTRACT BETWEEN THE JUVENILE JUSTICE CENTER AND IDEAL OPTION, PLLC

This Amendment No. 3 to the Professional Services Contract (the "Amendment") is entered into by and between Ideal Option, PLLC and **BENTON COUNTY** and **FRANKLIN COUNTY**, state of Washington political subdivisions (jointly the "Counties"), for and on behalf of the Benton-Franklin Counties Juvenile Justice Center, a bi-county agency ("Juvenile Justice Center").

In consideration of the mutual benefits and covenants contained herein, and in the parties' existing Professional Service Contract, numbered as Benton County Resolution No. 2021 660 and Franklin County Resolution No. 2021 202 and both executed on August 31, 2021. Further consideration of Amendment No. 1 numbered Benton County Resolution 2022 125 executed on February 15, 2022, and Franklin County Resolution 2022 023 executed on February 1, 2022 (the "Contract"), the parties agree to amend the Section 1 ("Contract Documents"), Section 2 ("Contract Duration") Section 4(b) ("Contract Representatives") and Section 5 ("Compensation") as follows:

1. Section 1 "Contract Documents" shall be amended in its entirety as follows:

   This Contract consists of these Terms and Conditions and the following documents:

   a. Exhibit A – Ideal Option Rate Schedule from September 1, 2021 through April 30, 2024.

2. Section 2 "Contract Duration" shall be amended in its entirety, and the parties agree:

   "The term of this Contract shall begin on September 1, 2021 and shall, unless terminated or renewed as elsewhere provided in the Contract, expire on April 30, 2024. The term of this Contract may be renewed for up to three (3) one-year terms for a total of four (4) years by written mutual agreement of the parties."

3. Section 4(b) "Contract Representatives" and shall be amended as follows:

   b. For COUNTIES:

Name:	David Wheeler, Administrator
Address:	5606 W. Canal Pl., Ste. 106 Kennewick, WA 99336
Phone:	(509) 737-2745
Email:	Davd.Wheeler@co.benton.wa.us

4. Section 5(g) of the Contract ("Compensation") shall be amended in its entirety and the parties agree:

"The maximum total amount payable by the COUNTIES to the CONTRACTOR under this contract shall not exceed seven hundred fifty-nine thousand five hundred fifty-two dollars ($759,552.00)."

Except as expressly provided in this Contract Amendment No. 3, all other terms and conditions of the original Contract and subsequent written contract amendments thereto remain in full force and effect.

This Amendment No. 3 shall be effective September 1, 2021 and shall expire April 30, 2024.

Ideal Option, PLLC	**Benton Franklin Counties Juvenile Justice Center**
02/17/2023	2/24/2023
Sandy Becker **Date** **Chief Financial Officer**	**David Wheeler** **Date** **Juvenile Court Administrator**
BENTON COUNTY APPROVAL Approved as to Form: 02/21/23 Stephen Hallstrom, Deputy Prosecuting Attorney Date By: _____ Name: _____ Title: Chairman, Board of Commissioners Date: _____ Attest: Clerk of the Board: _____	**FRANKLIN COUNTY APPROVAL** Approved as to Form: _____ Civil Deputy Prosecuting Attorney Date By: _____ Name: _____ Title: Chair, Board of Commissioners Date: _____ Attest: Clerk of the Board: _____

Exhibit A

Benton Franklin Juvenile Justice Nursing Services Budget

Start Date: September 1, 2021
End Date: April 30, 2024

Total number of weeks: 138

Services	Duties	Rate	Unit	Hrs./Week	Total Budget
On-Site Services	RN - Weekdays - Approximately 6hrs/day, minimum of 22.5 hrs/week	$127	Hour	26.5	$464,439
Off-Site Services	RN consult via telephone/video conference outside of normal onsite scheduled hours	$127	Hour	2	$35,052
On-Site After Hour RN Coverage	Registered Nurse coverage after after 5:00 pm M-F, weekend or Holiday	$127	Hour	2	$35,052
Medical Assistant	Medication distribution.	$55	Hour	3.5	$26,565
RN Supervisor	Creation of Policies and Procedures	$127	Hour	4	$70,104
Medical Services	Phone consultation/on-site visit as needed during normal nursing hours and after-hour coverage billed per 1 hr	$186	Hour	5	$128,340
Grant Total					**$759,552**

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	FC 03/14//23 BC 03/28/23
Subject:	Award Cummins Sales and Service the Juvenile Justice Center Generator Maintenance and Repair Services Contract
Presenter:	N/A
Prepared By:	Rosa Garcia
Reviewed By:	David Wheeler

PA Review, Approval to Form: ☒ Yes ☐ No ☐ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☒ Execute Contract

Summary / Background Information

Benton-Franklin Counties Juvenile Justice Center solicited companies listed on the Washington State Master Contract No. 02420 for generator maintenance and repair services, to commence on March 1, 2023 and expire February 7, 2026.

The Juvenile Administrator reviewed the quotes and recommended Cummins Sales and Service, an authorized vendor under Washington State Master Contract No. 02420, to provide generator maintenance and repair services, as they were the lowest bidder.

Fiscal Impact

Total amount not to exceed $12,000, not including WSST.

Recommendation

We recommend that the Board of Commissioners of Benton County and the Board of Commissioners of Franklin County sign the resolution to award the generator maintenance and repair services contract to Cummins Sales and Service, utilizing Washington State Contract No. 02420.

Suggested Motion

Approved as part of consent agenda.

JOINT RESOLUTION

BENTON COUNTY RESOLUTION NO. _____

FRANKLIN COUNTY RESOLUTION NO. _____

BEFORE THE BOARDS OF THE COMMISSIONERS OF BENTON AND FRANKLIN COUNTIES, WASHINGTON;

IN THE MATTER OF AWARDING CONTRACT FOR GENERATOR SERVICES OFF THE WASHINGTON STATE DEPARTMENT OF ENTERPRISE SERVICE CONTRACT NO. 02420 TO CUMMINS SALES AND SERVICE FOR THE BENTON- FRANKLIN COUNTIES JUVENILE JUSTICE CENTER

WHEREAS, Washington State Contract No. 02420 allows generator maintenance and repair services to all government agencies; and

WHEREAS, Benton-Franklin County Juvenile Justice Center solicited companies listed on the Washington State Contract No. 02420 to provide a quote for generator maintenance and repair services;

- Cummins Sales and Service, Pasco, WA – $2,251.45 per year not including WSST
- Pacific Power Group, Ridgefield, WA - $4,400 per year not including WSST

WHEREAS, the Juvenile Administrator has reviewed the quotes for completeness and recommends contracting with Cummins Sales and Service as they were the lowest bidder, to commence March 1, 2023; **NOW, THEREFORE**

BE IT RESOLVED, the Board of Benton County Commissioners, Benton County, Washington and the Board of Franklin County Commissioners, Franklin County, Washington, hereby concur with the recommendation to award contract to Cummins Sales and Service for generator services at the Benton-Franklin Counties Juvenile Justice Center, utilizing the Washington State Contract No. 02420; and

BE IT FURTHER RESOLVED, the Board of Benton County Commissioners, Benton County, Washington and the Board of Franklin County Commissioners, Franklin County, Washington, hereby authorize the chairman sign the attached contract between Benton-Franklin Counties Juvenile Justice Center and Cummins Sales and Service, commencing March 1, 2023 and shall expire February 7, 2026 in the amount of $12,000, not including WSST.

DATED this _____ day of _____ 2023
BENTON COUNTY BOARD OF COMMISSIONERS

_____
Chairman of the Board

_____
Commissioner

_____
Commissioner

Constituting the Board of
County Commissioners,
Benton County, Washington

Attest:

_____
Clerk of the Board

DATED this _____ day of _____ 2023
FRANKLIN COUNTY BOARD OF COMMISSIONERS

_____
Chair of the Board

_____
Chair Pro Tem

_____
Member

Constituting the Board of
County Commissioners,
Franklin County, Washington

Attest:

_____
Clerk of the Board

Planned Equipment Maintenance Proposal to Benton-Franklin Counties Juvenile Justice Center

Cummins Sales and Service
Cummins.com

1/20/2023

Q-155696, Travis Neely,
travis.neely@cummins.com

To the attention of: Benton-Franklin Counties Juvenile Justice Center

Cummins provides best in class products and related services worldwide with the highest quality in the industry. We service more than Cummins engines and generators, and we're pleased to offer you the following planned equipment maintenance proposal.

Cummins Available Planned Maintenance Services:

Cummins offers the following services - based on your selected packages these may or may not be included:

System Inspections: Batteries, controls, fuel systems, cooling systems, intake and exhaust systems, controls and accessories, aftertreatment basic run testing included in all Inspection Services.
Oil & Coolant Analysis: Sampling, included in all Inspection + Services, provides an overall snapshot of the equipment condition.
Planned Maintenance: Clean filters and oil changes included in Full Service keeps your product ready to run.
Load Bank Testing: Prevents wet stacking in diesel engines. In all units load bank testing applies controlled load to the equipment to test for proper operation providing peace of mind.
Transfer Switch & Switchgear: Cummins takes care of your whole system.
Cummins Branded Parts: Maintenance always includes Cummins Genuine Parts where applicable.
Warranty: Best-in-Industry warranty is always included, with a variety of extended warranty options available on Cummins equipment.
Digital Monitoring: Cummins Acumen is a best in class remote monitoring solution for your products to ensure availability and minimize unexpected costs.
Additional Available Services: Winterization, oil extension programs, training and more can all be customized to your needs.

For additional information regarding Cummins available products and services, please contact your Sales Representative.

Pricing for Services:

This 5 year proposal has been customized for your equipment and operations as described here:

Customer Information:	Contact Information:	
Benton-Franklin Counties Juvenile Justice Center	Name:	Rosa Garcia
	Phone Number:	509-737-2779
	Email:	rosa.garcia@co.benton.wa.us

The package Custom Bundle includes the below services for this equipment:

Site Information:		Equipment Information:	
Benton-Franklin Juvenile Justice Center 5606 W Canal Drive Kennewick, Washington 99336 United States		**Manufacturer:**	Generac
		Model:	Non-Cummins
		Genset Serial Number:	2030169
Access:	Standard	**Quantity:**	1
Access Notes:	Outside building near kitchen		

Year 1	Service Type	Frequency	Quantity	Unit Price	Extended Price
	Inspection	Quarterly	3	354.01	1,062.04
	Full Service	Annually	1	1,189.41	1,189.41
				Year 1 Total:	2,251.45
Year 2	**Service Type**	**Frequency**	**Quantity**	**Unit Price**	**Extended Price**
	Inspection	Quarterly	3	354.01	1,062.04
	Full Service	Annually	1	1,189.41	1,189.41
				Year 2 Total:	2,251.45
Year 3	**Service Type**	**Frequency**	**Quantity**	**Unit Price**	**Extended Price**
	Inspection	Quarterly	3	354.01	1,062.04
	Full Service	Annually	1	1,189.41	1,189.41
				Year 3 Total:	2,251.45
Year 4	**Service Type**	**Frequency**	**Quantity**	**Unit Price**	**Extended Price**
	Inspection	Quarterly	3	354.01	1,062.04
	Full Service	Annually	1	1,189.41	1,189.41
				Year 4 Total:	2,251.45
Year 5	**Service Type**	**Frequency**	**Quantity**	**Unit Price**	**Extended Price**
	Inspection	Quarterly	3	354.01	1,062.04
	Full Service	Annually	1	1,189.41	1,189.41
				Year 5 Total:	2,251.45

Price of Services per Unit: USD 11,257.23
Total Price of Services: USD 11,257.23

Year 1 Total:	USD 2,251.45
Year 2 Total:	USD 2,251.45
Year 3 Total:	USD 2,251.45

Year 4 Total:	USD 2,251.45
Year 5 Total:	USD 2,251.45
Total Agreement - PreTax:	USD 11,257.23

Notes:
Anything not specifically addressed above is not included.

Customer Responsibilities:

The Customer is responsible for operating the maintained equipment and shall perform all checks as described in the Operation and Maintenance Manual.

Proposal Considerations:

1. All work is planned from Monday to Friday on normal Business working hours – 8:00am to 5:00pm. Additional and off-hours work and billable amounts not listed in the above scope of work shall be based on current calendar year rates.
2. All pricing above is stated excluding any and all taxes.
3. This quotation is open for acceptance for 60 days after which both price and service delivery period will be subject to confirmation prior to acceptance of proposal.
4. The pricing in this quotation will remain the same over the duration of the term.
5. This proposal is offered in U.S. Dollar.
6. Payment terms for this quote are Pay as you go.

This maintenance proposal is expressly conditioned upon acceptance of the https://www.cummins.com/regional-terms-and-conditions/powercare of Cummins' Maintenance Agreement.

I appreciate your interest in working with Cummins and I thank you for your business. If you need any further assistance or clarification, please do not hesitate to contact me.

To accept this quotation as provided, please return a signed copy of this form or contact me for an electronically signable version.

Sincerely,

Travis Neely
PEM Sales Manager – PG, Western US
(830) 327-8794
travis.neely@cummins.com
www.cummins.com

Please return signed agreement to: travis.neely@cummins.com

Seller hereby agrees to sell to Buyer, and Buyer hereby agrees to buy from Seller. The foregoing product/ services upon the terms and condition set forth in the "Planned Equipment Maintenance Agreement Terms and Condtions" attached here to which are hereby incorporated here in reference.

Customer Approval (Quote ID Q-155696)

Name: David Wheeler

Title: Juvenile Court Administrator

Signature: DavidWheeler
DavidWheeler (Feb 24, 2023 17:31 PST)

Date: Feb 24, 2023

Approval Cummins Sales & Service - Pasco WA

Name: Travis Neely

Title: PEM Sales Manager - PG, Western US

Signature: Travis Neely
Travis Neely (Feb 25, 2023 06:16 CST)

Date: Feb 25, 2023

Scope of Services

Generator
Planned Equipment Maintenance

INSPECTION

INTERVALS AVAILABLE: WEEKLY, MONTHLY, QUARTERLY, SEMI-ANNUALLY OR ANNUALLY

BATTERIES AND BATTERY CHARGER
- Visually inspect battery terminal connections
- Verify electrolyte level, vent caps of all cells in the starting battery system
- Visually inspect wiring, connections and insulation
- Record battery charging functions
- Record battery information
- Record battery condition test

FUEL SYSTEM
- Visually inspect ignition system (Natural Gas and Propane Only)
- Record primary tank fuel level
- Inspect engine fuel system for leaks
- Visually inspect all engine fuel hoses, clamps, pipes, components and fittings
- Visually inspect rupture/ containment basin
- Inspect day tank and controls (if applicable)
- Optional - fuel sample for laboratory analysis*

COOLING SYSTEM
- Record coolant level
- Visually inspect for coolant leaks
- Visually inspect drive belts condition
- Verify for proper coolant heater operation
- Record jacket water temperature
- Visually inspect fan, water pump, drives and pulleys
- Visually inspect all coolant hoses, clamps and connections
- Visually inspect radiator condition
- Visually inspect louver for damage
- Visually inspect fan hub and drive pulley for mechanical damage
- Record freeze point of antifreeze protection
- Record DCA level prior to changing coolant filter
- Optional - Coolant sample for laboratory analysis*

LUBRICATION SYSTEM
- Visually inspect engine oil leaks
- Visually inspect engine oil lines and connections
- Record oil level
- Optional - Oil sample for laboratory analysis*

GENSET CONTROLS AND ACCESSORIES
- Visually inspect all engine mounted wiring, senders and devices
- Visually inspect all control mounted components and wiring
- Verify all connecting plugs are tightened and in a good condition
- Visually inspect all accessory components and wiring
- Visually inspect and test lighting indicators

INTAKE AND EXHAUST SYSTEMS
- Visually inspect air filter and housing
- Visually inspect all engine piping and connections
- Record air cleaner restriction
- Visually inspect engine exhaust system for leaks
- Visually inspect rain cap
- Optional – Air filter replacement*
- Optional - Clean crankcase breather or replace filters*

GENERAL CONDITIONS
- Visually inspect governor linkage and oil level
- Visually inspect guards
- Visually inspect enclosure
- Visually inspect engine and generator mounts
- Verify emergency stop operation

TRANSFER SWITCH
- Visually inspect controls and time delay settings
- Verify function of exercise clock and record settings from controller
- Verify remote start control operation
- Record utility / source one voltage

AFTERTREATMENT (Upon request)
- Verify DEF level
- Record DPF restriction
- Visually inspect aftertreatment and controls

SWITCHGEAR (Upon Request)
- Inspection and Full Service quote available upon request.

FULL SERVICE

INCLUDES INSPECTION

OPERATIONAL & FUNCTIONAL REVIEW OF GENERATOR CRITICAL COMPONENTS
- Inspect engine cooling fan & fan drives for excessive wear or shaft wobble
- Check all pulleys, belt tensioners, slack adjusters & idler pulleys for travel, wear & overall condition
- Inspect / lubricate drive bearings, gear or belt drives, and other shaft connecting hardware

LUBRICATION OIL & FILTRATION SERVICE
- Change engine oil
- Change oil, fuel and water filters
- Post lube services operations of genset (unloaded) at rated temperature

* Additional Charge

Any additional repairs, parts, or service which are required will be brought to the attention of the owner. Repairs will only be made after proper authorization from the owner is given to Cummins. Any additional repairs, maintenance or service performed by Cummins or a Planned Equipment Maintenance Agreement holder will be at current Cummins labor rates.

Arc flash boundary and available incident energy shall be identified and marked on equipment being serviced or maintained.

NAMES AND TITLES OF AUTHORIZED OFFICER (PERSON WITH LEGAL AUTHORITY: COUNTY COMMISSIONERS' CHAIR OF THE BOARD, MAYOR, CITY/TOWN MANAGER, AGENCY DIRECTOR)

BENTON-FRANKLIN COUNTIES JUVENILE JUSTICE CENTER

2/28/2023

David Wheeler, Juvenile Court Administrator **Date**

BENTON COUNTY APPROVAL

Approved as to Form:

02/28/23

Deputy Prosecuting Attorney Date

By: _____

Name: _____

Title: Chairman, Board of Commissioners

Date: _____

Attest:

Clerk of the Board: _____

FRANKLIN COUNTY APPROVAL

Approved as to Form:

_____ _____

Civil Deputy Prosecuting Attorney Date

By: _____

Name: _____

Title: Chair, Board of Commissioners

Date: _____

Attest:

Clerk of the Board: _____

Washington State Department of Enterprise Services

MASTER CONTRACT

No. 02420

GENERATOR MAINTENANCE AND REPAIR

For Use by Eligible Purchasers

By and Between

STATE OF WASHINGTON
DEPARTMENT OF ENTERPRISE SERVICES

and

CUMMINS INC.
dba
CUMMINS SALES AND SERVICE

In All Categories and All Regions

Dated February 16 , 2021

MASTER CONTRACT

No. 02420

GENERATOR MAINTENANCE AND REPAIR

This Master Contract ("Master Contract") is made and entered into by and between the State of Washington acting by and through the Department of Enterprise Services, a Washington State governmental agency ("Enterprise Services") and Cummins Inc., an Indiana corporation ("Contractor") and is dated and effective as of February 8, 2021.

RECITALS

A. Pursuant to Legislative direction codified in RCW Chapter 39.26, Enterprise Services, on behalf of the State of Washington, is authorized to develop, solicit, and establish master contracts for goods and/or services for general use by Washington state agencies and certain other entities (eligible purchasers).

B. On behalf of the State of Washington, Enterprise Services, as part of a competitive governmental procurement, issued Competitive Solicitation No. 02420 dated November 4, 2020.

C. Enterprise Services evaluated all responses to the Competitive Solicitation and identified Contractor as an apparent successful bidder for all regions and all categories.

D. Enterprise Services has determined that entering into this Master Contract will meet the identified needs and be in the best interest of the State of Washington.

E. The purpose of this Master Contract is to enable eligible purchasers to purchase Generator Maintenance and Repair as set forth herein.

AGREEMENT

NOW THEREFORE, in consideration of the mutual promises, covenants, and conditions set forth herein, the parties hereto hereby agree as follows:

1. **TERM**. The term of this Master Contract is sixty (60) months, commencing February 8, 2021, and ending February 7, 2026.

2. **ELIGIBLE PURCHASERS**. This Master Contract may be utilized by any of the following types of entities ("Purchaser"):

   2.1. WASHINGTON STATE AGENCIES. All Washington state agencies, departments, offices, divisions, boards, and commissions.

   2.2. WASHINGTON STATE INSTITUTIONS OF HIGHER EDUCATION (COLLEGES). Any the following institutions of higher education in Washington:

   - State universities – i.e., University of Washington and Washington State University;

- Regional universities – i.e., Central Washington University, Eastern Washington University, and Western Washington University
- The Evergreen State College;
- Community colleges and technical colleges.

2.3. MCUA PARTIES. Any of the following types of entities that have executed a Master Contract Usage Agreement with Enterprise Services:

- Political subdivisions (e.g., counties, cities, school districts, public utility districts) in the State of Washington;
- Federal governmental agencies or entities;
- Public-benefit nonprofit corporations (i.e., § 501(c)(3) nonprofit corporations that receive federal, state, or local funding); and
- Federally-recognized Indian Tribes located in the State of Washington.

3. SCOPE – INCLUDED SERVICES AND PRICE.

3.1. CONTRACT SCOPE. Pursuant to this Master Contract, Contractor shall furnish qualified personnel, replacement parts, tools and supplies to perform generator preventive maintenance, repairs and load bank testing in accordance with the manufacturer requirements and current industry standards (hereafter "Services") for the prices set forth in *Exhibit A – Prices*. Contractor shall not represent to any Purchaser under this Master Contract that Contractor has contractual authority to sell any services beyond those set forth in this Master Agreement.

3.2. STATE'S ABILITY TO MODIFY SCOPE OF MASTER CONTRACT. Subject to mutual agreement between the parties, Enterprise Services reserves the right to modify the Services included in this Master Contract; *Provided*, however, that any such modification shall be effective only upon thirty (30) days advance written notice; and *Provided further*, that any such modification must be within the scope of this Master Contract.

3.3. PRICE CEILING. Although Contractor may offer lower prices to Purchasers, Contractor guarantees to provide Services during the term of this Master Contract at no greater than the prices (prevailing wage plus percentage markup) set forth in *Exhibit A – Prices.*

3.4. MASTER CONTRACT INFORMATION. Enterprise Services shall maintain and provide information regarding this Master Contract, including scope and pricing, to eligible Purchasers.

4. CONTRACTOR REPRESENTATIONS AND WARRANTIES. Contractor makes each of the following representations and warranties as of the effective date of this Master Contract and at the time any order is placed pursuant to this Master Contract. If, at the time of any such order, Contractor cannot make such representations and warranties, Contractor shall not process any orders and shall, within three (3) business days notify Enterprise Services, in writing, of such breach.

4.1. QUALIFIED TO DO BUSINESS. Contractor represents and warrants that it is in good standing and qualified to do business in the State of Washington, that it is registered with the Washington State Department of Revenue and the Washington Secretary of State, that it possesses and shall keep current all required licenses and/or approvals, and that it is current, in full compliance, and has paid all applicable taxes owed to the State of Washington.

4.2. SUSPENSION AND DEBARMENT. Contractor represents and warrants that neither it nor its principals or affiliates presently are debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in any governmental contract by any governmental department or agency within the United States.

4.3. PERFORMANCE & DELIVERY OF SERVICES. Contractor represents and warrants that in performing Services pursuant to this Master Contract, Contractor shall:

(a) Provide replacement parts and supplies that are merchantable, fit and safe for the intended purposes, free from defects in materials and workmanship, free of liens and encumbrances and are produced and delivered in full compliance with applicable law;

(b) Perform its obligations in a timely, professional, and workmanlike manner consistent with standards in the profession;

(c) Meet or exceed the performance and operational standards and specifications in this Master Contract;

(d) Not interfere with the State's operations;

(e) Obtain and maintain all necessary licenses, permits, or other authorizations necessary for the performance of the Master Contract;

(f) Cooperate with the State and any third party to achieve the objectives of the Master Contract;

(g) Return to the Purchaser any Purchaser-furnished equipment or other resources in the same condition as when provided when no longer required for the Master Contract;

(h) Comply with all Purchaser physical and IT security policies and standards which will be made available upon request;

(i) Comply with all State fire, access, safety, and other security requirements while on State premises; and

(j) Provide the State priority in performance of this Master Contract except as mandated by federal disaster response requirements.

Upon breach of warranty, Contractor will repair or re-perform (at no charge to Purchaser) any Services whose nonconformance is discovered and made known to the Contractor. If, in Purchaser's judgment, repair or re-performance is inadequate, or fails of its essential purpose, Contractor will refund the full amount of any payments that have been made. The rights and remedies of the parties under this warranty are in addition to any other rights and remedies of the parties provided by law or equity, including, without limitation,

actual damages, and, as applicable and awarded under the law, to a prevailing party, reasonable attorneys' fees and costs. Notwithstanding any provision to the contrary, any breach under this paragraph is considered a material breach.

4.4. WAGE VIOLATIONS. Contractor represents and warrants that, during the term of this Master Contract and the three-year period immediately preceding the award of the Master Contract, it is not determined, by a final and binding citation and notice of assessment issued by the Washington Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction, to be in willful violation of any provision of Washington state wage laws set forth in RCW chapters 49.46, 49.48, or 49.52.

4.5. PAY EQUALITY. Contractor represents and warrants that, among its workers, similarly employed individuals are compensated as equals. For purposes of this provision, employees are similarly employed if the individuals work for the same employer, the performance of the job requires comparable skill, effort, and responsibility, and the jobs are performed under similar working conditions. Job titles alone are not determinative of whether employees are similarly employed. Contractor may allow differentials in compensation for its workers based in good faith on any of the following: a seniority system; a merit system; a system that measures earnings by quantity or quality of production; a bona fide job-related factor or factors; or a bona fide regional difference in compensation levels. A bona fide job-related factor or factors may include, but not be limited to, education, training, or experience that is: consistent with business necessity; not based on or derived from a gender-based differential; and accounts for the entire differential. A bona fide regional difference in compensation level must be consistent with business necessity; not based on or derived from a gender-based differential; and account for the entire differential. Notwithstanding any provision to the contrary, upon breach of warranty and Contractor's failure to provide satisfactory evidence of compliance within 30 days, Enterprise Services may suspend or terminate this Master Contract and any Purchaser hereunder similarly may suspend or terminate its use of the Master Contract and/or any agreement entered into pursuant to this Master Contract.

4.6. EXECUTIVE ORDER 18-03 – WORKERS' RIGHTS. Contractor represents and warrants, as previously certified in Contractor's Bidder's Certification, that Contractor does NOT require its employees, as a condition of employment, to sign or agree to mandatory individual arbitration clauses or class or collective action waivers. Contractor further represents and warrants that, during the term of this Contract, Contractor will not, as a condition of employment, require its employees to sign or agree to mandatory individual arbitration clauses or class or collective action waivers.

4.7. PERFORMANCE SPECIFICATIONS. Contractor represents and warrants that all Services performed by Contractor shall be based upon the performance specifications of individual equipment as published by the equipment manufacturer or as otherwise indicated in this Master Contract or Purchaser's ordering document.

4.8. INDUSTRY CODES AND STANDARDS. Contractor represents and warrants that Contractor's Services comply with the latest edition of applicable industry and government codes and standards.

4.9. LABOR FURNISHED. Contractor represents and warrants that any electrical work required for the Services performed by Contractor shall be performed by a certified journey-level electrician as required by RCW 19.28.161 and WAC 296-46B-920.

4.10. MANUFACTURER CERTIFICATION. Contractor represents and warrants that it is an authorized service provider for the following manufacturers - Caterpillar, Kohler-SDMO, Cummins, and Generac - and that it shall maintain its authorized service provider status for the Term of this Master Contract. Upon request by Enterprise Services, Contractor shall provide evidence of its status as an authorized service provider.

4.11. PROCUREMENT ETHICS AND PROHIBITION ON GIFTS. Contractor represents and warrants that it complies fully with all applicable procurement ethics restrictions including, but not limited to, restrictions against Contractor providing gifts or anything of economic value, directly or indirectly, to Purchasers' employees.

4.12. WASHINGTON'S ELECTRONIC BUSINESS SOLUTION (WEBS). Contractor represents and warrants that it is registered in Washington's Electronic Business Solution (WEBS), Washington's contract registration system and that, all of its information therein is current and accurate and that throughout the term of this Master Contract, Contractor shall maintain an accurate profile in WEBS.

4.13. STATEWIDE PAYEE DESK. Contractor represents and warrants that it is registered with the Statewide Payee Desk, which registration is a condition to payment.

4.14. MASTER CONTRACT PROMOTION, ADVERTISING AND ENDORSEMENT. Contractor represents and warrants that it shall use commercially reasonable efforts both to promote and market the use of this Master Contract with eligible Purchasers and to ensure that those entities that utilize this Master Contract are eligible Purchasers. Contractor understands and acknowledges that neither Enterprise Services nor Purchasers are endorsing Contractor's services or suggesting that such services are the best or only solution to their needs. Accordingly, Contractor represents and warrants that it shall make no reference to Enterprise Services, any Purchaser, or the State of Washington in any promotional material without the prior written consent of Enterprise Services.

4.15. MASTER CONTRACT TRANSITION. Contractor represents and warrants that, in the event this Master Contract or a similar contract is transitioned to another contractor (e.g., Master Contract expiration or termination), Contractor shall use commercially reasonable efforts to assist Enterprise Services for a period of sixty days to effectuate a smooth transition to another contractor to minimize disruption of service and/or costs to the State of Washington.

5. USING THE MASTER CONTRACT – PURCHASES.

5.1. ORDERING REQUIREMENTS. Eligible Purchasers shall order Services from this Master Contract, consistent with the terms hereof and by using any ordering mechanism agreeable both to Contractor and Purchaser but, at a minimum, including the use of a purchase order. When practicable, Contractor and Purchaser also shall use telephone orders, email orders, web-based orders, and similar procurement methods (collectively "Purchase Order"). All order documents must reference the Master Contract number. The terms of this Master Contract shall apply to any Purchase Order and, in the event of any conflict, the terms of this Master Contract shall prevail. Notwithstanding any provision to the contrary, in no event shall any 'click-agreement,' software or web-based application terms and conditions, or other agreement modify the terms and conditions of this Master Contract.

5.2. RECEIPT AND INSPECTION OF SERVICES. Services purchased under this Master Contract are subject to Purchaser's reasonable inspection, testing, and approval at Purchaser's destination. Purchaser reserves the right to reject and refuse acceptance of Services that are not in accordance with this Master Contract and Purchase Order. If there are any apparent defects in the Services at the time of delivery, Purchaser promptly will notify Contractor. At Purchaser's option, and without limiting any other rights, Purchaser may require Contractor to repair, replace or re-perform, at Contractor's expense, any or all of the Services within five (5) business days of the notice or, at Purchaser's option, Purchaser may note any issues with the services on the receiving report, decline acceptance, and deduct the cost of rejected Services from final payment. Payment for any Services under such Purchase Order shall not be deemed acceptance of the Services.

5.3. ON SITE SAFETY REQUIREMENTS. While on Purchaser's premises, Contractor, its agents, employees, or subcontractors shall comply, in all respects, with Purchaser's physical, fire, access, safety, and other security requirements. Contractor's employees might have to pass a security background check before performing Services for certain Purchasers. All Contractor's employees who provide services at Department of Corrections (DOC) facilities must pass a security background check to be cleared for access to a DOC facility. Contractor shall submit required personnel information with adequate time for completion of a security background clearance, generally five (5) business days ahead of a scheduled site visit. For emergency requests, the Contractor will maintain a ready pool of personnel who are cleared for access. Some DOC facilities may require security clearance to be updated every 90 days. Contractors' employees who provide service at a DOC facility may be required to attend a security briefing before working inside a facility for the first time. The briefing will cover tool control, key control, association with offenders, staff escorts, use of cell phones, pagers, cameras, tobacco products, alcohol, and weapons.

5.4. CLEANING. Contractor shall insure that all areas are clean and salvaged materials or scraps are removed before leaving jobsite. The cleaning must be to a minimum of industry standards, and shall be to the full satisfaction of Purchaser. Contractor will be fully responsible for removal and disposal of all parts, supplies, oils, greases, solvents and soiled cleaning cloths/rags that are used in performing the Services. All material will be disposed of in accordance with all applicable local, State and Federal laws and regulations.

5.5. PREVENTIVE MAINTENANCE. Contractor shall perform preventive maintenance to prevent malfunctions or shutdowns of generator systems due to normal wear and tear. Preventive

maintenance includes scheduled, periodic, on-site inspection, testing, adjustments and part replacements of the generator system to keep a generator in proper working order consistent with original manufacturer specifications and recommendations. Contractor and Purchaser shall establish a preventive maintenance agreement to cover the specific tasks and frequency of preventive maintenance services for Purchaser's generator system. Services shall be performed during normal business hours and charged at a regular hourly rate, unless otherwise requested and approved by the Purchaser in advance. Normal business hours shall mean 7:30 a.m. to 5 p.m., Monday through Friday, with the exception of state holidays.

5.6. LOAD BANK TESTING. Contractor shall perform load bank testing and provide Purchaser with the load bank testing report that contains comprehensive test results. Load bank testing produces artificial loads on the generators by bringing the engine to an appropriate operating temperature and pressures to verify all primary components of the generator system are in proper working condition consistent with original manufacturer specifications and recommendations. Contractor and Purchaser shall establish an agreement to cover the specific tasks and frequency of load bank testing services for Purchaser's generator system. Services shall be performed during normal business hours and charged at a regular hourly rate, unless otherwise requested and approved by the Purchaser in advance. Normal business hours shall mean 8 a.m. to 5 p.m., Monday through Friday with the exception of the state holidays.

5.7. REPAIR SERVICES. Repair services include unscheduled maintenance of generator systems which are not operating properly and require immediate repair or service to return them to proper working order consistent with original manufacturer specifications and recommendations. Contractor shall provide twenty-four (24) hours a day, seven (7) days a week telephone service for as-needed repair requests. Prior to any repairs being made by the Contractor, the Contractor shall submit a written proposal to the Purchaser to obtain formal approval to proceed.

5.8. REPLACEMENT PARTS. In performing the services, Contractor shall provide only new replacement parts that are approved by the serviced generator's manufacturer. If Contractor wishes to provide parts other than recommended by the original equipment manufacturer, Contractor shall, in writing, state the type proposed and the specifications to the Purchaser for review and written approval. Contractor shall use commercially reasonable efforts to procure replacements parts in the most expeditious manner available.

5.9. RESPONSE TIMES. Contractor must arrive at Purchaser's location within a four-hour window for a scheduled appointment; within six hours of the Purchaser's request for emergency repair services (as defined in Section 5.7); and 10 hours for emergency repair services in a rural location, defined as two hours or more from a Contractor's regional office.

6. INVOICING AND PAYMENT.

6.1. CONTRACTOR INVOICE. Contractor shall submit to Purchaser's designated invoicing contact properly itemized invoices. Such invoices shall itemize the following:

(a) Master Contract No. 02420.

(b) Contractor name, address, telephone number, and email address for billing issues (i.e., Contractor customer service representative).

(c) Contractor's Federal Tax Identification Number

(d) Date(s) of delivery

(e) Invoice amount; and

(f) Payment terms, including any available prompt payment discounts.

Contractor shall provide Purchaser with the estimates and invoices for the Services that breakdown the total cost into the number of hours required to complete the Services, and pricing for supplies and replacement parts in accordance with the rates and mark-ups as set forth in *Exhibit A – Prices*. Upon Purchaser's request Contractor has to provide its supplier invoices to verify cost paid for supplies and replacement parts. Documentation of hours is required for Services payment due to Contractor. If less than the stated hours of Services are performed, the prorated dollar value for the time short will be deducted from Contractor's invoice.

Contractor's invoices for payment shall reflect accurate Master Contract prices. Invoices will not be processed for payment until receipt of a complete invoice as specified herein.

6.2. PAYMENT. Payment is the sole responsibility of, and will be made by, the Purchaser. Payment is due within thirty (30) days of invoice. If Purchaser fails to make timely payment(s), Contractor may invoice Purchaser in the amount of one percent (1%) per month on the amount overdue or a minimum of $1. Payment will not be considered late if a check or warrant is mailed within the time specified.

6.3. OVERPAYMENTS. Contractor promptly shall refund to Purchaser the full amount of any erroneous payment or overpayment. Such refunds shall occur within thirty (30) days of written notice to Contractor; *Provided*, however, that Purchaser shall have the right to elect to have either direct payments or written credit memos issued. If Contractor fails to make timely payment(s) or issuance of such credit memos, Purchaser may impose one percent (1%) per month on the amount overdue thirty days after notice to the Contractor.

6.4. NO ADVANCE PAYMENT. No advance payments shall be made for any products or services furnished by Contractor pursuant to this Master Contract.

6.5. NO ADDITIONAL CHARGES. Unless otherwise specified herein, Contractor shall not include or impose any additional charges including, but not limited to, charges for shipping, handling, or payment processing.

6.6. TAXES/FEES. Contractor promptly shall pay all applicable taxes on its operations and activities pertaining to this Master Contract. Failure to do so shall constitute breach of this Master Contract. Unless otherwise agreed, Purchaser shall pay applicable sales tax imposed by the State of Washington on purchased Services. Contractor, however, shall not make any charge for federal excise taxes and Purchaser agrees to furnish Contractor with an exemption certificate where appropriate.

7. CONTRACT MANAGEMENT.

7.1. CONTRACT ADMINISTRATION AND NOTICES. Except for legal notices, the parties hereby designate the following contract administrators as the respective single points of contact for purposes of this Master Contract. Enterprise Services' contract administrator shall provide Master Contract oversight. Contractor's contract administrator shall be Contractor's principal contact

for business activities under this Master Contract. The parties may change contractor administrators by written notice as set forth below.

Any notices required or desired shall be in writing and sent by U.S. mail, postage prepaid, or sent via email, and shall be sent to the respective addressee at the respective address or email address set forth below or to such other address or email address as the parties may specify in writing:

Enterprise Services
Attn: Bart Potter
Washington Dept. of Enterprise Services
PO Box 41411
Olympia, WA 98504-1411
Tel: (360) 407-9431
Email: bart.potter@des.wa.gov

Contractor
Attn: Mike Radford
1800 Fryar Ave Sumner, WA 98390
Tel: (206) 276-7680
Email: michael.radford@cummins.com

Notices shall be deemed effective upon the earlier of receipt, if mailed, or, if emailed, upon transmission to the designated email address of said addressee.

7.2. CONTRACTOR CUSTOMER SERVICE REPRESENTATIVE. Contractor shall designate a customer service representative (and inform Enterprise Services of the same) who shall be responsible for addressing Purchaser issues pertaining to this Master Contract.

7.3. LEGAL NOTICES. Any legal notices required or desired shall be in writing and delivered by U.S. certified mail, return receipt requested, postage prepaid, or sent via email, and shall be sent to the respective addressee at the respective address or email address set forth below or to such other address or email address as the parties may specify in writing:

Enterprise Services
Attn: Legal Services Manager
Washington Dept. of Enterprise Services
PO Box 41411
Olympia, WA 98504-1411
Email: greg.tolbert@des.wa.gov

Contractor
Attn: Scott Beier
Assistant Counsel
Cummins, Inc.
301 E. Market Street,
Indianapolis, IN 46204
Email: scott.beier@cummins.com

Notices shall be deemed effective upon the earlier of receipt when delivered, or, if mailed, upon return receipt, or, if emailed, upon transmission to the designated email address of said addressee.

8. CONTRACTOR SALES REPORTING; VENDOR MANAGEMENT FEE; AND CONTRACTOR REPORTS.

8.1. MASTER CONTRACT SALES REPORTING. Contractor shall report total Master Contract sales quarterly to Enterprise Services, as set forth below.

(a) Master Contract Sales Reporting System. Contractor shall report quarterly Master Contract sales in Enterprise Services' Master Contract Sales Reporting System. Enterprise Services will provide Contractor with a login password and a vendor number. The password and vendor number will be provided to the Sales Reporting Representative(s) listed on Contractor's Bidder Profile.

(b) Data. Each sales report must identify every authorized Purchaser by name as it is known to Enterprise Services and its total combined sales amount invoiced during the reporting period (i.e., sales of an entire agency or political subdivision, not its individual subsections). The "Miscellaneous" option may be used only with prior approval by Enterprise Services. Upon request, Contractor shall provide contact information for all authorized Purchasers specified herein during the term of the Master Contract. If there are no Master Contract sales during the reporting period, Contractor must report zero sales.

(c) Due dates for Master Contract Sales Reporting. Quarterly Master Contract Sales Reports must be submitted electronically by the following deadlines for all sales invoiced during the applicable calendar quarter:

FOR CALENDAR QUARTER ENDING	MASTER CONTRACT SALES REPORT DUE
March 31:	April 30
June 30:	July 31
September 30:	October 31
December 31:	January 31

8.2. VENDOR MANAGEMENT FEE. Contractor shall pay to Enterprise Services a vendor management fee ("VMF") of 1.5 percent on the purchase price for all Master Contract sales (the purchase price is the total invoice price less applicable sales tax).

(a) The sum owed by Contractor to Enterprise Services as a result of the VMF is calculated as follows:

> Amount owed to Enterprise Services = Total Master Contract sales invoiced (not including sales tax) x .015.

(b) The VMF must be rolled into Contractor's current pricing. The VMF must not be shown as a separate line item on any invoice unless specifically requested and approved by Enterprise Services.

(c) Enterprise Services will invoice Contractor quarterly based on Master Contract sales reported by Contractor. Contractors are not to remit payment until they receive an invoice from Enterprise Services. Contractor's VMF payment to Enterprise Services must reference this Master Contract number (02420), work request number (if applicable), the year and quarter for which the VMF is being remitted, and the Contractor's name as set forth in this Master Contract, if not already included on the face of the check.

(d) Failure to accurately report total net sales, to submit a timely usage report, or remit timely payment of the VMF, may be cause for Master Contract suspension or termination or the exercise of other remedies provided by law. Without limiting any other available remedies, the Parties agree that Contractor's failure to remit to Enterprise Services timely payment of the VMF shall obligate Contractor to pay to Enterprise Services, to offset the administrative and

transaction costs incurred by the State to identify, process, and collect such sums, the sum of $200.00 or twenty-five percent (25%) of the outstanding amount, whichever is greater, or the maximum allowed by law, if less.

(e) Enterprise Services reserves the right, upon thirty (30) days advance written notice, to increase, reduce, or eliminate the VMF for subsequent purchases, and reserves the right to renegotiate Master Contract pricing with Contractor when any subsequent adjustment of the VMF might justify a change in pricing.

8.3. ANNUAL MASTER CONTRACT SALES REPORT. Contractor shall provide to Enterprise Services a detailed annual Master Contract sales report. Such report shall include, at a minimum: Product description, part number or other Product identifier, per unit quantities sold, and Master Contract price. This report must be provided in an electronic format that can be read by Microsoft (MS) Excel.

9. RECORDS RETENTION AND AUDITS

9.1. RECORDS RETENTION. Contractor shall maintain books, records, documents, and other evidence pertaining to this Master Contract and orders placed by Purchasers under it to the extent and in such detail as shall adequately reflect performance and administration of payments and fees. Contractor shall retain such records for a period of six (6) years following expiration or termination of this Master Contract or final payment for any order placed by a Purchaser against this Master Contract, whichever is later; *Provided*, however, that if any litigation, claim, or audit is commenced prior to the expiration of this period, such period shall extend until all such litigation, claims, or audits have been resolved.

9.2. AUDIT. Enterprise Services reserves the right to audit, or have a designated third party audit, applicable records to ensure that Contractor has properly invoiced Purchasers and that Contractor has paid all applicable vendor management fees. Accordingly, Contractor shall permit Enterprise Services, any Purchaser, and any other duly authorized agent of a governmental agency, to audit, inspect, examine, copy and/or transcribe Contractor's books, documents, papers and records directly pertinent to this Master Contract or orders placed by a Purchaser under it for the purpose of making audits, examinations, excerpts, and transcriptions. This right shall survive for a period of six (6) years following expiration or termination of this Master Contract or final payment for any order placed by a Purchaser against this Master Contract, whichever is later; *Provided*, however, that if any litigation, claim, or audit is commenced prior to the expiration of this period, such period shall extend until all such litigation, claims, or audits have been resolved.

9.3. OVERPAYMENT OF PURCHASES OR UNDERPAYMENT OF FEES. Without limiting any other remedy available to any Purchaser, Contractor shall (a) reimburse Purchasers for any overpayments inconsistent with the terms of this Master Contract or orders, at a rate of 125% of such overpayments, found as a result of the examination of the Contractor's records; and (b) reimburse Enterprise Services for any underpayment of fees, at a rate of 125% of such fees found as a result of the examination of the Contractor's records (e.g., if Contractor underpays the Vendor Management Fee by $500, Contractor would be required to pay to Enterprise Services $500 x 1.25 = $625).

10. INSURANCE.

10.1. REQUIRED INSURANCE. During the Term of this Master Contract, Contractor, at its expense, shall maintain in full force and effect the insurance coverages set forth in *Exhibit B – Insurance Requirements*. All costs for insurance, including any payments of deductible amounts, shall be considered incidental to and included in the prices for services and no additional payment shall be made.

10.2. WORKERS COMPENSATION. Contractor shall comply with applicable workers compensation statutes and regulations (e.g., RCW Title 51, Industrial Insurance). If Contractor fails to provide industrial insurance coverage or fails to pay premiums or penalties on behalf of its employees as may be required by law, Enterprise Services may terminate this Master Contract. This provision does not waive any of the Washington State Department of Labor and Industries (L&I) rights to collect from Contractor. In addition, Contractor waives its immunity under RCW Title 51 to the extent it is required to indemnify, defend, and hold harmless the State of Washington and its agencies, officials, agents, or employees.

11. CLAIMS.

11.1. ASSUMPTION OF RISKS; CLAIMS BETWEEN THE PARTIES. Contractor assumes sole responsibility and all risks of personal injury or property damage to itself and its employees and agents in connection with its operations under this Master Contract. Enterprise Services has made no representations regarding any factor affecting Contractor's risks. Contractor shall pay for all damage to any Purchaser's property resulting directly or indirectly from its acts or omissions under this Master Contract, even if not attributable to negligence by Contractor or its agents.

11.2. THIRD-PARTY CLAIMS; INDEMNITY. To the fullest extent permitted by law, Contractor shall defend, indemnify, and hold harmless Enterprise Services and any Purchaser and their employees and agents from and against all claims, demands, judgments, assessments, damages, penalties, fines, costs, liabilities or losses including, without limitation, sums paid in settlement of claims, attorneys' fees, consultant fees, and expert fees (collectively "claims") arising from any act or omission of Contractor or its successors, agents, and subcontractors under this Master Contract, except claims caused solely by Enterprise Services or any Purchasers' negligence. Contractor shall take all steps needed to keep Purchaser's property free of liens arising from Contractor's activities, and promptly obtain or bond the release of any such liens that may be filed.

12. DISPUTE RESOLUTION. The parties shall cooperate to resolve any dispute pertaining to this Master Contract efficiently, as timely as practicable, and at the lowest possible level with authority to resolve such dispute. If, however, a dispute persists and cannot be resolved, it may be escalated within each organization. In such situation, upon notice by either party, each party, within five (5) business days shall reduce its description of the dispute to writing and deliver it to the other party. The receiving party then shall have three (3) business days to review and respond in writing. In the event that the parties cannot then agree on a resolution of the dispute, the parties shall schedule a conference between the respective senior managers of each organization to attempt to resolve the dispute. In the event the parties cannot agree, either party may resort to court to resolve the dispute.

13. SUSPENSION AND TERMINATION; REMEDIES.

13.1. SUSPENSION AND TERMINATION FOR DEFAULT. Enterprise Services may suspend Contractor's operations under this Master Contract immediately by written cure notice of any default.

Suspension shall continue until the default is remedied to Enterprise Services' reasonable satisfaction; *Provided*, however, that, if after thirty (30) days from such a suspension notice, Contractor remains in default, Enterprise Services may terminate Contractor's rights under this Master Contract. All of Contractor's obligations to Enterprise Services and Purchasers survive termination of Contractor's rights under this Master Contract, until such obligations have been fulfilled.

13.2. DEFAULT. Each of the following events shall constitute default of this Master Contract by Contractor:

(k) Contractor fails to perform or comply with any of the terms or conditions of this Master Contract including, but not limited to, Contractor's obligation to pay vendor management fees when due;

(l) Contractor breaches any representation or warranty provided herein; or

(m) Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary.

13.3. REMEDIES FOR DEFAULT.

(a) Enterprise Services' rights to suspend and terminate Contractor's rights under this Master Contract are in addition to all other available remedies.

(b) In the event of termination for default, Enterprise Services may exercise any remedy provided by law including, without limitation, the right to procure for all Purchasers replacement services. In such event, Contractor shall be liable to Enterprise Services for damages as authorized by law including, but not limited to, any price difference between the Master Contract price and the replacement or cover price as well as any administrative and/or transaction costs directly related to such replacement procurement – e.g., the cost of the competitive procurement.

13.4. LIMITATION ON DAMAGES. Notwithstanding any provision to the contrary, the parties agree that in no event shall any party or Purchaser be liable to the other for exemplary or punitive damages.

13.5. GOVERNMENTAL TERMINATION.

(a) Termination for Withdrawal of Authority. Enterprise Services may suspend or terminate this Master Contract if, during the term hereof, Enterprise Services' procurement authority is withdrawn, reduced, or limited such that Enterprise Services, in its judgment, would lack authority to enter into this Master Contract; *Provided*, however, that such suspension or termination for withdrawal of authority shall only be effective upon twenty (20) days prior written notice; and *Provided further*, that such suspension or termination for withdrawal of authority shall not relieve any Purchaser from payment for services already ordered as of the effective date of such notice. Except as stated in this provision, in the event of such suspension or termination for withdrawal of authority, neither Enterprise Services nor any Purchaser shall have any obligation or liability to Contractor.

(b) Termination for Public Convenience. Enterprise Services, for public convenience, may terminate this Master Contract; *Provided*, however, that such termination for public convenience must, in Enterprise Services' judgment, be in the best interest of

the State of Washington; and *Provided further*, that such termination for public convenience shall only be effective upon sixty (60) days prior written notice; and *Provided further*, that such termination for public convenience shall not relieve any Purchaser from payment for services already ordered as of the effective date of such notice. Except as stated in this provision, in the event of such termination for public convenience, neither Enterprise Services nor any Purchaser shall have any obligation or liability to Contractor.

13.6. TERMINATION PROCEDURE. Regardless of basis, in the event of suspension or termination (in full or in part), the parties shall cooperate to ensure an orderly and efficient suspension or termination. Accordingly, Contractor shall deliver to Purchasers all services that are complete (or with approval from Enterprise Services, substantially complete) and Purchasers shall inspect, accept, and pay for the same in accordance with this Master Contract and the applicable Purchase Order. Unless directed by Enterprise Services to the contrary, Contractor shall not process any orders after notice of suspension or termination inconsistent therewith.

14. GENERAL PROVISIONS.

14.1. TIME IS OF THE ESSENCE. Time is of the essence for each and every provision of this Master Contract.

14.2. COMPLIANCE WITH LAW. Contractor shall comply with all applicable law.

14.3. INTEGRATED AGREEMENT. This Master Contract constitutes the entire agreement and understanding of the parties with respect to the subject matter and supersedes all prior negotiations, representations, and understandings between them. There are no representations or understandings of any kind not set forth herein.

14.4. AMENDMENT OR MODIFICATION. Except as set forth herein, this Master Contract may not be amended or modified except in writing and signed by a duly authorized representative of each party.

14.5. AUTHORITY. Each party to this Master Contract, and each individual signing on behalf of each party, hereby represents and warrants to the other that it has full power and authority to enter into this Master Contract and that its execution, delivery, and performance of this Master Contract has been fully authorized and approved, and that no further approvals or consents are required to bind such party.

14.6. NO AGENCY. The parties agree that no agency, partnership, or joint venture of any kind shall be or is intended to be created by or under this Master Contract. Neither party is an agent of the other party nor authorized to obligate it.

14.7. ASSIGNMENT. Contractor may not assign its rights under this Master Contract without Enterprise Services' prior written consent and Enterprise Services may consider any attempted assignment without such consent to be void; *Provided*, however, that, if Contractor provides written notice to Enterprise Services within thirty (30) days, Contractor may assign its rights under this Master Contract in full to any parent, subsidiary, or affiliate of Contractor that controls or is controlled by or under common control with Contractor, is merged or consolidated with Contractor, or purchases a majority or controlling interest in the ownership or assets of Contractor. Unless otherwise agreed, Contractor guarantees prompt performance

of all obligations under this Master Contract notwithstanding any prior assignment of its rights.

14.8. BINDING EFFECT; SUCCESSORS AND ASSIGNS. This Master Contract shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns.

14.9. PUBLIC INFORMATION. This Master Contract and all related documents are subject to public disclosure as required by Washington's Public Records Act, RCW chapter 42.56.

14.10. ASSIGNMENT OF ANTITRUST RIGHTS REGARDING PURCHASED SERVICES. Contractor irrevocably assigns to Enterprise Services, on behalf of the State of Washington, any claim for relief or cause of action which the Contractor now has or which may accrue to the Contractor in the future by reason of any violation of state or federal antitrust laws in connection with any services provided in Washington for the purpose of carrying out the Contractor's obligations under this Master Contract, including, at Enterprise Services' option, the right to control any such litigation on such claim for relief or cause of action.

14.11. FEDERAL FUNDS. To the extent that any Purchaser uses federal funds to purchase services pursuant to this Master Contract, such Purchaser shall specify, with its order, any applicable requirement or certification that must be satisfied by Contractor at the time the order is placed or upon delivery.

14.12. SEVERABILITY. If any provision of this Master Contract is held to be invalid or unenforceable, such provision shall not affect or invalidate the remainder of this Master Contract, and to this end the provisions of this Master Contract are declared to be severable. If such invalidity becomes known or apparent to the parties, the parties agree to negotiate promptly in good faith in an attempt to amend such provision as nearly as possible to be consistent with the intent of this Master Contract.

14.13. WAIVER. Failure of either party to insist upon the strict performance of any of the terms and conditions hereof, or failure to exercise any rights or remedies provided herein or by law, or to notify the other party in the event of breach, shall not release the other party of any of its obligations under this Master Contract, nor shall any purported oral modification or rescission of this Master Contract by either party operate as a waiver of any of the terms hereof. No waiver by either party of any breach, default, or violation of any term, warranty, representation, contract, covenant, right, condition, or provision hereof shall constitute waiver of any subsequent breach, default, or violation of the same or other term, warranty, representation, contract, covenant, right, condition, or provision.

14.14. SURVIVAL. All representations, warranties, covenants, agreements, and indemnities set forth in or otherwise made pursuant to this Master Contract shall survive and remain in effect following the expiration or termination of this Master Contract, *Provided*, however, that nothing herein is intended to extend the survival beyond any applicable statute of limitations periods.

14.15. GOVERNING LAW. The validity, construction, performance, and enforcement of this Master Contract shall be governed by and construed in accordance with the laws of the State of Washington, without regard to its choice of law rules.

14.16. JURISDICTION AND VENUE. In the event that any action is brought to enforce any provision of this Master Contract, the parties agree to exclusive jurisdiction in Thurston County Superior Court

for the State of Washington and agree that in any such action venue shall lie exclusively at Olympia, Washington.

14.17. ATTORNEYS' FEES. Should any legal action or proceeding be commenced by either party in order to enforce this Master Contract or any provision hereof, or in connection with any alleged dispute, breach, default, or misrepresentation in connection with any provision herein contained, the prevailing party shall be entitled to recover reasonable attorneys' fees and costs incurred in connection with such action or proceeding, including costs of pursuing or defending any legal action, including, without limitation, any appeal, discovery, or negotiation and preparation of settlement arrangements, in addition to such other relief as may be granted.

14.18. FAIR CONSTRUCTION AND INTERPRETATION. The provisions of this Master Contract shall be construed as a whole according to their common meaning and not strictly for or against any party and consistent with the provisions contained herein in order to achieve the objectives and purposes of this Master Contract. Each party hereto and its counsel has reviewed and revised this Master Contract and agrees that the normal rules of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be construed in the interpretation of this Master Contract. Each term and provision of this Master Contract to be performed by either party shall be construed to be both a covenant and a condition.

14.19. FURTHER ASSURANCES. In addition to the actions specifically mentioned in this Master Contract, the parties shall each do whatever may reasonably be necessary to accomplish the transactions contemplated in this Master Contract including, without limitation, executing any additional documents reasonably necessary to effectuate the provisions and purposes of this Master Contract.

14.20. EXHIBITS. All exhibits referred to herein are deemed to be incorporated in this Master Contract in their entirety.

14.21. CAPTIONS AND HEADINGS. The captions and headings in this Master Contract are for convenience only and are not intended to, and shall not be construed to, limit, enlarge, or affect the scope or intent of this Master Contract nor the meaning of any provisions hereof.

14.22. ELECTRONIC SIGNATURES. A signed copy of this Master Contract or any other ancillary agreement transmitted by facsimile, email, or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Master Contract or such other ancillary agreement for all purposes.

14.23. COUNTERPARTS. This Master Contract may be executed in any number of counterparts, each of which shall be deemed an original and all of which counterparts together shall constitute the same instrument which may be sufficiently evidenced by one counterpart. Execution of this Master Contract at different times and places by the parties shall not affect the validity thereof so long as all the parties hereto execute a counterpart of this Master Contract.

EXECUTED as of the date and year first above written.

STATE OF WASHINGTON
Department of Enterprise Services
By: Elena McGrew
Its: Chief Purchasing Officer

Signature: Elena McGrew

CUMMINS INC., an Indiana corporation, dba Cummins Sales and Service
By: Fred Risse
Its: Dir. Power Generation PEM Solutions, Western U.S.

Signature: Fred Risse

Exhibit A

PRICES FOR SERVICES

Category 1: Preventive maintenance, repair services and load bank testing for generators up to 600 kW.

Region	Mechanic		Electrician		Truck driver	
North Puget Sound	**PW +**	85%	**PW +**	65%	**PW +**	90%
Olympic	**PW +**	90%	**PW +**	68%	**PW +**	95%
Southwest	**PW +**	90%	**PW +**	68%	**PW +**	160%
North Central	**PW +**	115%	**PW +**	70%	**PW +**	150%
South Central	**PW +**	115%	**PW +**	80%	**PW +**	140%
Eastern	**PW +**	115%	**PW +**	100%	**PW +**	110%
Other markups						
After-hours/emergency work (Overtime)	*PW + 155%*					
Replacement Parts	*20%*					

Category 2: Preventive maintenance, repair services and load bank testing for generators 601 kW to 3,000 kW (or larger)

Region	Mechanic		Electrician		Truck driver	
North Puget Sound	**PW +**	85%	**PW +**	65%	**PW +**	90%
Olympic	**PW +**	90%	**PW +**	73%	**PW +**	93%
Southwest	**PW +**	90%	**PW +**	73%	**PW +**	166%
North Central	**PW +**	115%	**PW +**	70%	**PW +**	150%
South Central	**PW +**	115%	**PW +**	85%	**PW +**	140%
Eastern	**PW +**	115%	**PW +**	105%	**PW +**	110%
Other markups						
After-hours/emergency work	*PW + 155%*					
Replacement parts	*20%*					

Permit fees

Cost of permit fees may be charged at cost as a separate line item on customer invoices. Labor costs involved in obtaining permits may be charged at regular contract prices.

Travel charges

Mileage: $3 per mile

Hourly each way: Charged at the actual hours in transit for the actual technician for the county of the job site at the markup rate (PW+%) for the region. Example: For an electrician traveling to King County, hourly each way would be $137.03; in Spokane, it would be $115.54.

Per diem at actual State Administrative and Accounting Manual rates (based on federal GSA guidelines) per location of job – no minimum charge; no charge for lodging if no overnight stay.

Minimum charge for service: $300.

Exhibit B

INSURANCE REQUIREMENTS

1. **INSURANCE OBLIGATION.** During the Term of this Master Contract, Contractor shall possess and maintain in full force and effect, at Contractor's sole expense, the following insurance coverages:

    a. COMMERCIAL GENERAL LIABILITY INSURANCE. Commercial general liability insurance (and, if necessary, commercial umbrella liability insurance) covering bodily injury, property damage, products/completed operations, personal injury, and advertising injury liability on an 'occurrence form' that shall be no less comprehensive and no more restrictive than the coverage provided by Insurance Services Office (ISO) under the most recent version of form CG 00 01 in the amount of not less than $2,000,000 per occurrence and $4,000,000 general aggregate. This coverage shall include blanket contractual liability coverage. This coverage shall include a cross-liability clause or separation of insured condition.

    b. COMMERCIAL AUTOMOBILE LIABILITY INSURANCE. Commercial automobile liability insurance covering the ownership, maintenance, and/or use of all owned/leased, non-owned, and hired vehicles used in the performance of the Master Contract, with limits of not less than $1,000,000 per accident, combined single limit for bodily injury and property damage liability. Coverage shall be provided on Insurance Services Office (ISO) form number CA 0001 or an equivalent. The required limits can be satisfied by any combination of primary, umbrella, or excess policy.

    c. EMPLOYERS' LIABILITY (STOP GAP) INSURANCE. Employers' liability insurance (and, if necessary, commercial umbrella liability insurance) with limits not less than $1,000,000 each accident for bodily injury by accident, $1,000,000 each employee for bodily injury by disease, and $1,000,000 bodily injury by disease policy limit.

    The insurance coverage limits set forth herein are the minimum. Contractor's insurance coverage shall be no less than the minimum amounts specified. Coverage in the amounts of these minimum limits, however, shall not be construed to relieve Contractor from liability in excess of such limits. Contractor waives all rights against the State of Washington for the recovery of damages to the extent such damages are covered by any insurance required herein.

2. **INSURANCE CARRIER RATING.** Coverages provided by the Contractor must be underwritten by an insurance company deemed acceptable to the State of Washington's Office of Risk Management. Insurance coverage shall be provided by companies authorized to do business within the State of Washington and rated A- Class VII or better in the most recently published edition of Best's Insurance Rating. Enterprise Services reserves the right to reject all or any insurance carrier(s) with an unacceptable financial rating.

3. **ADDITIONAL INSURED.** Commercial General Liability, Commercial Automobile Liability, and Pollution Liability Insurance shall include the State of Washington and all authorized Purchasers (and their agents, officers, and employees) as Additional Insureds evidenced by copy of the Additional Insured Endorsement attached to the Certificate of Insurance on such insurance policies.

4. **CERTIFICATE OF INSURANCE.** Prior to execution of the Master Contract, Contractor shall furnish to Enterprise Services, as evidence of the insurance coverage required by this Master Contract, a certificate of insurance satisfactory to Enterprise Services that insurance, in the above-stated kinds and minimum amounts, has been secured. In addition, no less than ten (10) days prior to coverage expiration, Contractor shall furnish to Enterprise Services an updated or renewed certificate of insurance, satisfactory to Enterprise Services, that insurance, in the above-stated kinds and minimum amounts, has been secured. Failure to maintain or provide proof of insurance, as required, will result in contract cancellation. **All policies and certificates of insurance shall include the Master Contract number stated on the cover of this Master Contract.**

5. **PRIMARY COVERAGE.** Contractor's insurance shall apply as primary and shall not seek contribution from any insurance or self-insurance maintained by, or provided to, the additional insureds listed above including, at a minimum, the State of Washington and/or any Purchaser. All insurance or self-insurance of the State of Washington and/or Purchasers shall be excess of any insurance provided by Contractor or subcontractors.

6. **SUBCONTRACTORS.** Contractor shall include all subcontractors as insureds under all required insurance policies. Alternatively, prior to utilizing any subcontractor, Contractor shall cause any such subcontractor to provide insurance that complies will all applicable requirements of the insurance set forth herein and shall furnish separate Certificates of Insurance and endorsements for each subcontractor. Each subcontractor must comply fully with all insurance requirements stated herein. Failure of any subcontractor to comply with insurance requirements does not limit Contractor's liability or responsibility.

7. **WAIVER OF SUBROGATION.** Contractor waives all rights of subrogation against the State of Washington and any Purchaser for the recovery of damages to the extent such damages are or would be covered by the insurance specified herein.

8. **NOTICE OF CHANGE OR CANCELLATION.** There shall be no cancellation, material change, exhaustion of aggregate limits, or intent not to renew insurance coverage, either in whole or in part, without at least sixty (60) days prior written Legal Notice by Contractor to Enterprise Services. Failure to provide such notice, as required, shall constitute default by Contractor. Any such written notice shall include the Master Contract number stated on the cover of this Master Contract.

9. **EXTENDED REPORTING PERIOD.** If any required insurance coverage is on a claims-made basis (rather than occurrence), Contractor shall maintain such coverage for a period of no less than three (3) years following expiration or termination of the Master Contract.

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	3/28/23
Subject:	Professional Services Agreement with Kristen Du Bruille
Presenter:	N/A
Prepared By:	Katherine Bohnet
Reviewed By:	Denise Gerry

PA Review, Approval to Form: ☐ Yes ☐ No ☒ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:** *(Multiple boxes can be checked, if necessary)*	
☒ Consent Agenda	☐ Discussion Only	☐ Pass Motion
☐ Public Hearing	☐ Decision / Direction	☒ Pass Resolution
☐ Scheduled Business	☐ Sign Letter / Document	☐ Pass Ordinance
		☒ Execute Contract

Summary / Background Information

Benton County is legally obligated to provide public defense services in Benton County Superior Court on Uniform Guardianship Act (UGA) cases ("Services").

Because of caseload needs, OPD is needing to award an additional contract to provide Services.

Kristen Du Bruille ("Attorney") is qualified to provide services and interested in contracting with Benton County to do so. The proposed professional services agreement and resolution effectuate an agreement with Attorney for the provision of such Services on the terms contained therein, for the period from 03/20/23 to 12/31/24 at the rate of $200.00 per hour.

Fiscal Impact

Appointments of this case type are estimated to cost Benton County over $100,000 per year. This agreement will be funded out of a line item from Superior Court Administration.

Recommendation

Execute professional services agreement with Kristen Du Bruille for public defense services in Benton County Superior Court for Uniform Guardianship Act cases. Approve associated resolution as presented.

Suggested Motion

Approve with consent agenda.

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON

IN THE MATTER OF AWARDING A PROFESSIONAL SERVICES AGREEMENT WITH ATTORNEY KRISTEN DU BRUILLE TO PROVIDE PUBLIC DEFENSE SERVICES IN BENTON COUNTY SUPERIOR COURT FOR UNIFORM GUARDIANSHIP ACT CASES

WHEREAS, Benton County ("County") is obligated by law to provide indigent defense services in Benton County Superior Court for Uniform Guardianship Act cases ("Services"); and

WHEREAS, because of caseload needs, it is necessary for County to award a professional services agreement at this time; and

WHEREAS, attorney Kristen Du Bruille is qualified to provide Services and interested in entering into an agreement with County for such Services; and

WHEREAS, a proposed professional services agreement with attorney Kristen Du Bruille for Services is presented for execution by the Board of Commissioners; **NOW, THEREFORE**

BE IT RESOLVED that the proposed professional services agreement with attorney Kristen Du Bruille to provide public defense services in Benton County Superior Court for UGA cases, for the time period from 03/20/23 to 12/31/24 with compensation not to exceed $200.00 per hour, plus other allowable expenses, premiums, and fees as detailed, is hereby approved and executed on behalf of Benton County.

Dated this _____ day of _____ 20 _____

_____
Chairman

_____
Commissioner

_____
Commissioner

Constituting the Board of County Commissioners of Benton County, Washington

Attest: _____
Clerk of the Board

cc: Originals – OPD, Kristen Du Bruille
Copy – Auditor, Superior Court, S Godinez

K Bohnet

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PROFESSIONAL SERVICES AGREEMENT TO PROVIDE LEGAL REPRESENTATION TO INDIGENT RESPONDENTS IN PROCEEDINGS UNDER THE UNIFORM GUARDIANSHIP ACT, Chapter 11.130, RCW

CONTRACT # BCSC2324KJD001-UGA

CONTRACT SUMMARY			
Contract Type	**By the case only**		
Contract Number	**BCSC2324KJD001-UGA**	**Contract Holder**	**Kristen Du Bruille**
WSBA #	**46772**	**Effective Dates**	**3/20/23 – 12/31/24**
Caseload Cap	**Not applicable**	**Compensation**	**$200 per hour**
Assigned Court	**Superior Court**	**Compensation Structure**	**☐ By the case** **☐ Monthly** **☒Hourly** **☐ By the case but paid monthly**
Compensation Payable To:	**Du Bruille Law, PLLC**		

THIS AGREEMENT is entered into by and between **Kristen Du Bruille,** attorney at law, Washington State Bar Association # **46772** ("Attorney"), **dba Du Bruille Law, PLLC** and **BENTON COUNTY,** a State of Washington political subdivision ("County"), for and on behalf of the Benton County Superior Court (the "Court").

THIS AGREEMENT IS ENTERED INTO BASED UPON THE FOLLOWING FACTS AND CIRCUMSTANCES:

A. The County has the legal responsibility to provide legal defense services to indigent persons who are respondents in proceedings brought under the Uniform Guardianship Act ("UGA") Chapter 11.130, RCW and filed in, or pending in, Benton County Superior Court, when the said UGA proceedings involve the custody or guardianship of the indigent respondents' minor child or children ("UGA Cases").

B. Attorney is engaged in the private practice of law, has direct experience in an area of law that has provided him or her with the training and experience necessary to represent respondents in UGA Cases, and desires to contract with the County to provide legal representation to indigent respondents in UGA Cases.

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements contained herein, the County and Attorney hereby agree as follows:

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1. **AGREEMENT TERM.** This Agreement shall be deemed effective for all purposes as of **March 20, 2023** and shall continue thereafter through and including **December 31, 2024**, unless earlier terminated pursuant to the applicable terms and provisions of this Agreement. Upon expiration of this Agreement, depending on County's staffing needs, County may elect to utilize any legally appropriate means (including, but not limited, a Request for Qualifications) to select contract awardees. Thereupon, depending on factors including, but not limited to, County's staffing needs, number of qualified applicants, and Attorney's performance during the term of this Agreement, County may choose to re-award a contract to Attorney, to other attorneys, or to no-one, at its sole and exclusive discretion.

2. **ATTORNEY'S OFFICE LOCATION.**

a. Attorney presently and regularly maintains an office adequate and appropriate for the practice of law at **6 E Alder St., Ste #315, Walla Walla, WA 99362.** Attorney's current local office telephone is **509-212-2873**; and Attorney's current office/work e-mail address is **kristen@dubruillelaw.com**.

b. Throughout the entire term of this Agreement, Attorney shall continue to maintain (or have access to) such an office, such telephone and fax numbers, and such e-mail address; provided that, however, Attorney may relocate Attorney's office to another location within the greater Tri-Cities, Washington, and/or Attorney may change Attorney's telephone/fax number to another greater Tri-Cities local telephone/fax number, and/or Attorney may change Attorney's e-mail address, provided that Attorney must provide immediate written notice of such change(s) to the Benton County Public Defense Manager ("PDM"), the Benton County Prosecuting Attorney, and the Benton County Superior Court Administrator ("Superior Court Administrator").

c. Regardless of the location or manner in which Attorney decides to maintain an office, throughout the entire term of this Agreement the office facility must comply with any and all applicable public defense standards adopted by the Washington Supreme Court.

3. **ATTORNEY'S QUALIFICATIONS.** Attorney acknowledges and agrees that the County has an obligation to provide competent and effective legal counsel to certain indigent persons who are respondents in actions brought pursuant to Washington's Uniform Guardianship Act, Chapter 11.130, RCW, in the state of Washington and generally exercised by members of the Washington State Bar Association (WSBA). Without limitation in that regard, Attorney acknowledges and agrees that Attorney has a fundamental duty and responsibility to effectively promote and protect the best interests and rights of all persons whom Attorney is appointed to represent under this Agreement. Attorney acknowledges and agrees that he or she independently, solely, and exclusively bears professional responsibility for decisions, actions, and omissions, made in the course of providing professional legal services pursuant to this Agreement. None of the actions or omissions of County or its agents (specifically including County's Public Defense Manager) shall be interpreted as supervising, directing, or otherwise controlling Attorney's exercise of professional discretion.

a. As of the date of this Agreement, Attorney represents and warrants that Attorney is unconditionally licensed to practice law within the state of Washington; has had at least one (1) year of direct in an area of law that has provided Attorney with the experience necessary to provide adequate representation in the type of cases contemplated by this Agreement; has not been subject to a termination proceeding

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involving a previous personal service agreement for indigent defense services; has not been censured, admonished, or otherwise formally disciplined for past conduct or behavior that would negatively reflect on Attorney's duty and ability to effectively and competently render legal services hereunder; has not been suspended or disbarred from the practice of law in any state or jurisdiction at any time in the past; and does not have any bar association complaints filed and pending against him/her.

(i) This Agreement may be subject to review and, if applicable and/or necessary, further action pursuant to paragraph 17 below in the event that Attorney's license to practice law in Washington is revoked or otherwise limited or restricted; in the event that a court of competent jurisdiction formally determines and expressly finds that Attorney has rendered ineffective assistance of counsel to any person; in the event that Attorney is censured, admonished, or otherwise formally disciplined for conduct or behavior that negatively reflects on Attorney's duty and ability to effectively and competently render legal services hereunder; or in the event that Attorney is suspended or disbarred from the practice of law in any other state or jurisdiction.

(ii) Attorney shall notify the County in writing within three (3) business days if any event specified in paragraph 3.a.(i) above occurs or if any bar association complaint is filed against Attorney. Failure to do so shall constitute a substantial and incurable breach of this Agreement and shall subject this Agreement, at the election of County, to immediate termination.

b. Attorney acknowledges and agrees that the County may conduct criminal history background check(s) on Attorney including any such recurring checks as Counties may deem appropriate, in their sole discretion, even at a time after execution of this Agreement. Attorney acknowledges and agrees that this Agreement shall be deemed immediately and automatically terminated upon the County receiving a non-complying or otherwise unsatisfactory criminal history background check report.

c. Attorney represents and warrants that, throughout the entire term of this Agreement, Attorney's private law practice caseload; Attorney's schedule; and Attorney's office resources, equipment, and support staff will allow Attorney to competently undertake and effectively perform all services required under this Agreement. Attorney represents and warrants that Attorney's private law practice and schedule will not interfere with Attorney's ability to timely and efficiently perform such services including, without limitation, Attorney's ability to prepare for and attend regularly scheduled trials, hearings, and dockets or Attorney's ability to schedule and conduct face-to-face meetings with the persons Attorney is appointed to represent under this Agreement for purposes of discussing, preparing, and pursuing the most viable defense(s) and/or resolution available and keeping such persons reasonably apprised as to the status of their case.

d. Attorney acknowledges and recognizes that while the Washington State Standards for Indigent Defense ("SID") as promulgated by the Washington State Supreme Court does not appear to encompass or control UGA Cases, it is possible that the Superior Court may choose to expand the SID to do so in the future. In the event that SID are expanded to encompass UGA Cases, Attorney agrees to comply with any such standards, including reporting requirements, as stated therein.

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e. Attorney understands and acknowledges that Attorney is solely and personally responsible to obtain and maintain all necessary state and local government business licenses and/or other approvals necessary to operate Attorney's private legal services business.

4. **CONTRACT DUTIES.** During the contract term, Attorney will be eligible to receive appointments by the Benton County Superior Court for UGA Cases on the terms and conditions set out herein. For any such appointments, Attorney shall retain the ability to accept or decline, in Attorney's sole discretion, provided that Attorney agrees to respond to notices of proposed appointment in a timely fashion (within 48 business hours unless circumstances warrant a further delay) with notice of acceptance or declination, understanding the time-sensitive nature of UGA Cases.

5. **CONTINUED REPRESENTATION.**

Once Attorney is appointed a UGA Case pursuant to this Agreement, then Attorney's continued representation responsibilities, even beyond the expiration or termination of this Agreement, shall be a matter to be determined in the discretion of the Benton County Superior Court.

Should Benton County Superior Court determine that Attorney's appointment to any case or cases shall continue beyond the expiration or termination of this Agreement, then Attorney shall continue to be eligible for compensation pursuant to the terms of this Agreement notwithstanding such expiration or termination.

Should Benton County Superior Court determine that Attorney's appointment to cases outstanding at time of expiration or termination of this Agreement is to end contemporaneously with such expiration or termination, then Attorney's eligibility for compensation shall similarly end, and Attorney shall reasonably cooperate with substitute counsel in transferring records, discovery, and client property to substitute counsel, so as to ensure continuity of representation.

6. **NUMBER OF APPOINTMENTS.**

There is no contractual limitation on the number of appointments that Attorney may choose to accept through this Agreement.

7. **CLIENT ELIGIBILITY.** Attorney may assume that all clients appointed pursuant to this Agreement are eligible for public defense services and Attorney shall have no obligation to make any further inquiry as to eligibility, or to report any indication of ineligibility to either Benton County, Benton County's Office of Public Defense ("OPD"), or the Court.

8. **CONFLICTS.** Notwithstanding any other terms or provisions contained in this Agreement to the contrary, Attorney shall not be required to accept, and Attorney shall decline to accept, an appointment under this Agreement if the particular appointment would create a true and bona fide conflict of interest for Attorney or would otherwise cause or constitute an actual violation of any generally recognized ethical or professional standards common and applicable to attorneys in the state of Washington. Furthermore, in the event a true and bona fide conflict of interest arises subsequent to Attorney receiving an appointment under this Agreement (or in the event Attorney's continued involvement in a pending case would cause or constitute an actual violation of any such ethical or professional standards), Attorney shall immediately arrange for substitute counsel by: a) contacting the Benton County OPD and requesting substitute counsel

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unless a court appearance on the matter is imminent; or b) appearing in court and requesting that Benton County Superior Court assign substitute counsel if the time between discovery of the conflict of interest and the next court appearance is very short. Attorney shall not wait for more than two business days to request substitute counsel under 10a) or 10b) since doing so will have the risk of impairing the rights and quality of representation afforded to the affected client. Under no circumstance shall Attorney ever be required to bear the cost of seeking or compensating conflict counsel.

9. **SCOPE OF REPRESENTATION; FILE RETENTION.** Attorney agrees to and shall represent all persons whom Attorney is appointed to represent hereunder with the same skill and commitment as Attorney exercises and expends when representing persons on a private and/or retained-fee basis. Without limitation in that regard, such representation should include the investigation of the underlying facts, the research of all relevant law, interviewing of potential witnesses, retention and use of investigators and/or experts when warranted and necessary, appropriate communication with the client, review of resolution alternatives, and the preparation for and appearance on behalf of the client in all stages of proceedings for appointed UGA Cases in Benton County Superior Court.

10. **COMPENSATION.** Attorney shall be compensated at the rate of **$200.00 per hour,** billed in 1/10th hour increments, up to an **initial maximum compensation of $2,000.00 (10 hours) per case**. If, in any given case, Attorney reaches the maximum compensation level and still believes that additional work is necessary, then Attorney shall request authorization to exceed the maximum compensation level, by using the administrative process for doing so set out by the Benton County OPD, and any denial of such a request, by the OPD, shall be subject to review by Benton County Superior Court.

All compensation shall be payable to **Du Bruille Law, PLLC** since Attorney is a principal with that law firm.

a. For cases that are completed within 60 days of appointment, Attorney should submit an invoice for payment, including a Claim for Compensation form as required by Benton County OPD, upon completion.

b. For cases that extend beyond 60 days, Attorney may make reasonable periodic billings.

c. All billings must be made electronically and submitted for payment to the following email address: **OPDClaims@co.benton.wa.us.**

11. **COSTS AND EXPENSES.**

a. Attorney acknowledges and agrees that Attorney shall not be entitled to claim or receive any reimbursement/payment from the County for any law practice-related overhead costs or expenses incurred by Attorney during the course of rendering legal services under this Agreement (including, without limitation, costs and expenses associated with Attorney's office, office staff, office equipment/facilities, and/or other office or law practice-related resources).

b. The County recognizes, however, that in certain circumstances the need may arise for Attorney to incur certain types of out-of-pocket expenses or otherwise retain professional services directly related to an indigent person's case such as private

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investigator fees, psychological or psychiatric evaluations, interpreter fees, scientific test fees, expert witness fees, and costs of out-of-area travel, meals and lodging.

(i) Attorney shall be entitled to receive reimbursement for the actual cost of such out-of-pocket expenditures provided that, however, Attorney shall not incur any such expense nor shall Attorney be entitled to be reimbursed for any such expense unless such expense has been pre-approved pursuant to Benton County OPD's administrative process for such expense pre-approval, authority for approving and managing such expenses having been delegated by Benton County Superior Court to the Benton County OPD, by local court rule or memorandum.

(ii) In order for Attorney to be reimbursed for any expenses pursuant to this subsection, Attorney shall complete and sign a Claim for Compensation in such form as is designated by the Benton County OPD and attach such supplementary materials as may be required. All Claims for Compensation must be submitted electronically to the email address: OPDClaims@co.benton.wa.us and shall be submitted to OPD within sixty (60) days of Attorney incurring the expense(s) for which reimbursement is sought, and the County shall have the right to deny payment of any voucher that is not timely submitted within said requisite sixty (60) day period.

12. **INDEMNIFICATIONS AND HOLD HARMLESS.** Attorney agrees to and shall fully indemnify the County and its elected/appointed representatives, officers, employees, and agents; and to hold the County and its elected/appointed representatives, officers, employees, and agents fully harmless; from and for any and all losses, damages, costs, charges, claims, demands, suits, or actions of whatsoever nature directly or indirectly arising out of or by reason of Attorney's (or any person, employee, agent, contractor, or entity acting for or on behalf of Attorney or at Attorney's request or direction) acts, defaults, errors and/or omissions of whatsoever nature in the performance of legal services to any person under this Agreement. In the event any suit or legal proceeding is brought against the County or any of its elected/appointed representatives, officers, employees or agents at any time on account of or by reason of any such acts, defaults, errors and/or omissions, Attorney hereby covenants and agrees to assume the defense thereof (through counsel acceptable to the County) and to defend the same at Attorney's sole cost and expense and to pay any and all costs, charges, attorneys' fees, and other expenses as well as any and all judgments or awards that may be incurred by or entered against the County or any of its elected/appointed representatives, officers, employees or agents in such suits or other legal proceedings. Without limiting the intended broad scope and application of the indemnification and hold harmless provisions of this paragraph, for purposes of this paragraph, Attorney waives, with respect to the County only, any immunity that would otherwise be available to Attorney under the Industrial Insurance Act provisions of Title 51 RCW or any other similar workers/employee disability or benefit law. The indemnification and hold harmless provisions of this paragraph shall survive the termination or expiration of this Agreement.

13. **INSURANCE.**

a. Attorney shall obtain and maintain, at Attorney's sole cost and expense, a policy of professional liability insurance in an amount of not less than $1,000,000.00 per claim nor less than $1,000,000.00 in the aggregate during the policy term and with a maximum deductible of not more than $10,000.00.

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(i) Said policy shall include coverage as an additional insured for any other person(s) or attorney(s) acting for or on behalf of Attorney in the performance of this Agreement; shall provide professional liability insurance coverage for any acts, errors and/or omissions by Attorney (and/or such additional insureds) during the course of performing legal services under this Agreement; shall require that the insurance company provide the County with no less than thirty (30) days prior written notice in the event the policy is cancelled or materially altered; shall comply with all applicable state of Washington insurance requirements; and shall be issued by an insurance company rated A- or better by A.M. Best authorized to conduct business and issue insurance in the state of Washington.

(ii) Attorney shall continuously maintain the professional liability insurance coverage required by this paragraph 17.a. throughout the entire term of this Agreement, throughout any other longer time period during which Attorney is obligated to continue performing services and duties hereunder, and for a period of no less than thirty-six (36) consecutive months after Attorney has fully completed all services and duties required hereunder.

b. Attorney shall also obtain and maintain, at Attorney's sole cost and expense, a policy of Commercial General Liability insurance (including Endorsement Form CG2011 or direct equivalent insurance industry additional insured endorsement form and including Contractual Liability coverage) in the amount of not less than $1,000,000.00 per occurrence nor less than $2,000,000.00 in the aggregate during the policy term. Additionally, if Attorney is an employer, Attorney shall obtain and maintain, at Attorney's sole cost and expense, a policy of Statutory Workers Compensation and Employers Liability/Stop Gap insurance in the amount of not less than $1,000,000.00.

(i) The policy of Commercial General Liability insurance shall be written on an occurrence basis; shall name the County, the Benton County Superior Court, and their elected/appointed representatives, officers, employees and agents as additional insureds; shall be primary coverage for both defense and indemnity and non-contributory with any insurance coverage maintained by the County; and shall provide for waiver of subrogation rights as to the County.

(ii) The insurance policies required by this paragraph 17.b shall require that the insurance company provide the County with no less than thirty (30) days prior written notice in the event the policy is cancelled or materially altered; shall comply with all applicable state of Washington insurance requirements; and shall be issued by an insurance company rated A- or better by A.M. Best authorized to conduct business and issue insurance in the state of Washington.

(iii) Attorney shall continuously maintain the insurance coverage required by this paragraph 17.b. throughout the entire term of this Agreement and throughout any other longer time period during which Attorney is obligated to continue performing services and duties hereunder.

c. Contemporaneously with Attorney's execution of this Agreement, Attorney shall provide the County with copies or certificates of the insurance policies and coverage (including any endorsements) required under this paragraph 17, and Attorney shall annually provide the County with the same type of documented proof and confirmation

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that such insurance policies and coverage continue to exist no later than thirty (30) days after the policies' annual renewal date(s).

14. **COMPLAINTS; PERFORMANCE MONITORING.** In the event that the PDM, another employee/representative of the County's OPD, or the Benton County Superior Court receives an oral/written communication from a person represented by Attorney under this Agreement that in substance asserts an unresolved complaint about the legal services rendered to such person by Attorney and such complaint is not amenable to resolution by simply facilitating the communication between the client and attorney, the employee/representative receiving such communication shall promptly request and obtain a written, dated, and signed statement from the complainant describing and detailing the relevant facts and circumstances underlying and alleged in the complaint, copies of which shall promptly be provided to the County, the Benton County Court Administrator and the PDM.

a. Upon receiving such complaint, the PDM, without limitation to any other action the County may deem necessary/appropriate to pursue under this Agreement, shall promptly forward a copy of the complaint to Attorney and request and obtain Attorney's written, dated, and signed response thereto (which Attorney shall prepare and provide to the County and the PDM within five (5) business days, who then shall provide the represented person with a copy of the response within five (5) business days thereafter). The PDM shall review the complaint and Attorney's response and take any action deemed necessary with Attorney and/or the represented person to address and resolve the complaint, and the disposition of the complaint shall be communicated to the represented person as soon as reasonably possible. The PDM then may follow-up with the Benton County Superior Court within five (5) business days thereafter to confirm or advise that the complaint has been, or is in the process of being, addressed and disposed of. This stated procedure does not interfere with or otherwise impair the Benton County Superior Court's ability and/or duty to monitor the performance of attorneys appearing before the court.

b. Additionally, during the term of this Agreement, in order to help ensure that indigent persons are consistently provided effective legal representation, and without limitation to any other means or methods of performance monitoring/evaluation the County may deem necessary/appropriate, Attorney acknowledges that the County and/or the PDM have the right to periodically ask, without limitation, the Benton County Superior Court and/or the Superior Court Administrator and/or other attorneys and/or persons previously represented by Attorney to provide the County with an evaluation/assessment of the quality and effectiveness of Attorney's performance of legal services and related duties and obligations under this Agreement, provided that such inquiry shall not be made of any person represented, absent a complaint from such person, during the course of representation.

15. **TERMINATION.**

a. In addition to any other automatic or discretionary termination provisions set forth in this Agreement, this Agreement shall automatically terminate in the event that Attorney is suspended/disbarred from the practice of law in Washington, effective without notice as of the date of suspension/disbarment. In the event of automatic termination or termination pursuant to suspension or disbarment, Attorney shall be liable up to $5,000.00 for any additional costs or expenses incurred by the County and/or the Benton County

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Superior Court relating to the appointment of substitute legal counsel for any person(s) whom Attorney was appointed to represent hereunder; and the County shall be entitled and authorized to setoff and deduct any such additional costs or expenses from any unpaid compensation owing to Attorney hereunder.

Further, in the event that the Benton County Superior Court enters an order that prohibits or disqualifies Attorney from receiving any further appointments hereunder for any reason whatsoever, this Agreement shall automatically terminate without further notice as of the date such order is entered by the court. In the event that the court enters such an order because of unethical/unprofessional conduct by Attorney and/or because of Attorney's breach of this Agreement and the court determines at that time that the circumstances justify or require a substitution of appointed counsel for any person(s) whom Attorney was appointed to represent hereunder, Attorney shall be liable up to $5,000.00 for any additional costs or expenses incurred by the County relating to such substitute appointment(s); and the County shall be entitled and authorized to setoff and deduct any such additional costs or expenses from any unpaid compensation owing to Attorney hereunder.

b. In addition to the above-referenced automatic termination provisions, the County may elect to terminate this Agreement in the event Attorney fails for whatever reason to comply with any provision of this Agreement after giving Attorney ten (10) business days advance written notice to cure, which notice shall specify the reason(s) for the notice, the act(s) necessary to cure Attorney's failure(s), and the consequence (i.e., termination without further notice) if the failure(s) is/are not cured within the ten (10) day period. The County's right to terminate this Agreement in such regard shall be in addition to any other rights and remedies available to the County.

c. In addition to the foregoing provisions regarding termination, either party may elect to terminate this Agreement with or without cause or reason by providing the other party with ninety (90) days advance written notice of such election ("Early Termination"). Without limiting/waiving other provisions of this Agreement relating to Attorney's obligation and duty to accept and complete cases appointed to Attorney, Attorney's continuing obligation to accept case appointments shall be governed by the provisions of Section 17.f herein. A ninety (90) day notice of termination given by either party under this paragraph 17.c. shall be fully and immediately effective when received by the recipient party pursuant to the provisions of below paragraph 30 (notwithstanding the inclusion of any contrary terms or language in the notice) without any need for formal or informal acceptance or any other response by the recipient party, and such notice may not thereafter be rescinded/revoked by the party giving such notice unless such rescission/revocation is expressly acknowledged and agreed to by the recipient party in writing in the recipient party's sole discretion.

d. In any event, consistent with the provisions of paragraph 12.e. above and regardless of the manner in which this Agreement is terminated, Attorney acknowledges and agrees that Attorney shall not be entitled to receive any further compensation from the County in the event this Agreement is terminated; provided that, however, Attorney shall be entitled to be paid for all services duly performed by Attorney under this Agreement up to the date of termination (including trial per diems. Additionally, as required by paragraph 6 above, the termination of this Agreement, regardless of the manner of termination, shall not relieve Attorney from the obligation and duty to continue representing all persons whom Attorney was appointed to represent prior to the

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termination unless Attorney is expressly barred or prohibited from doing so by court order and/or the suspension/disbarment of Attorney from the practice of law in Washington.

e. At the sole and exclusive discretion of County, Attorney may terminate this Agreement with less than 90 days notice.

f. The parties agree that in the event of Early Termination of this Agreement with or without cause Attorney shall not be assigned any additional cases pursuant to this Agreement.

16. **INDEPENDENT CONTRACTOR.** Attorney fully understands, acknowledges, and agrees that Attorney shall not be an agent, representative, or employee of the County or the Benton County Superior Court for any type of purpose or situation whatsoever (including, without limitation, for purposes of any type of wage, hours/overtime, workers/industrial insurance compensation, unemployment, fair labor, and/or employee benefit/leave laws, disability act coverage or rules, and/or regulations) and that Attorney, as of the date of this Agreement and throughout its entire term, is and will always be acting and operating as a fully independent contractor. In that regard, strictly subject to Attorney's duties, responsibilities and obligations imposed under this Agreement, Attorney shall have sole and absolute discretion using Attorney's best professional legal judgment to determine the manner and means of providing the legal representation services required under this Agreement; and neither the County, the County's PDM, nor the Benton County Superior Court shall have any authority or duty to directly control the actual performance of Attorney's professional services hereunder.

17. **NON-ASSIGNMENT AND TEMPORARY SUBSTITUTIONS.** Except as otherwise expressly provided in this subsection, Attorney shall not allow or arrange for any other person to perform any of the services required by this Agreement, nor shall Attorney assign, subcontract out, or otherwise delegate any of Attorney's rights, responsibilities, or obligations under this Agreement.

a. Other attorneys in Attorney's law firm shall be permitted to assist Attorney with aspects of representation on individual cases appointed pursuant to this Agreement, including client contact, investigation, discovery review, court appearances, and negotiations with opposing counsel as needed, provided, however, that Attorney shall continue at all times to personally and professionally responsible for all work done on cases, and representation provided to clients on, cases appointed through this Agreement.

18. **VACANCY AND REPLACEMENT.** In the event this Agreement is terminated by either party prior to the termination date specified in paragraph 1 above, the County may initiate, implement and pursue any actions or process deemed appropriate/necessary to seek, select, and contract with another qualified attorney to replace and succeed Attorney in representing indigent persons in Benton County District Court.

19. **ENTIRE AGREEMENT.** This Agreement constitutes the entire integrated agreement and understanding of the undersigned parties. No amendment, modification or other type of change to this Agreement shall be valid or enforceable unless reduced to writing and signed by the parties.

20. **CAPTIONS; TIME COMPUTATION.**

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a. The captions and headings herein are for convenience only and shall not be relied upon or used to interpret or construe this Agreement or any portion thereof.

b. Unless otherwise expressly specified herein, any period of time specified in this Agreement shall expire at 5:00 p.m. (PTZ) of the last calendar day of the specified period of time, unless the last day is Saturday, Sunday, or a legal holiday, as prescribed in RCW 1.16.050, in which event the specified period of time shall expire at 5:00 p.m. (PTZ) of the next business day. Unless otherwise expressly specified herein as being business days only, any period of time specified in this Agreement shall mean and be calculated to include calendar days.

21. **GOVERNING LAW.** This Agreement shall be exclusively construed under and interpreted consistent with the laws of the state of Washington.

22. **BINDING EFFECT.** Strictly subject to the above restrictions against assignment, subcontracting, or delegation, this Agreement shall be binding upon Attorney's heirs, legal/personal representatives, successors, and assigns.

23. **SEVERABILITY.** In the event that any one or more provisions contained in this Agreement shall, for whatever reason, be held by a court of competent jurisdiction to be invalid, illegal or unenforceable in any respect, such invalid, illegal or unenforceable provision(s) shall not affect any other provision hereof, and this Agreement shall nevertheless be construed and enforced as if such invalid, illegal or unenforceable provision(s) were not contained herein.

24. **NON-WAIVER.** A party's express or implied consent to or waiver of any breach or default by the other party in the performance of such other party's obligations hereunder shall not be deemed or construed to be a consent to or waiver of any other breach or default in the performance by such other party of the same obligations or any other obligation(s) of such other party hereunder.

25. **DISPUTE RESOLUTION.**

a. The parties hereby specifically waive, release, and irrevocably relinquish any and all right to file a court lawsuit of any type to address any claims or dispute between the parties involving the performance or interpretation of this Agreement or that in any other way relate to, or arise from, this Agreement, and regardless of whether money damages, equitable relief, or any other type of relief is being sought. Provided, however, if necessary due to a party's disregard of and failure to abide by the non-judicial Dispute Resolution provisions contained in this paragraph 31, the other party may pursue court action to seek and obtain an order compelling and enforcing such Dispute Resolution provisions, and as part of such action and court order, the court shall order the party not complying with the requirements of such Dispute Resolution provisions to pay the other party's incurred attorney fees and costs.

b. Accordingly, in furtherance of the parties' above-stated agreement to submit any and all claims and disputes to non-judicial resolution, in the event any type of dispute arises between the parties involving the performance or interpretation of this Agreement, or that in any other way relates to, or arises from, this Agreement, either party may then make written demand on the other party to submit the dispute to mediation through the assistance of an experienced mediator chosen by mutual agreement of the parties who must be a Washington-licensed attorney experienced in contract disputes.

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The mediation shall occur within thirty (30) days of the mediation demand, unless the parties mutually agree otherwise. The County shall pay one-half of the mediator's fees and expenses, and Attorney shall pay the other one-half of such fees and expenses.

c. In the event that mediation proves unsuccessful in resolving the dispute, the parties shall submit the dispute for resolution via binding arbitration pursuant to RCW Chapter 7.04A. A single arbitrator (who must be a Washington-licensed attorney experienced in contract disputes) shall be selected by agreement of the parties or, in the absence of agreement, each party shall select one (1) arbitrator (who must be a Washington-licensed attorney experienced in contract disputes) and those two (2) so selected arbitrators shall mutually select a third arbitrator (who must be a Washington-licensed attorney experienced in contract disputes). The County shall pay one-half of the fees and expenses of the arbitrator(s), and Attorney shall pay the other one-half of such fees and expenses. The provisions of RCW Chapter 7.04A and applicable Mandatory Arbitration Rules as adopted and implemented in Superior Court shall be binding as to procedure, except as to the right of appeal, which shall not be applicable. Within ten (10) business days after the unsuccessful mediation session, the arbitrator(s) shall be selected and designated, and the hearing shall be held within thirty (30) business days after designation of the arbitrator(s), unless the parties mutually agree otherwise. The arbitrator(s) shall render a written decision and award within ten (10) business days of such hearing. Without limitation, the arbitrator(s) may award damages, specific performance, and/or injunctive relief, and may register a judgment in Benton County Superior Court, including judgment by default. The most prevailing party shall be entitled to recover such party's reasonable attorneys' fees, costs and expenses from the other party as a part of the arbitration decision and award. In the event of suit or action to enforce an arbitration award, venue shall lie exclusively in Benton County Superior Court, and the most prevailing party in such suit or action shall be entitled to recover such party's reasonable attorneys' fees, costs and expenses from the other party.

26. **NOTICES.**

a. Any notices required or permitted to be given by Attorney to the County under this Agreement shall be in writing and shall be either personally delivered to the County's PDM at his/her below-stated office address; mailed to the County's PDM at his/her below-stated office address via certified U.S. mail, postage prepaid; or emailed to the County's PDM at his/her official email address.

Public Defense Manager
Benton County Office of Public Defense
7122 West Okanogan Place, Ste #A220
Kennewick, WA 99336

b. Any notices required or permitted to be given by the County to Attorney under this Agreement shall be in writing and shall be either personally delivered to Attorney at his/her below-stated business address; mailed to Attorney at his/her business address set forth in paragraph 2.a above, via certified U.S. mail, postage prepaid; or emailed to Attorney at his/her business email address.

c. Any such notices under this Agreement shall be deemed to have been duly given, made, and received when either personally delivered to the notice recipient in the manner described above; when duly deposited in the U.S. mail addressed to the recipient

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in the manner described above; or when emailed to the recipient in the manner described above. A party may change the address(es) to which notices are to be sent by giving notice of such change of address(es) in conformity with the above provisions of this paragraph for the giving of notice.

27. **LEGAL COMPLIANCE.** Attorney agrees to and shall strictly follow and comply with any and all federal, state, local, and administrative laws, rules, and regulations applicable to Attorney's pursuit and performance of activities under this Agreement. Without limitation in that regard, Attorney shall timely and fully pay all applicable taxes, fees, licenses, and other payments required by law; and Attorney shall fully comply with any and all anti-discrimination laws and policies including, without limitation, the County's policy that no person will be subjected to discrimination by the County or their contractors based on race, color, national origin, age, sex, marital status, sexual orientation, handicap/disability, personal background, creed, or political or religious affiliation, and shall further comply with the County's policy against sexual harassment.

28. **PUBLIC DEFENSE MANAGER.** Attorney acknowledges that the County has employed the PDM to coordinate, monitor, and evaluate the performances and compliance of independent contractor attorneys (like Attorney) under public defense agreements with the County. Attorney further acknowledges that the County has the right and discretion to direct the PDM to assume and fulfill various roles and functions under this Agreement. Though the PDM will not have or attempt to exercise direct control over the manner and means in which Attorney provides legal services under this Agreement, Attorney agrees to reasonably cooperate with the PDM (and his/her designees), and to promptly comply with reasonable requests from the PDM (and/or his/her designees), to allow for the effective monitoring and evaluation of Attorney's performance under this Agreement.

SIGNATURES APPEAR ON FOLLOWING PAGE

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IN WITNESS WHEREOF, the parties hereto have entered into and executed this Agreement on the date set forth below.

BENTON COUNTY

Date_____

Chairman

Commissioner

Commissioner

Constituting the Board of County Commissioners for Benton County

Attest:

Clerk of the Board

Approved as to Form and Content

DocuSigned by:
Katherine Bohnet
B84E30B0BFAC43F...

Katherine Bohnet
Interim Public Defense Manager

ATTORNEY

Date 3/14/2023

DocuSigned by:
Kristen Du Bruille
17AD62B68A5E45C...

Kristen Du Bruille, WSBA **#46772**

SIGNING AUTHORITY FOR FIRM (required if attorney is an associate with a law firm)

_____, WSBA

I am a principal with signing authority for _____. I acknowledge and understand that the above-referenced Attorney, who is an associate with my firm, is about to enter into a public defense agreement with Benton County. I consent to this agreement, represent that my firm has sufficient resources to assist Attorney in faithfully carrying out his/her obligations pursuant to this Agreement and in complying with Washington State public defense laws, rules, and standards.

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	3/28/2023
Subject:	Certifications to CRAB
Presenter:	N/A
Prepared By:	Shela Berry
Reviewed By:	Matt Mahoney

PA Review, Approval to Form: ☐ Yes ☐ No ☒ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:

- ☒ Consent Agenda
- ☐ Public Hearing
- ☐ Scheduled Business

Type of Action Needed: *(Multiple boxes can be checked, if necessary)*

- ☐ Discussion Only
- ☐ Decision / Direction
- ☒ Sign Letter / Document
- ☐ Pass Motion
- ☒ Pass Resolution
- ☐ Pass Ordinance
- ☐ Execute Contract

Summary / Background Information

in accordance with RCW 36.82.070 and RCW 36.79.140, and WAC 136-150 the County Road Administration Board (CRAB) must annually ascertain that the County Road fund revenue is expended only for legitimate road fund purposes, including traffic law enforcement and removal of barriers to fish passage.

The proper certification forms have been prepared, the digital submittal form has been signed by the Sheriff, the Auditor, and the County Engineer as required and now needs to be signed by the Chairman of the Board.

Fiscal Impact

No fiscal impact.

Recommendation

The 2022 RAP Certification for Diversion and Road Fund Expenditures for Traffic Law Enforcement, the 2022 Certification of Road Fund Expenditures for Fish Passage Barrier Removal and the 2022 Annual Certification be approved, and the Chairman of the Board be authorized to sign the Digital Submittal Certification.

Suggested Motion

Approved as part of the consent agenda.

RESOLUTION

IN THE MATTER OF APPROVING AND AUTHORIZING THE CHAIRMAN'S SIGNATURE OF THE CERTIFICATION OF ROAD FUND EXPENDITURES FOR TRAFFIC LAW ENFORCEMENT, FISH PASSAGE BARRIER REMOVAL AND ANNUAL CERTIFICATION FOR 2022 FOR SUBMITTAL TO THE COUNTY ROAD ADMINISTRATION BOARD

WHEREAS, in accordance with RCW 36.82.070 and RCW 36.79.140, and WAC 136-150 the County Road Administration Board (CRAB) must annually ascertain that the County Road fund revenue is expended only for legitimate road fund purposes, including traffic law enforcement and removal of barriers to fish passage; and

WHEREAS, the Benton County Sheriff and the Benton County Auditor have signed the digital submittal of 2022 RAP Certification of Diversion and Road Fund Expenditures for Traffic Law Enforcement as required by CRAB; and

WHEREAS, the County Engineer has signed the digital submittal of the 2022 Certification of Road Fund Expenditures for Fish Passage Barrier Removal and the 2022 Annual Certification as required by CRAB; **NOW, THEREFORE,**

BE IT RESOLVED, that the 2022 RAP Certification of Diversion and Road Fund Expenditures for Traffic Law Enforcement, the 2022 Certification of Road Fund Expenditures for Fish Passage Barrier Removal and the 2022 Annual Certification be and hereby are approved; and

BE IT FURTHER RESOLVED, the Chairman is authorized to sign the Digital Submittal Certification of the 2022 RAP Certification of Diversion and Road Fund Expenditures for Traffic Law Enforcement; and the 2022 Certification of Road Fund Expenditures for Fish Passage Barrier Removal; and the 2022 Annual Certification on behalf of Benton County.

Dated this ____ day of _____2023.

_____
Chairman

_____
Chairman Pro-Tem

_____
Commissioner

Attest:_____
Clerk of the Board

Constituting the Board of County
Commissioners of Benton County,
Washington.

Orig.: Public Works

S. Berry

Benton County
Reports for 2022
Digital Submittal Certification
for Forms Due April 1st

The documents checked below are hereby submitted from Benton County for the review and acceptance of the County Road Administration Board.

2022 RAP Certification of Diversion and Road Fund Expenditures for Traffic Law Enforcement

I hereby certify that the above report is true and accurate and that I have reviewed and approved the report for submission to the County Road Administration Board in accordance with WAC 136.

Signed: _____ Date: _____
County Sheriff

Signed: _____ Date: _____
County Auditor

Signed: _____ Date: _____
Chair / Executive

2022 Certification of Road Fund Expenditures for Fish Passage Barrier Removal

2022 Annual Certification

I hereby certify that the Fish Passage Removal and Annual Certifications are true and accurate and that I have reviewed and approved the report for submission to the County Road Administration Board in accordance with WAC 136.

Signed: _____ Date: _____
Chair / Executive

Signed: _____ Date: _____
County Engineer

2022 County Ferry System Operations Report

2022 Annual Construction Report

2022 County Arterial Preservation Report

2022 Certification of Road Fund Expenditures for Marine Navigation and Moorage

2022 Maintenance Management Annual Certification

I hereby certify that the County Ferry System Operations Report, Annual Construction Report, County Arterial Preservation Report, Marine Navigation and Moorage Certification, and Maintenance Management Certification are true and accurate and that I have reviewed, approved, and submitted said reports to the County Road Administration Board in accordance with WAC 136.

Signed: _____ Date: _____
County Engineer

Benton County 2022

CERTIFICATION OF DIVERSION AND ROAD FUND EXPENDITURES FOR TRAFFIC LAW ENFORCEMENT

WAC 136-150-022

Total Road Levy:

Budgeted Road Levy revenue (as listed on the Road Levy Certification - WAC 136-150-021):

$6,617,545.05

Actual Road Levy revenue produced:

$6,521,974.91

Road Levy Diversion:

Budgeted Road Levy Diversion (as listed on the Road Levy Certification - WAC 136-150-021):

$664,574.95

Actual amount of Diverted Road Levy:

$664,574.95

Was Diverted Road Levy deposited in a specific and identifiable account (RCW 36.82.040):

Yes

Traffic Law Enforcement Paid by Road Fund Expenditures:

Budgeted cost reimbursements and/or operating transfers from the Road Fund:

Actual total amount of cost reimbursements and/or operating transfers from the Road Fund:

Total Road Portion Traffic Law Enforcement Expenditures:

$664,574.95

Total Traffic Law Enforcement Expense (ALL COUNTY FUNDS):

$664,574.95

RCW 36.79.140 provides that only those counties that during the preceding twelve months have spent all revenues collected for road purposes only for such purposes, including traffic law enforcement, as are allowed by Article II, Section 40 of the Washington State Constitution, are eligible to receive funds from the Rural Arterial Trust Account.

This form must be reviewed and certified (on the "Engineer's Certification Form") by:

- **County Sheriff**
- **County Auditor OR Charter designated Chief Financial Officer**
- **Chair, Board of County Commissioners OR County Executive**

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Authorization to purchase PreMark Thermoplastic Markings from Trafficare, LLC of Seattle, WA
Presenter:	
Prepared By:	D. Hope
Reviewed By:	Clayton Rawlings & Procurement

PA Review, Approval to Form: ☐ Yes ☐ No ☒ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:**	
☒ Consent Agenda	☐ Discussion Only (1st)	☐ Pass Motion
☐ Public Hearing	☐ Discussion Only (2nd)	☒ Pass Resolution
☐ Scheduled Business	☐ Decision/Direction	☐ Pass Ordinance
	☐ Sign Letter/Document	☐ Execute Contract

Summary / Background Information

The Public Works Department uses thermoplastic markings on our roads to mark crosswalks, railroad crossings, etc. These markings are replaced after the Bituminous Surface Treatment (BST) project is complete. The Road Maintenance Manager prepared a list of the markings needed to replace the markings in the upcoming BST area. Quotes for furnishing thermoplastic markings were solicited from twenty-four (24) vendors utilizing the MRSC Roster process. Three (3) quotes were received in the amounts below and are as set forth on the attached tabulation.

NATIONAL BARRICADE & SIGN CO. Spokane Valley, Washington	non-responsive
TRAFFICARE, LLC Seattle, Washington	$35,883.96 excluding WSST
SIGN SOLUTIONS USA West Fargo, North Dakota	$42,443.88 excluding WSST

National Barricade & Sign was the apparent lowest bidder. Upon further review of the quote and confirmation from the vendor, the bid is non-responsive as the quote provided was not for the material requested.

Fiscal Impact

Amount: $35,883.96 excluding WSST

Fund: Road Fund

Recommendation

Approve the purchase of thermoplastic markings for use by the Benton County Public Works Department from Trafficare, LLC of Seattle, WA in the amount of $35,883.96 excluding WSST.

Suggested Motion

Approve as part of the Consent Agenda.

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF AUTHORIZATION TO PURCHASE PREMARK THERMOPLASTIC MARKINGS FOR USE BY THE BENTON COUNTY PUBLIC WORKS DEPARTMENT FROM TRAFFICARE, LLC, SEATTLE, WA

WHEREAS, per the Benton County Procurement, Leasing and Contracting Policy County departments are required to obtain quotes for purchases under $50,000.00 from at least three (3) vendors on the vendor list unless the product is such that it is not reasonable to obtain 3 quotes and such purchase is to be approved by the Board of Benton County Commissioners by Resolution; and

WHEREAS, the Public Works Department uses thermoplastic markings on County roads and needs to replace the markings after the upcoming Bituminous Surface Treatment project is complete; and

WHEREAS, quotes for furnishing sign materials were solicited from twenty-four (24) vendors utilizing the MRSC Roster process; and

WHEREAS, three (3) quotes were received in the amounts below and are as set forth on the attached tabulation:

NATIONAL BARRICADE & SIGN CO. Spokane Valley, Washington	non-responsive
TRAFFICARE, LLC Seattle, Washington	$35,883.96 excluding WSST
SIGN SOLUTIONS USA West Fargo, North Dakota	$42,443.88 excluding WSST

WHEREAS, National Barricade & Sign Co. was the apparent lowest bidder. Upon further review of the quote and confirmation from the vendor, the bid is non-responsive as the quote provided was not for the material requested; and

WHEREAS, the Public Works Manager has reviewed the remaining quotes for completeness and recommends the purchase of PreMark Thermoplastic Markings from Trafficare, LLC, Seattle, WA; **NOW, THEREFORE,**

Orig.: Purchasing Dept. D. Hope
cc: Auditor, Trafficare, LLC

BE IT RESOLVED, the Board of Benton County Commissioners hereby approves the purchase of PreMark Thermoplastic Markings for use by the Benton County Public Works Department from Trafficare, LLC, Seattle, WA in the amount of $35,883.96 excluding WSST.

Dated this 28th day of March 2023.

_____
Chairman

_____
Chairman Pro-Tem

_____
Commissioner

Attest:_____
Clerk of the Board

Constituting the Board of County Commissioners of Benton County, Washington

Orig.: Purchasing Dept. D. Hope
cc: Auditor, Trafficare, LLC

PROJECT: Premark Meltdown Materials LOCATION: BENTON COUNTY DATE: February 28, 2023 11:00 a.m.			National Barricade & Sign 6602 E. Main Ave. Spokane Valley, WA 99212 (509) 844-5992		Sign Solutions USA 2501 8th St. NW West Fargo, ND 58078 (701) 551-9235		TraffiCare 3308 37th Ave. S Seattle, WA 98144 (206) 235-9543	
ITEM NO.	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1	24" x 3'15'/PAK White Vizigrip	50	$ 114.00	$ 5,700.00	$ 142.61	$ 7,130.50	$ 166.90	$ 8,345.00
2	RxR KIT. - White. 20' x 8'	20	$ 307.00	$ 6,140.00	$ 409.06	$ 8,181.20	$ 478.74	$ 9,574.80
3	4" Rumble Bar Kit. 36"x2" with 36" x 4" Base	16	$ 139.00	$ 2,224.00	$ 171.26	$ 2,740.16	$ 149.76	$ 2,396.16
4	Arrow LEFT, White. 8' x 6' x 4"	12	$ 114.00	$ 1,368.00	$ 298.48	$ 3,581.76	$ 174.67	$ 2,096.04
5	Arrow RIGHT, White. 8' x 6' x 4"	4	$ 114.00	$ 456.00	$ 298.48	$ 1,193.92	$ 174.67	$ 698.68
6	BK 18" WHT LN W/3"BLK Contrast 15'PAK	8	$ 180.00	$ 1,440.00	$ 197.88	$ 1,583.04	$ 175.11	$ 1,400.88
7	BIKE rider Symbol. 3'4" x 6' LEFT facing	20	$ 100.00	$ 2,000.00	$ 647.45	$ 12,949.00	$ 164.90	$ 3,298.00
8	STOP Legend. White. Vizigrip	10	$ 162.00	$ 1,620.00	$ 211.85	$ 2,118.50	$ 247.94	$ 2,479.40
9	AHEAD Legend. White. Vizigrip	10	$ 204.00	$ 2,040.00	$ 296.58	$ 2,965.80	$ 347.10	$ 3,471.00
10	Shipping for Freight Fees	1	$ -	$ -	$ -	$ -	$ 2,124.00	$ 2,124.00
	TOTAL		Non-Responsive Bidder	**$ 22,988.00**		**$ 42,443.88**	Apparent Lowest Bidder	**$ 35,883.96**

OFFICE OF THE BENTON COUNTY ENGINEER
BENTON COUNTY, WASHINGTON

REQUEST FOR QUOTES

QUOTES FOR: PreMark preformed thermoplastic road markings.

QUOTES RECEIVED: The quote shall be emailed in pdf format to procurement@co.benton.wa.us and must be received prior to **11:00 AM on Tuesday, February 28, 2023**. No Quotes Will Be Accepted After That Date and Time.

INSTRUCTIONS:

Please state hereon, in the columns provided in the Proposal, the lowest price at which you will provide the articles specified. Unsigned quotes will not be considered.

The proposal shall be emailed to procurement@co.benton.wa.us , by the date and time stated above. Quotes shall be considered final at the time and date for receiving quotes. The County will not accept any changes for any reason, including bidding errors. Use of the enclosed proposal form is required. Only quotes submitted on the official form will be considered. The quote shall not contain any unauthorized additions, deletions, alternate quotes or conditions.

AWARD OF PURCHASE

The right is reserved by the Board of Benton County Commissioners to reject any or all quotes, to waive informalities in the bidding, and to make award of the business based on a fair appraisal of the competitive values offered and delivery time. The Board will not be bound necessarily by the low quote.

> "NOTE: This document and the materials enclosed herewith constitute an invitation to submit quotes only and does not represent an offer by Benton County or the Benton County Engineer. Proposals submitted in response hereto shall constitute offers to contract with Benton County. Only upon the County's acceptance of such offer by award as provided herein, shall any contractual relations be created."

Should any discrepancies or omissions be found in the bid specifications, or doubt as to its meaning, bidder shall at once notify Danica Hope at the Benton County Public Works Office by telephone (509)783-1310 x5665. Written instructions or addenda as required will be sent to all interested parties. All addenda issued shall be incorporated into the contract. The County shall not be held responsible for oral interpretations. Questions received less than forty-eight (48) hours before quotes are due cannot be answered.

PROPOSED PURCHASE:

Conforming to the requirements of the Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction, 2023 edition, and the 2009 Manual on Uniform Traffic Control Devices (MUTCD), with Revision Numbers 1, 2 and 3 Incorporated, the purchase contemplated is set forth as follows:

Furnishing PreMark preformed thermoplastic road markings

The prices listed shall be the bidder's current bid prices. Prices shall be fixed after the final time and date for receiving quotes.

PRICES:

The prices quoted shall be F.O.B. Benton County Maintenance Shop, 102808 Wiser Parkway, Kennewick, Washington 99338.

DELIVERY TIME:

Delivery will be accepted between the hours of 7:00 a.m. to 3:30 p.m., Local Time, Monday through Thursday, EXCEPT Legal Holidays.

In order to have equipment available for unloading, it is necessary to receive a 48-hour advance notice of delivery.

DELIVERY POINT:

Benton County Maintenance Shop
102808 Wiser Parkway
Kennewick, WA 99338

TAX PROVISIONS:

Washington State sales taxes will not be considered a part of the unit price. State sales tax will be added as a separate item on the invoice for the purchase.

PROPOSAL – PREMARK MELTDOWN MATERIALS

Name of Vendor: National Barricade & Sign of Spokane

The undersigned hereby certifies that he/she has read the requirements and thoroughly understands the same and proposes as follows:

ITEM NO.	DESCRIPTION	QUANTITY	PRICE PER EACH	TOTALS
1	24" x 3'15'/PAK White Vizigrip	50	$ 114.00	$ 5,700.00
2	RxR KIT. - White. 20' x 8'	20	$ 307.00	$ 6,140.00
3	4" Rumble Bar Kit. 36"x2" with 36" x 4" Base	16	$ 139.00	$ 2,224.00
4	Arrow LEFT, White. 8' x 6' x 4"	12	$ 114.00	$ 1,368.00
5	Arrow RIGHT, White. 8' x 6' x 4"	4	$ 114.00	$ 456.00
6	BK 18" WHT LN W/3"BLK Contrast 15'PAK	8	$ 180.00	$ 1,440.00
7	BIKE rider Symbol. 3'4" x 6' LEFT facing	20	$ 100.00	$ 2,000.00
8	STOP Legend. White. Vizigrip	10	$ 162.00	$ 1,620.00
9	AHEAD Legend. White. Vizigrip	10	$ 204.00	$ 2,040.00
10	Shipping or Freight Fees			$ 0
			GRAND TOTAL	$ 22,988.00

SPECIFICATIONS:

- No preheating of Asphalt or surface.
- Material Must have heat indents or indicators
- Must be impervious to oil and gas while still compatible with asphalt
- Must have no lead chromate or heavy metal compounds

DATED this 23rd day of February, 2023.

VENDOR NAME: National Barricade & Sign of Spokane

ADDRESS: 6602 E Main Ave, Spokane Valley, WA 99212

EMAIL ADDRESS: bill@natbarr.net

TELEPHONE: (509) 534-2619

WASHINGTON STATE UNIFORM BUSINESS IDENTIFIER NO.: 601-481-955

BY: Bill Brewer
Authorized Signature

Bill Brewer, VP of Operations
Print Name and Title

PROPOSAL MUST BE SIGNED

PROPOSAL – PREMARK MELTDOWN MATERIALS

Name of Vendor: TraffiCare

The undersigned hereby certifies that he/she has read the requirements and thoroughly understands the same and proposes as follows:

ITEM NO.	DESCRIPTION	QUANTITY	PRICE PER EACH	TOTALS
1	24" x 3'15'/PAK White Vizigrip	50	$166.90	$8,345.00
2	RxR KIT. - White. 20' x 8'	20	$478.74	$9,574.80
3	4" Rumble Bar Kit. 36"x2" with 36" x 4" Base	16	$149.76	$2,396.16
4	Arrow LEFT, White. 8' x 6' x 4" (2 per pack)	12	$174.67	$2,096.04
5	Arrow RIGHT, White. 8' x 6' x 4" (2 per pack)	4	$174.67	$ 698.68
6	BK 18" WHT LN W/3"BLK Contrast 15'PAK	8	$175.11	$1,400.88
7	BIKE rider Symbol. 3'4" x 6' LEFT facing (5 per pack)	20	$164.90	$3,298.00
8	STOP Legend. White. Vizigrip	10	$247.94	$2,479.40
9	AHEAD Legend. White. Vizigrip	10	$347.10	$3,471.00
10	Shipping or Freight Fees			$2,124.00
			GRAND TOTAL	$35,883.96

SPECIFICATIONS:

- No preheating of Asphalt or surface.
- Material Must have heat indents or indicators
- Must be impervious to oil and gas while still compatible with asphalt
- Must have no lead chromate or heavy metal compounds

DATED this 24th day of February, 2023.

VENDOR NAME: TraffiCare

ADDRESS: 3308 37th Ave. S., Seattle, WA 98144

EMAIL ADDRESS: ha@trafficareco.com

TELEPHONE: (206) 235-9543

WASHINGTON STATE UNIFORM BUSINESS IDENTIFIER NO.: 604892826

BY: Ha Roni, President

Authorized Signature — Print Name and Title

PROPOSAL MUST BE SIGNED

OFFICE OF THE BENTON COUNTY ENGINEER
BENTON COUNTY, WASHINGTON

REQUEST FOR QUOTES

QUOTES FOR: PreMark preformed thermoplastic road markings.

QUOTES RECEIVED: The quote shall be emailed in pdf format to procurement@co.benton.wa.us and must be received prior to **11:00 AM on Tuesday, February 28, 2023**. No Quotes Will Be Accepted After That Date and Time.

INSTRUCTIONS:

Please state hereon, in the columns provided in the Proposal, the lowest price at which you will provide the articles specified. Unsigned quotes will not be considered.

The proposal shall be emailed to procurement@co.benton.wa.us , by the date and time stated above. Quotes shall be considered final at the time and date for receiving quotes. The County will not accept any changes for any reason, including bidding errors. Use of the enclosed proposal form is required. Only quotes submitted on the official form will be considered. The quote shall not contain any unauthorized additions, deletions, alternate quotes or conditions.

AWARD OF PURCHASE

The right is reserved by the Board of Benton County Commissioners to reject any or all quotes, to waive informalities in the bidding, and to make award of the business based on a fair appraisal of the competitive values offered and delivery time. The Board will not be bound necessarily by the low quote.

> "NOTE: This document and the materials enclosed herewith constitute an invitation to submit quotes only and does not represent an offer by Benton County or the Benton County Engineer. Proposals submitted in response hereto shall constitute offers to contract with Benton County. Only upon the County's acceptance of such offer by award as provided herein, shall any contractual relations be created."

Should any discrepancies or omissions be found in the bid specifications, or doubt as to its meaning, bidder shall at once notify Danica Hope at the Benton County Public Works Office by telephone (509)783-1310 x5665. Written instructions or addenda as required will be sent to all interested parties. All addenda issued shall be incorporated into the contract. The County shall not be held responsible for oral interpretations. Questions received less than forty-eight (48) hours before quotes are due cannot be answered.

PROPOSED PURCHASE:

Conforming to the requirements of the Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction, 2023 edition, and the 2009 Manual on Uniform Traffic Control Devices (MUTCD), with Revision Numbers 1, 2 and 3 Incorporated, the purchase contemplated is set forth as follows:

Furnishing PreMark preformed thermoplastic road markings

The prices listed shall be the bidder's current bid prices. Prices shall be fixed after the final time and date for receiving quotes.

PRICES:

The prices quoted shall be F.O.B. Benton County Maintenance Shop, 102808 Wiser Parkway, Kennewick, Washington 99338.

DELIVERY TIME:

Delivery will be accepted between the hours of 7:00 a.m. to 3:30 p.m., Local Time, Monday through Thursday, EXCEPT Legal Holidays.

In order to have equipment available for unloading, it is necessary to receive a 48-hour advance notice of delivery.

DELIVERY POINT:

Benton County Maintenance Shop
102808 Wiser Parkway
Kennewick, WA 99338

TAX PROVISIONS:

Washington State sales taxes will not be considered a part of the unit price. State sales tax will be added as a separate item on the invoice for the purchase.

PROPOSAL – PREMARK MELTDOWN MATERIALS

Name of Vendor: Sign Solutions USA

The undersigned hereby certifies that he/she has read the requirements and thoroughly understands the same and proposes as follows:

ITEM NO.	DESCRIPTION	QUANTITY	PRICE PER EACH	TOTALS
1	24" x 3'15'/PAK White Vizigrip	50	$142.61	$7,130.05
2	RxR KIT. - White. 20' x 8'	20	$409.06	$8,181.20
3	4" Rumble Bar Kit. 36"x2" with 36" x 4" Base	16	$171.26	$2,740.16
4	Arrow LEFT, White. 8' x 6' x 4"	12	$298.48	$3,581.76
5	Arrow RIGHT, White. 8' x 6' x 4"	4	$298.48	$1,193.92
6	BK 18" WHT LN W/3"BLK Contrast 15'PAK	8	$197.88	$1,583.04
7	BIKE rider Symbol. 3'4" x 6' LEFT facing	20	$647.45	$12,949.00
8	STOP Legend. White. Vizigrip	10	$211.85	$2,118.50
9	AHEAD Legend. White. Vizigrip	10	$296.58	$2,965.80
10	Shipping or Freight Fees			$0
			GRAND TOTAL	$42,443.88

SPECIFICATIONS:

- No preheating of Asphalt or surface.
- Material Must have heat indents or indicators
- Must be impervious to oil and gas while still compatible with asphalt
- Must have no lead chromate or heavy metal compounds

DATED this 27th day of February, 2023.

VENDOR NAME: Sign Solutions USA

ADDRESS: 2501 8th St NW, West Fargo, ND 58078

EMAIL ADDRESS: jwolbeck@signsolutionsusa.com

TELEPHONE: (701) 551-9235

WASHINGTON STATE UNIFORM BUSINESS IDENTIFIER NO.: 87-1131160

BY: Jeremy Wolbeck
Authorized Signature

Jeremy Wolbeck, Account Manager
Print Name and Title

PROPOSAL MUST BE SIGNED

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Awarding and executing a contract with Sierra Electric, Inc. for On-Call Electrical Maintenance
Presenter:	N/A
Prepared By:	P. Schut
Reviewed By:	Purchasing Department

PA Review, Approval to Form: ☒ Yes ☐ No ☐ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:**	
☒ Consent Agenda	☐ Discussion Only (1st)	☐ Pass Motion
☐ Public Hearing	☐ Discussion Only (2nd)	☒ Pass Resolution
☐ Scheduled Business	☐ Decision/Direction	☐ Pass Ordinance
	☐ Sign Letter/Document	☒ Execute Contract

Summary / Background Information

Bids were solicited for On-Call Electrical Maintenance utilizing the MRSC Small Works Roster and six bids were received in the amounts below:

Sierra Electric, Inc., Pasco, WA (SIERREI021CZ)	$ 43,452.00
Fulcrum Electric, LLC, Benton City, WA (FULCREL790QP)	$ 44,598.40
CR Solutions, LLC., Kennewick, WA (CRSOLS*814KU)	$ 45,770.00
Preferred Industrial Electric, LLC, Prosser WA (PREFEI829L2)	$ 47,840.00
Core Northwest, LLC, Yakima, WA (CORENNL852CD)	$ 51,599.50
MCC Electric, Pasco, WA (ECMCC****796P7)	$ 53,010.00

Fiscal Impact

Amount: $125,000.00 excluding W.S.S.T.

Fund: Various Funds

Recommendation

Award the contract for On-Call Electrical Maintenance in an amount not to exceed $125,000.00 to Sierra Electric, Inc. and authorize the Chairman to sign the said contract.

Suggested Motion

Approve as part of the Consent Agenda.

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF AWARDING THE CONTRACT FOR ON-CALL ELECTRICAL MAINTENANCE TO SIERRA ELECTRIC, INC. OF PASCO WA AND AUTHORIZING THE CHAIRMAN TO SIGN SAID CONTRACT

WHEREAS, bids were solicited for On-Call Electrical Maintenance for all Benton County Facilities; and

WHEREAS, six bids were received in the amounts below:

Sierra Electric, Inc., Pasco, WA (SIERREI021CZ)	$ 43,452.00
Fulcrum Electric, LLC, Benton City, WA (FULCREL790QP)	$ 44,598.40
CR Solutions, LLC., Kennewick, WA (CRSOLS*814KU)	$ 45,770.00
Preferred Industrial Electric, LLC, Prosser WA (PREFEI829L2)	$ 47,840.00
Core Northwest, LLC, Yakima, WA (CORENNL852CD)	$ 51,599.50
MCC Electric, Pasco, WA (ECMCC****796P7)	$ 53,010.00

WHEREAS, the Purchasing Department recommends the award of the bid to Sierra Electric, Inc., Pasco, WA; and

WHEREAS, a contract has been prepared, reviewed, and approved as to form by our departmental Deputy Prosecuting Attorney from the Civil Division and has been executed by Sierra Electric, Inc., Pasco, WA; and

WHEREAS, the Purchasing Department recommends the Chairman sign said contract; **NOW, THEREFORE,**

BE IT RESOLVED, the Board of Benton County Commissioners concurs with the Purchasing Department's recommendations and awards the bid for On-Call Electrical Maintenance to Sierra Electric, Inc., Pasco, WA, in an amount not to exceed $125,000.00 excluding Washington State Sales Tax; and

BE IT FURTHER RESOLVED, the Board hereby authorizes the Chairman of the Board of County Commissioners to sign on behalf of Benton County said contract with Sierra Electric, Inc.; and

BE IT FURTHER RESOLVED, said contract begins April 1, 2023, and expires March 31, 2024. Upon mutual agreement of both parties, this Contract may be extended by written amendment for a maximum of one additional 12-month period.

Dated this 28th day of March, 2023.

_____
Chairman

_____
Chairman Pro-Tem

_____
Commissioner

Attest:_____
Clerk of the Board

Constituting the Board of County
Commissioners of Benton County, Washington.

Orig.: Purchasing P. Schut
c: Auditor; PA; Contractor

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BENTON COUNTY
PUBLIC WORKS CONTRACT

TERMS AND CONDITIONS

THIS CONTRACT is made and entered into by and between **BENTON COUNTY**, a political subdivision with its principal offices at 620 Market Street, Prosser, WA 99350 (hereinafter "COUNTY"), and **SIERRA ELECTRIC, INC.**, a corporation organized under the laws of the State of Washington with its principal offices at 4120 N Swallow Ave., Pasco, WA 99301 (hereinafter "CONTRACTOR").

In consideration of the mutual benefits and covenants contained herein, the parties agree as follows:

1. CONTRACT DOCUMENTS

This Contract consists of these Terms and Conditions and the following documents:

a. Exhibit A – Bid Form; and
b. Exhibit B – Washington State Prevailing Wage Rates for Public Works Contracts.

2. DURATION OF CONTRACT

The term of this Contract shall begin on April 1, 2023, and shall expire on March 31, 2024. The COUNTY further reserves the right to renew the Contract for an additional one year without advertising. The CONTRACTOR shall complete all work by the time(s) specified herein, or if no such time is otherwise specified, no later than the expiration date.

3. SERVICES PROVIDED

a. The CONTRACTOR shall provide on-call as-needed electrical maintenance & repair for all Benton County locations directed by the COUNTY.

b. The Contractor shall also provide Emergency service response 24 hours per day, 7 days a week, 365 days per year with a minimum of two on-call electricians. The CONTRACTOR must provide a phone number for emergency calls to the County Contract Representative. The CONTRACTOR must also respond to emergency service calls within one (I) hour after

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notification and arrive onsite within four (4) hours. Response time for non-emergency service calls is a maximum of twenty-four (24) hours, or as arranged with the Benton County Facilities Department.

c. In the event that the requested work encompasses work that is legally required to be completed by another type of Contractor, CONTRACTOR shall inform COUNTY of that fact and shall coordinate with COUNTY to complete the work in conjunction with the other Contractor. In the event that the requested work requires, under State or local law, the issuance of a building or other permit, CONTRACTOR shall be responsible for procuring such permit and arranging for inspection and certification of the work. CONTRACTOR may bill COUNTY for the full cost of the permit and any labor time for any of its employees involved in the permitting process, but may not charge any additional processing or other fees that it does not actually incur.

d. Upon completion of services, CONTRACTOR shall ensure that a completed work order, detailing the work done, the time expended, and the parts used, is remitted to the COUNTY's Contract Representative, or his or her designee, prior to the CONTRACTOR leaving the work site.

e. The COUNTY does not guarantee utilization of this Contract. The COUNTY may award contracts to other vendors for similar products or services. Actual utilization will be based on availability, proximity of vendor facilities, frequency of deliveries, or any other factor deemed important to the COUNTY.

f. The CONTRACTOR agrees to provide its own labor and materials. Unless otherwise provided in this Contract, no material, labor, or facilities will be furnished by the COUNTY.

g. The CONTRACTOR shall perform the work specified in this Contract according to standard industry practice.

h. The CONTRACTOR shall complete its work in a timely manner and in accordance with the schedule agreed by the parties.

i. The CONTRACTOR shall confer with the COUNTY from time to time during the progress of the work. The CONTRACTOR shall prepare and present status reports and other information that may be pertinent and necessary, or as may be requested by the COUNTY.

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4. CONTRACT REPRESENTATIVES

Each party to this Contract shall have a Contract Representative. Each party may change its representative upon providing written notice to the other party. The parties' Contract Representatives are as follows:

a. For CONTRACTOR:

Name:	Josh Murphy
Address:	4120 N Swallow Ave. Pasco, WA 99301
Phone:	509-542-8682
Email:	jmurphy@sierraelec.net

b. For COUNTY:

Name:	Jeff Jones Facilities Manager
Address:	7122 W Okanogan Place; Bldg. A Kennewick, WA, 99336
Phone:	509) 783-3118
Email:	Thomas.Jones@co.benton.wa.us

5. COMPENSATION

a. For the services performed under this Contract, the CONTRACTOR shall be paid at the rates set forth in Exhibit A, "Bid Form" which is attached hereto and incorporated herein by reference

b. The maximum total amount payable by the COUNTY to the CONTRACTOR under this Contract shall not exceed One-Hundred Twenty-Five Thousand dollars and zero cents ($125,000.00), excluding W.S.S.T. The CONTRACTOR shall monitor its cumulative total accounts receivables to ensure that it will not do work in excess of the maximum total amount payable set forth in this section and that its total billings will not exceed the maximum total amount payable. The CONTRACTOR shall inform the COUNTY promptly in writing if the CONTRACTOR's cumulative accounts receivable attributable to the COUNTY, pursuant to this Contract, reaches eighty percent (80%) of the maximum total amount payable so that budgeting and approval of additional amounts may be obtained (if appropriate). Any dollar amount above the maximum total amount payable will only be approved with an amendment to this Contract.

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c. Prior to any compensation being paid, CONTRACTOR shall submit a Statement of Intent to Pay Prevailing Wages via https://secureaccess.wa.gov/ and then forward a copy of the statement to COUNTY'S Contract Representative. At the completion of all work contemplated by this Contract, or at the end of the contract term, whichever comes first, CONTRACTOR shall submit an Affidavit of Wages Paid via https://secureaccess.wa.gov/ and then forward a copy of the affidavit to COUNTY'S Contract Representative. No final payment will be made until the affidavit is provided. COUNTY requires that all Statements of Intent to Pay Prevailing Wages and Affidavits of Wages Paid be filed electronically with https://secureaccess.wa.gov/.

d. The CONTRACTOR may invoice the COUNTY for filing fees paid to the Washington State Department of Labor and Industries for filing one Statement of Intent to Pay Prevailing Wages per year and one Affidavit of Wages Paid per site visit when billable work is performed.

e. No payment shall be for any work performed by CONTRACTOR, except for work identified and set forth in this Contract.

6. INVOICING

a. The CONTRACTOR may submit invoices to the COUNTY for services that have been performed as they are performed, but shall not submit invoices more than once per calendar month. Such invoices shall detail the work done, the personnel involved, and the date of service and shall also reference the work order provided to COUNTY as required in Section 3.c. of this Contract.

b. Before or at the time that the CONTRACTOR submits its first invoice, the CONTRACTOR and any subcontractors and sub-subcontractors employed by the CONTRACTOR for the work contemplated by this Contract shall submit a Statement of Intent to Pay Prevailing Wages via https://secureaccess.wa.gov and then forward a copy of the statement to the COUNTY's Contract Representative.

c. The CONTRACTOR shall not be paid for work rendered under this Contract until all required parties have executed and submitted a Statement of Intent to Pay Prevailing Wages in accordance with this section and the work has been performed to the satisfaction of the COUNTY. The COUNTY shall only be

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liable to pay for invoiced amounts that are detailed and supported as described in this section. The COUNTY shall authorize payment when the work billed is accepted by the COUNTY and will remit payment for the accepted work, less any retainage or other legally withheld funds, within thirty (30) days after receiving the invoice.

d. For each invoiced and approved payment due to the CONTRACTOR under this section, the COUNTY shall withhold from the earned portion of the payment (*i.e.* that portion excluding sales tax or other tax) five percent (5%) as a contract retainage, pursuant to RCW 60.28.011 and in accordance with chapter 60.28 RCW. Within ten (10) days following the execution of this Contract, the CONTRACTOR shall submit written notice to the COUNTY stating the method it has elected pursuant to RCW 60.28.011(4) for the holding of moneys retained by the COUNTY. If such written election is not received by the COUNTY, then the COUNTY may choose any method allowed by RCW 60.28.011(4)(a)-(c) for holding the retained moneys.

7. AMENDMENTS AND CHANGES IN WORK

a. In the event of any errors or omissions by the CONTRACTOR in the performance of any work required under this Contract, the CONTRACTOR shall make any and all necessary corrections without additional compensation. All work submitted by the CONTRACTOR shall be certified by the CONTRACTOR and checked for errors and omissions. The CONTRACTOR shall be responsible for the accuracy of the work, even if the work is accepted by the COUNTY.

b. No amendment or modification shall be made to this Contract, unless set forth in a written Contract Amendment signed by both parties. Work under a Contract Amendment shall not proceed until the Contract Amendment is duly executed by the COUNTY.

8. HOLD HARMLESS AND INDEMNIFICATION

a. The CONTRACTOR shall hold harmless, indemnify, and defend the COUNTY and its officers, officials, employees, and agents from and against any and all claims, actions, suits, liabilities, losses, expenses, damages, and judgments of any nature whatsoever, including reasonable costs and attorneys' fees in defense thereof, for injury, sickness, disability, or death to persons or damage to property or business, arising in connection with the work performed under this Contract, or

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caused or occasioned in whole or in part by reason of the presence of the CONTRACTOR or its subcontractors or their property upon or in the proximity of the property of the COUNTY. PROVIDED, that the CONTRACTOR'S obligation hereunder shall not extend to injury, sickness, death, or damage caused by or arising out of the sole negligence of the COUNTY or its officers, officials, employees, or agents. In the event of the concurrent negligence of the CONTRACTOR or its subcontractors, employees, or agents and the COUNTY or its employees or agents this indemnification obligation of the CONTRACTOR shall be valid and enforceable only to the extent of the negligence of the CONTRACTOR and its subcontractors, employees, and agents.

b. In any and all claims against the COUNTY or its officers, officials, employees, or agents by any employee of the CONTRACTOR, subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this Section shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR or subcontractor under workers compensation acts, disability benefit acts, or other employee benefit acts, it being clearly agreed and understood by the parties hereto that the CONTRACTOR expressly waives any immunity the CONTRACTOR might have had under such laws, including but not limited to Title 51 of the Revised Code of Washington. **By executing this Contract, the CONTRACTOR acknowledges that the foregoing waiver has been mutually negotiated by the parties and that the provisions of this Section shall be incorporated, as relevant, into any contract the CONTRACTOR makes with any subcontractor or agent performing work hereunder. CONTRACTOR'S obligations under this Section 8 shall survive termination and expiration of this Contract.**

c. The CONTRACTOR'S obligations hereunder shall include, but are not limited to, investigating, adjusting, and defending all claims alleging loss from action, error, or omission, or breach of any common law, statutory, or other delegated duty by the CONTRACTOR or the CONTRACTOR'S employees, agents, or subcontractors. The foregoing indemnification obligations of the CONTRACTOR are a material inducement to COUNTY to enter into this Contract, are reflected in the CONTRACTOR's compensation, and have been mutually negotiated by the parties.

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9. INSURANCE

The CONTRACTOR shall obtain and maintain continuously the following insurance:

a. **Workers Compensation:** CONTRACTOR shall comply with all State of Washington workers compensation statutes and regulations. Prior to the start of work under this Contract, workers compensation coverage shall be provided for all employees of CONTRACTOR and employees of any subcontractor or sub-subcontractor. Coverage shall include bodily injury (including death) by accident or disease, which arises out of or in connection with the performance of this Contract. CONTRACTOR shall submit a copy of its certificate of coverage from the Washington State Department of Labor and Industries prior to commencement of work. Except as prohibited by law, CONTRACTOR waives all rights of subrogation against the COUNTY for recovery of damages to the extent they are covered by workers compensation and employers liability.

   If CONTRACTOR, subcontractor, or sub-subcontractor fails to comply with all State of Washington workers compensation statutes and regulations and COUNTY incurs fines or is required by law to provide benefits to or obtain coverage for such employees, CONTRACTOR shall indemnify the COUNTY. Indemnity shall include all fines, payment of benefits to CONTRACTOR or subcontractor employees, or their heirs or legal representatives, and the cost of effecting coverage on behalf of such employees. Any amount owed to COUNTY by CONTRACTOR pursuant to the indemnity agreement may be deducted from any payments owed by COUNTY to CONTRACTOR for performance of this Contract.

b. **Commercial General Liability and Employers Liability Insurance:** Prior to the start of work under this Contract, CONTRACTOR shall maintain commercial general liability coverage (policy form CG0001 or equivalent) to protect the CONTRACTOR from claims for wrongful death, bodily injury, personal injury, and property damage, which may arise from any actions or inactions under this Contract by CONTRACTOR or by anyone directly employed by or contracting with CONTRACTOR. The minimum commercial general liability insurance limits shall be as follows:

   $2,000,000 General Aggregate

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$2,000,000 Products/Completed Operations Aggregate
$1,000,000 Personal Injury and Advertising Injury
$1,000,000 Each Occurrence

The commercial general liability policy must contain an endorsement naming the COUNTY and its elected and appointed officials, employees, and agents as an Additional Insured and an endorsement that specifically states that CONTRACTOR's commercial general liability policy shall be primary, and not contributory, with any other insurance maintained by the COUNTY.

The CONTRACTOR must provide commercial general liability coverage that does not exclude any activity to be performed in fulfillment of this Contract and does not exclude liability pursuant to the indemnification requirement under Section 8. CONTRACTOR'S commercial general liability policy shall provide cross liability coverage, indicating essentially that except with respect to the limits of insurance and any rights or duties specifically assigned in this coverage part to the first named insured, this insurance applies as if each named insured were the only named insured, and separately to each insured against whom claims are made or suit is brought.

CONTRACTOR shall also provide Stop Gap Employer's Liability Insurance coverage with minimum limits as follows:

$1,000,000 Each Accident
$1,000,000 Policy Limit for Disease
$1,000,000 Each Employee for Disease

c. **Automobile Liability:** The CONTRACTOR shall maintain, during the life of this Contract, Automobile Liability Insurance (ISO Form Number CA0001 or equivalent) covering any auto (Symbol 1), or if the CONTRACTOR has no owned autos, any hired (Symbol 8) and non-owned autos (Symbol 9), in the amount of not less than one million dollars ($1,000,000) per accident for Bodily Injury and Property Damage to protect CONTRACTOR from claims that may arise from the performance of this Contract, whether such operations are by the CONTRACTOR or by anyone directly or indirectly employed by the CONTRACTOR.

d. **Other Insurance Provisions:**

1. The CONTRACTOR'S liability insurance provisions shall be primary with respect to any insurance or self-insurance programs covering the COUNTY and its elected and

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appointed officers, officials, employees, and agents. CONTRACTOR'S liability insurance policies must be endorsed to show this primary coverage. Any insurance, self-insured retention, deductible, or risk retention maintained or participated in by the COUNTY shall be excess and not contributory to CONTRACTOR'S insurance policies.

2. The CONTRACTOR'S liability insurance policies shall contain no special limitations on the scope of protection afforded to the COUNTY as an additional insured.

3. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the COUNTY or its officers, officials, employees, or agents.

4. The CONTRACTOR'S insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

5. The CONTRACTOR shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.

6. The insurance limits mandated for any insurance coverage required by this Contract are not intended to be an indication of exposure nor are they limitations on indemnification. **If the CONTRACTOR maintains higher limits than the minimums required in this Contract, the COUNTY shall be entitled to coverage for the higher limits maintained by the CONTRACTOR.**

7. The CONTRACTOR shall maintain all required policies in force from the time services commence until services are completed. Certificates, policies, and endorsements expiring before completion of services shall be promptly replaced. All liability insurance required under this Contract shall be written on an Occurrence Policy form.

8. CONTRACTOR hereby agrees to waive subrogation with respect to each insurance policy maintained under this Contract. When required by an insurer, or if a policy condition does not permit CONTRACTOR to enter into a

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pre-loss agreement to waive subrogation without an endorsement, then CONTRACTOR agrees to notify the insurer and obtain such endorsement. This requirement shall not apply to any policy which includes a condition expressly prohibiting waiver of subrogation by the insured or which voids coverage should the CONTRACTOR enter into such a waiver of subrogation on a pre-loss basis.

9. Compensation and/or payments due to CONTRACTOR under this Contract are expressly conditioned upon CONTRACTOR'S strict compliance with all insurance requirements. Payment to CONTRACTOR may be suspended in the event of non-compliance. Upon receipt of evidence of CONTRACTOR'S compliance, such payments not otherwise subject to withholding or set-off will be released to CONTRACTOR.

e. **Verification of Coverage and Acceptability of Insurers:**

All insurance required under this Contract shall be issued by companies authorized to do business under the laws of the State of Washington that have an A. M. Best's rating of at least A-VII or better in the most recently published edition of Best's Reports. Any exception to this requirement must be reviewed and approved in writing by the Benton County Risk Manager. If an insurer is not admitted to do business within Washington State, all insurance policies and procedures for issuing the insurance policy must comply with Chapter 48.15 RCW and Chapter 284-15 WAC.

1. All insurance to be maintained by the CONTRACTOR, other than Auto Liability, and Workers' Compensation, shall specifically include the COUNTY and its elected officials, employees, and volunteers as an "Additional Insured" by way of endorsement and shall not be reduced or canceled without thirty (30) days prior written notice to the COUNTY. Any insurance or self-insurance maintained by the COUNTY or its elected and appointed officials, employees, or agents shall be excess of the CONTRACTOR's insurance and shall not contribute to it.

2. Certificates of Liability Insurance, with endorsements attached, must be provided to the County's Contract Representative referenced in Section 4.

3. All written notices under this Section 9 and notice of

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cancellation or change of required insurance coverages shall be mailed to the COUNTY's Contract Representative referenced in Section 4.

4. The CONTRACTOR or its broker shall provide a copy of any and all insurance policies specified in this Contract upon request of the Benton County Risk Manager at the following address: Benton County Risk Manager, 7122 W. Okanogan Place, Bldg. A, Kennewick, WA 99336.

10. PERFORMANCE AND PAYMENT BONDS

The CONTRACTOR shall furnish Benton County with a Performance Bond and Labor and Materials Payment Bond with sufficient sureties acceptable to Benton County, in an amount equal to one hundred percent (100%) of the contract sum as security for the performance by the Contractor of this Contract and payment of all the persons performing labor and supplying materials pursuant to this Contract. PROVIDED that the CONTRACTOR may elect, in lieu of the bonds, to allow the COUNTY to retain ten percent (10%) of the contract amount either for a period of thirty (30) days after the date of final acceptance, or until all necessary releases from the Washington State Department of Revenue, the Washington State Department of Labor and Industries, and the Employment Security Department have been received and any liens filed under chapter 60.28 RCW have been settled, whichever is later. Proof of the performance and payment bonds, or written notification of the CONTRACTOR'S desire to elect the alternative to the bonds (described above), must be received by COUNTY within ten (10) days following the execution of this Contract.

11. NON-WAIVER OF RIGHTS

The parties agree that the excuse or forgiveness of performance, or waiver of any provision(s) of this Contract does not constitute a waiver of such provision(s) or future performance, or prejudice the right of the waiving party to enforce any of the provisions of this Contract at a later time. All waivers of any provision(s) of this Contract shall be in writing and in the absence of such, no action or inaction shall be construed to be such a waiver.

12. INDEPENDENT CONTRACTOR

a. The CONTRACTOR'S services shall be furnished by the CONTRACTOR as an independent contractor and not as an agent, employee or servant of the COUNTY. The CONTRACTOR specifically has the right to direct and control CONTRACTOR'S

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own activities in providing the agreed services in accordance with the specifications set out in this Contract.

b. The CONTRACTOR acknowledges that the entire compensation for this Contract is set forth in Section 5 of this Contract, and neither the CONTRACTOR nor its employees are entitled to any COUNTY benefits, including, but not limited to: vacation pay; holiday pay; sick leave pay; medical, dental, or other insurance benefits; fringe benefits; or any other rights or privileges afforded to COUNTY employees.

c. The CONTRACTOR shall have and maintain complete responsibility and control over all of its subcontractors, employees, agents, and representatives. No subcontractor, employee, agent, or representative of the CONTRACTOR shall be, deem to be, act, or purport to act as an employee, agent, or representative of the COUNTY.

d. The CONTRACTOR shall pay for all taxes, fees, licenses, or payments required for the performance of work under this Contract by federal, state, or local law that is now or may be enacted during the term of this Contract.

e. The CONTRACTOR agrees to immediately remove any of its employees or agents from their assignment to perform services under this Contract upon receipt of a written request to do so from the COUNTY'S Contract Representative or designee.

13. INSPECTION OF BOOKS AND RECORDS

The COUNTY may, at reasonable times, inspect the books and records of the CONTRACTOR relating to the performance of this Contract. The CONTRACTOR shall keep, and make available to the County upon request, all records relating to the performance of this Contract for six (6) years after Contract termination or expiration.

14. CHOICE OF LAW AND JURISDICTION

This Contract has been and shall be construed as having been made and delivered within the State of Washington, and it is agreed by each party hereto that this Contract shall be governed by the laws of the State of Washington, both as to its interpretation and performance.

15. SUCCESSORS AND ASSIGNS

The COUNTY, to the extent permitted by law, and the CONTRACTOR

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each bind themselves, their partners, successors, executors, administrators, and assigns to the other party to this Contract and to the partners, successors, administrators, and assigns of such other party in respect to all covenants to this Contract.

16. TERMINATION

a. The COUNTY may terminate this Contract in whole or in part whenever the COUNTY determines in its sole discretion that such termination is in the best interests of the COUNTY. The COUNTY may terminate this Contract upon giving thirty (30) days written notice by certified mail to the CONTRACTOR. In that event, the COUNTY shall pay the CONTRACTOR for actual costs incurred by the CONTRACTOR in performing the Contract up to the date of such notice. Payment shall be made in accordance with Section 6, Invoicing. Nothing in this Section shall limit the rights of the COUNTY pursuant to this Contract or by law.

17. COMPLIANCE WITH LAWS AND PREVAILING WAGES

The CONTRACTOR shall comply with all applicable federal, state, and local laws, rules, and regulations in performing this Contract, including, but not limited to, prevailing wage laws. Specifically, at a minimum, the prevailing wages set out in Exhibit B, which is attached hereto and incorporated herein by reference, shall be paid to all employees, agents, subcontractors, and sub-subcontractors who do any work for the CONTRACTOR on this project. The CONTRACTOR shall ensure that all subcontractors or sub-subcontractors sign an agreement to pay these same wages and that the signed agreement is submitted to the COUNTY prior to subcontractor commencing any work on the project. This schedule of prevailing wages is duplicated from the Washington State Department of Labor and Industries website, it is provided for informational purposes only, and the COUNTY takes no responsibility for any inaccuracies or ambiguities contained therein. If CONTRACTOR believes the schedule contains any such ambiguities or inaccuracies, then the CONTRACTOR is responsible for contacting the Washington State Department of Labor and Industries directly to resolve them. Perceived inaccuracies or ambiguities in the schedule shall not relieve CONTRACTOR from its obligation pursuant to this Contract and relevant law to pay prevailing wages.

18. NONDISCRIMINATION

The CONTRACTOR and its assignees, delegates, and subcontractors

DocuSign Envelope ID: 5612D6D8-0DCF-4088-8738-C53D1581059F

shall not discriminate against any person in the performance of any of their obligations hereunder on the basis of race, religion, color, national origin, sex, age, honorably discharged veteran or military status, sexual orientation, marital status, or the presence of any sensory, mental, or physical disability.

19. DISPUTES

Disputes over the CONTRACTOR's performance shall be promptly addressed in writing by the aggrieved party in order that such matters may be settled or other appropriate action promptly taken. Any dispute relating to the quality or acceptability of performance and/or compensation due the CONTRACTOR shall be decided by the COUNTY'S Contract Representative or designee. All rulings, orders, instructions, and decisions of the COUNTY'S Contract Representative shall be final and conclusive, subject to CONTRACTOR'S right to seek judicial relief.

20. ASSIGNMENT, DELEGATION, AND SUBCONTRACTING

The CONTRACTOR shall perform the services under this Contract using only its bona fide employees or agents, and the obligations and duties of the CONTRACTOR under this Contract shall not be assigned, delegated, or subcontracted to any other person or firm without the prior written consent of the COUNTY.

21. VERIFICATION OF SUBCONTRACTOR RESPONSIBILITY CRITERIA

A public works contractor must verify responsibility criteria for each first-tier subcontractor, and a subcontractor of any tier that hires other subcontractors must verify responsibility criteria for each of its subcontractors. Verification shall include that each subcontractor, at the time of subcontract execution, meets the responsibility criteria listed in RCW 39.04.350(1) and possesses an electrical contractor license, if required by chapter 70.87 RCW. This verification requirement, as well as the responsibility criteria, must be included in every public works contract and subcontract of every tier.

22. ENTIRE AGREEMENT

The parties agree that this Contract is the complete expression of their agreement. Any oral or written representations or understandings not incorporated in this Contract are specifically excluded.

DocuSign Envelope ID: 5612D6D8-0DCF-4088-8738-C53D1581059F

23. NOTICES

Any notices shall be effective if personally served upon the other party or if mailed by registered or certified mail, return receipt requested, to the addresses set out in Section 4 of this Contract. Notice may also be given by e-mail, using the e-mail addresses set forth in Section 4 of this Contract, with the original to follow by regular mail. Notice shall be deemed effective three (3) days following the date of mailing or immediately if personally served. For service by e-mail, service shall be effective at the beginning of the next working day.

24. SEVERABILITY

a. If a court of competent jurisdiction holds any part, term or provision of this Contract to be illegal, or invalid in whole or in part, the validity of the remaining provisions shall not be affected, and the parties' rights and obligations shall be construed and enforced as if the Contract did not contain the particular provision held to be invalid.

b. If it should appear that any provision of this Contract is in conflict with any statutory provision of the State of Washington, said provision which may conflict therewith shall be deemed inoperative and null and void insofar as it may be in conflict therewith, and shall be deemed modified to conform to such statutory provision.

25. LITIGATION HOLD NOTICE

In the event the COUNTY learns of circumstances leading to an increased likelihood of litigation regarding any matter where the records kept by CONTRACTOR regarding the work performed under this Contract may be of evidentiary value, the COUNTY may issue written notice to CONTRACTOR of such circumstances and direct the CONTRACTOR to "hold" such records. In the event that CONTRACTOR receives such written notice, CONTRACTOR shall abide by all directions therein whether or not such written notice is received at a time when a Contract between CONTRACTOR and the COUNTY is in force. Such directions will include, but will not be limited to, instructions to suspend any regularly scheduled purge schedule.

26. PUBLIC RECORDS ACT

The CONTRACTOR hereby acknowledges that the COUNTY is a governmental entity and as such is subject to the requirements of

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the Public Records Act, Chapter 42.56 RCW. Accordingly, CONTRACTOR understands that to the extent a proper request is made the COUNTY may be required by virtue of that Act to disclose any records related to this Contract actually in its possession or in CONTRACTOR'S possession. This may include records that CONTRACTOR regards as confidential or proprietary. To the extent that CONTRACTOR provides any records to the COUNTY that it regards as confidential or proprietary, CONTRACTOR agrees to conspicuously mark the records as such. The CONTRACTOR also hereby waives any and all claims or causes of action for any injury it may suffer by virtue of COUNTY'S release of records covered under the Public Records Act. The COUNTY agrees to take all reasonable steps to notify CONTRACTOR in a timely fashion of any request made under the Public Records Act which will require disclosure of any records marked by CONTRACTOR as confidential or proprietary, so that CONTRACTOR may seek a judicial order of protection if necessary.

27. SURVIVABILITY

All Contract terms, which by their context are clearly intended to survive the termination and/or expiration of this Contract, shall so survive. These terms include, but are not limited to, provisions for: indemnification; insurance; non-waiver; inspection of books and records; choice of law; compliance with laws; litigation hold; and the Public Records Act.

28. CONFIDENTIALITY

The CONTRACTOR and its employees, subcontractors, and subcontractors' employees shall maintain the confidentiality of all information provided by the COUNTY or acquired by the COUNTY in performance of this Contract, except upon the prior written consent of the COUNTY or an order entered by a court of competent jurisdiction. The CONTRACTOR shall promptly give the COUNTY written notice of any judicial proceeding seeking disclosure of such information.

29 SECURITY BACKGROUND CHECK

The CONTRACTOR, its employees, subcontractors, and their employees who will be working onsite will be required to complete in full the Security Background Check, which can be found at https://bentoncountywa.jotform.com/211997385382974. Successful completion of the background check, as determined by the COUNTY, is required prior to the first day of work or entry into the jail. The COUNTY reserves the right to interview CONTRACTOR employees, or subcontractor employees as part of the security background

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process. The CONTRACTOR agrees to remove any of its employees, or subcontractor employees, prior to performance hereunder if in the sole discretion of the COUNTY said employees fail the Security Background Check. In addition, CONTRACTOR agrees to provide the COUNTY notice if during the performance of work hereunder any of its' employees, or subcontractors' employees, are charged with or convicted of any crime. Finally, if the CONTRACTOR, its employees, subcontractors, or their employees are working in the jail area and discover that a friend or family member is in the jail's custody they must immediately notify jail staff.

If fingerprints are required, CONTRACTOR, its employees, subcontractors, and their employees who will be working onsite must present themselves, their government issued identification and a check, exact cash, or money order for $34.25 for livescan, or $71.25 if required to ink roll the fingerprint, to the records staff at the Benton County Corrections Department. Fingerprints will be taken and submitted to Washington State Patrol for verification. A complete fingerprint based criminal history check and local criminal history will be completed by the Records Sergeant. Information regarding any felony or misdemeanor conviction history will be presented to the Chief of Corrections for a determination if the individual will be allowed UNESCORTED access to the facility. Any felony convictions for a Contractor's employee will be presented to the Washington State Patrol WSP ACCESS section to determine if they will allow unescorted access to locations which have access to the network housing the ACCESS program; which is anything connecting to the COUNTY network and the majority of computers within the facilities.

It will be solely determined by the COUNTY if the CONTRACTOR, its employees, subcontractors, and their employees will be required to complete the CJIS online training. This is a web-based training accessible from any computer.

- This section was intentionally left blank -

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IN WITNESS WHEREOF, the parties have caused this Contract to be signed by their duly constituted legal representatives and it is effective on April 1, 2023.

Date:_____	Date: 3/16/2023
BENTON COUNTY	**SIERRA ELECTRIC, INC.**
	DocuSigned by: Josh Murphy 598B623281 7B47E...
Chairman Benton County Board of County Commissioners	Signature
	PROJECT MANAGER
Approved as to Form:	Title:
DocuSigned by: Eric Andrews B4F7673BB8A1486...	JOSH MURPHY
Civil Deputy Prosecuting Attorney	PRINTED NAME

DocuSign Envelope ID: 5612D6D8-0DCF-4088-8738-C53D1581059F

BID FORM

Electrical Maintenance and Repair

Company Name Sierra Electric, Inc.

Fill in all blank fields in the "For Bid Comparison Only" table. Hours and parts shown are for bidding purposes only. Benton County will pay actual hours worked and actual parts used during the duration of the contract.

ACKNOWLEDGEMENT OF ADDENDA

The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

Addendum No. 1, dated N/A

Addendum No. 2, dated N/A

FOR BID COMPARISON ONLY – Year #1 RATES

Bid Item	Qty.	Unit	Unit Price	Total Cost
Labor (Regular Hourly Rate)	95	hr.	$105.00	$ 9,975.00
Labor (Overtime Hourly Rate)	3	hr.	$141.00	$ 423.00
Labor (Double-time Hourly Rate)	2	hr.	$189.00	$ 378.00
Parts Markup	$10,000.00	ea.	8 %	$ 10,800.00
			Subtotal A = Year #1 Total Bid	$ 21,576.00

FOR BID COMPARISON ONLY – Year #2 RATES (if contract is renewed)

Bid Item	Qty.	Unit	Unit Price	Total Cost
Labor (Regular Hourly Rate)	95	hr.	$108.00	$ 10,260.00
Labor (Overtime Hourly Rate)	3	hr.	$144.00	$ 432.00
Labor (Double-time Hourly Rate)	2	hr.	$192.00	$ 384.00
Parts Markup	$10,000.00	ea.	8 %	$ 10,800.00
			Subtotal B = Year #2 Total Bid	$ 21,876.00
			Subtotal A + Subtotal B = Grand Total (Used for bid comparison only.)	$ 43,452.00

The undersigned hereby certifies that they have examined the location of the work outlined in the request for bids, and have read and thoroughly understand the plans, specifications, and contract to govern the work embraced in this improvement, and the method by which payment will be made for said work, and hereby proposes to undertake and complete the work embraced in this improvement in accordance with the said plans, specifications and contract, and the above schedule of rates and prices. **(NOTE: Unit prices for all items, all extensions, and the total bid amount shall be shown. Show unit price and total amounts in figures only.)**

DocuSign Envelope ID: 5612D6D8-0DCF-4088-8738-C53D1581059F

A proposal guaranty in an amount of five percent (5%) of the total bid, and in the form as indicated below, is attached hereby:

Cashier's Check	_____	In the Amount of _____
Certified Check	_____	($_____) Payable to the County Treasurer of Benton County, Washington.
Proposal Bond	____X_____	In the amount of 5% of the Bid.

CONTRACTOR'S LICENSE

The undersigned states that it is a duly licensed contractor, for the type of work proposed, in the State of Washington, and that all fees, permits, etc., pursuant to submitting this bid have been paid in full.

PUBLIC WORKS TRAINING

The undersigned hereby certifies that the contractor has received L & I training, per RCW 39.04.350, or has completed three or more public works projects and has had a valid business license in Washington for three or more years and therefore are exempt from training.

ASSURANCE OF NON-DISCRIMINATION

The undersigned hereby agrees that he shall comply with Benton County's Non-Discrimination Policy and Plan, which is consistent with Titles VI and VII of the 1964 Civil Rights Act as amended in 1972; Executive Order 11246 as amended by Executive Order 11375; Sections 503 and 504 of the Rehabilitation Act of 1975 and the Age Discrimination in Employment Act of 1967; the 1974 Vietnam Era Veteran Readjustment Assistance Act; and the Washington State Laws Against Discrimination, Chapter 49.60 RCW. The policy reads as follows:

It is the policy of Benton County that no person shall be subjected to discrimination in the County or by its subcontractors because of race, color, national origin, sex, age, religion, creed, marital status, disabled or Vietnam era veteran status, or the presence of any physical, mental or sensory handicap.

NON-COLLUSION DECLARATION

I hereby declare, under penalty of perjury under the laws of the United States that the following statement is true and correct:

That the undersigned person(s), firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.

DocuSign Envelope ID: 5612D6D8-0DCF-4088-8738-C53D1581059F

CERTIFICATION OF COMPLIANCE WITH WAGE PAYMENT STATUTES

The bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date the bidder is not a "willful" violator, as defined in RCW 49.48.082, of any provision of Chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgement entered by a court of limited or general jurisdiction.

SUBMISSION OF BID

Respectfully submitted this 8th day of March 2023.

FIRM NAME: Sierra Electric, Inc.

AUTHORIZED SIGNATURE: Josh Murphy

TYPE OR PRINT NAME: Josh Murphy

TITLE: Project Manager

STREET ADDRESS: 4120 N. Swallow Ave.

CITY, STATE, ZIP: Pasco, WA 99301

TELEPHONE NO.: 509-542-8682

EMAIL: jmurphy@sierraelec.net

CONTRACTOR'S LICENSE NO.: SIERREI021CZ

UBI NO.: 601 845 435

WASHINGTON STATE EMPLOYMENT SECURITY NO.: 034606 00 6

DocuSign Envelope ID: 5612D6D8-0DCF-4088-8738-C53D1581059F

EXHIBIT B

State of Washington
Department of Labor & Industries
Prevailing Wage Section
PO Box 44540, Olympia, WA 98504-4540
360-902-5335

Public contract awarding agencies are required by RCW 39.12.030 to include a provision stating the required prevailing rate(s) of wage in the bid and contract specifications for public works. Historically, this has required inclusion of a list of such rates in the specifications. Labor & Industries looked at how to allow an additional option within the law and rule.

Bid specifications may provide the required prevailing wage rate information in this alternate format:

The Department of Labor & Industries prevailing wage rate website is http://wsdot.wa.gov/Design/ProjectDev/WageRates/default.htm

The publication date to use is March 9, 2023.

The public works project is located in Benton County.

A copy of the prevailing wage rates, the benefit code key and the supplement are available for viewing at the Purchasing Department, 7122 W Okanogan Place; Bldg. A, Kennewick, WA Monday through Friday, between 8:00 a.m. & noon and between 1:00 p.m. & 5:00 p.m. except holidays.

The Purchasing Department will mail a hard copy of the wage rates upon request. We can be reached at (509)737-3943 or by email at Procurement@co.benton.wa.us

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Adopting Benton County Lease Policy
Presenter:	
Prepared By:	Debbie Calhoun
Reviewed By:	Robert Blain & Procurement Department

PA Review, Approval to Form: ☐ Yes ☐ No ☒ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:**	
☒ Consent Agenda	☐ Discussion Only (1st)	☐ Pass Motion
☐ Public Hearing	☐ Discussion Only (2nd)	☒ Pass Resolution
☐ Scheduled Business	☐ Decision/Direction	☐ Pass Ordinance
	☐ Sign Letter/Document	☐ Execute Contract

Summary / Background Information

The Governmental Accounting Standards Board (GASB) establishes accounting and financial reporting standards for U.S., State and local governments that follow Generally Accepted Accounting Principles (GAAP).

GASB issued Statement No. 87 (GASB87) relating to accounting for Leases with an effective date for fiscal years beginning after June 15, 2021. Benton County will be reporting leases beginning with fiscal year 2022 to be in compliance with GASB87.

Staff has developed a lease policy for management of leases to create consistency in the lease documents and accounting practices in compliance with GASB87.

The Director of Operations and Capital Programs recommends the Board adopt the Lease policy as presented to create consistency in how leases will be processed and accounted for.

Fiscal Impact

There is no fiscal impact to the County.

Recommendation

It is recommended by the Director of Operations and Capital Programs that the Board concur and adopt the lease policy as written.

Suggested Motion

Approve as part of the Consent Agenda

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF ADOPTING THE BENTON COUNTY LEASE POLICY

WHEREAS, the Governmental Accounting Standards Board (GASB) establishes accounting and financial reporting standards for U.S. state and local governments that follow Generally Accepted Accounting Principles (GAAP); and

WHEREAS, GASB issued Statement No. 87 (GASB87) related to accounting for Leases with an effective date for fiscal years beginning after June 15, 2021; and

WHEREAS, Benton County will be reporting leases beginning with the 2022 year to be in compliance with GASB87; and

WHEREAS, staff has developed a lease policy for management of leases, creating consistency in the lease documents and accounting practices to be in compliance with GASB87: and

WHEREAS, the attached policy designates how leases will be processed and accounted for;
NOW THEREFORE,

BE IT RESOLVED, that the Board of Benton County Commissioners hereby approves the attached Benton County Lease Policy.

Dated this_____ day of _____, 2023.

_____
Chairman of the Board

_____
Commissioner

_____
Commissioner

Constituting the Board of Commissioners
of Benton County, Washington.

Attest.....
Clerk of the Board

Orig: Commissioners' Office
Cc: All Depts

Prepared by D Calhoun

Lease Policy Contents and Definitions

Lease Policy
Effective January 1, 2023
Authorized by:

CONTENTS

I. DEFINITIONS
II. GENERAL
    a. Purpose
    b. Scope
III. RESPONSIBILITY FOR POLICY
IV. LEASE CRITERIA AND APPROVAL
    a. Approval of lease contracts by finance
    b. Lease criteria
    c. Extensions
    d. Procurement standards
V. ACCOUNTING FOR LEASES
    a. Capitalization thresholds
    b. Discount Rate
VI. LEASE ASSET AND LIABILITY REVIEW
    a. Impairment
    b. Remeasurement

I. DEFINITIONS

a. LEASE – a lease is a contract that conveys control of the right to use another entity's nonfinancial asset (i.e., building, equipment, land) for a period of time for consideration.
b. TERM – The term is the period during which the lessee has a noncancelable right to use the asset, including extensions that the lessee is reasonably certain to exercise.
c. SERVICE COMPONENT – a service component is an amount of the lease payment paid for services to be provided by the vendor in support of the nonfinancial asset being leased (for example, copier maintenance in a copier lease).

II. GENERAL

a. PURPOSE – the purpose of this policy is to provide guidelines and procedures to ensure compliance with generally accepted accounting principles and all other state and federal requirements surrounding leases (whether the County is lessee or lessor). Procedures aim to provide all pertinent information and decision-making input to the Commissioners' Office so that accounting and reporting may be accomplished according to applicable governmental accounting standards.
b. SCOPE – The following guidance apply to operating leases of equipment, buildings, land or any other tangible physical property with the County's statement of net position beginning January 1, 2022.

III. RESPONSIBILITY FOR POLICY – It will be the Commissioners' Office responsibility to review and update the lease policy as needed on a regular basis. Review will include confirming compliance with all related state and federal laws and governmental accounting standards, and compatibility with other County policies. Periodic review shall be documented.

IV. LEASE CRITERIA AND APPROVAL

a. APPROVAL OF LEASE CONTRACTS – All new lease agreements or lease term extensions shall be reviewed by the Procurement Department before approval by the Board of County Commissioners.

b. LEASE CRITERIA

i. When possible, the applicable interest rate should be stated in the lease contract.

ii. The internal term, extension, and cancellation clauses shall be clearly stated in the lease contract.

iii. For the purpose of determining the term of the lease at the inception for accounting purposes, the Procurement Department will make a judgment on whether the total term of the lease should include options to extend (extensions are more likely than not to be exercised by the County or the counterparty). This assessment shall be documented in writing. Factors to consider in the likeliness of exercising lease extension are:

1. County specific (degree of changing needs, prior pattern of execution of extensions)
2. Market based (competitive pricing, budget and economy)
3. Contract based (economic incentives or penalties)
4. Underlying asset (Obsolescence, aging of asset, new features available)

iv. When a service component is part of a lease contract, the vendor shall provide separately the portion of lease payments that pertains to services.

c. EXTENSIONS – For leases with extension provisions, the decision authority to extend or terminate each lease will rest with the Board of County Commissioners.

d. PROCUREMENT STANDARDS – The Procurement Department will ensure each lease complies with the procurement standards subject to state and federal uniform grant guidance, if applicable.

V. ACCOUNTING FOR LEASES

a. CAPITALIZATION THRESHOLD – The capitalization threshold for lease assets will be equal to the threshold for capital assets. Leases which do not meet the capitalization thresholds are not subject to this policy, except as required by state law or federal grant uniform guidance. The Financial Services Manager has the authority to exercise judgment on materiality of lease liabilities to the financial statements.

b. DISCOUNT RATE – future lease payments will be discounted to present value at the date of inception in order to arrive at the recorded lease liability and/or lease asset. The following interest rates shall be used for discounting, in order of validity:

i. For the County as lessee:

1. The interest rate the lessor charges the lessee (as stated in the lease contract or the rate implicit in the lease);

2. If the rate is not readily determinable, the lessee's incremental borrowing rate may be used (the rate of the interest that would be charged to borrow the amount of the lease payments during the lease term). This rate could be obtained by referencing other recent debt of the County on similar assets, or by obtaining quotes from a financial institution.

ii. For the County as lessor.

1. The interest rates the lessor charges the lessee (as stated in the lease contract or the rate implicit in the lease).
2. If the rate is not readily determinable, the lessee's estimated incremental borrowing rate or published market rates may be used as an estimate; or
3. If the lessee's incremental borrowing rate cannot practically be determined, the County's own incremental borrowing rate, obtained from quotes from financial institutions or from County debt issued to purchase comparable assets.

VI. LEASE ASSET AND LIABILITY REVIEW – Each year, the Procurement Department will review each lease asset and liability for impairment or a required remeasurement.

a. IMPAIRMENT: A lease asset will be considered impaired when the utility of the asset no longer meets the function originally intended at the inception of the lease. An impairment must be recorded in the period recognized if the magnitude of the decline in utility is significant and the decline is unexpected. Examples of impairment of a lease asset are:
   i. Physical damage
   ii. Changes in laws or regulations affecting the use of the asset
   iii. Obsolescence
   iv. Change in expected duration of use
   v. Construction stoppage

b. REMEASUREMENT: A lessee should remeasure the lease liability and update the discount rate if any of the following have occurred:
   i. Change in lease term
   ii. Contingent payment conditions change
   iii. The probability of a purchase option changes from reasonably certain to not reasonably certain, or vice versa.

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Execute an agreement with JRT Mechanical, Inc. for the Benton County Coroners Autopsy Ventilation Upgrade Project
Presenter:	
Prepared By:	D. Hope
Reviewed By:	Procurement

PA Review, Approval to Form: ☒ Yes ☐ No ☐ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:**	
☒ Consent Agenda	☐ Discussion Only (1st)	☐ Pass Motion
☐ Public Hearing	☐ Discussion Only (2nd)	☒ Pass Resolution
☐ Scheduled Business	☐ Decision/Direction	☐ Pass Ordinance
	☐ Sign Letter/Document	☒ Execute Contract

Summary / Background Information

By Resolution 2023-159 dated February 14, 2023, an award was made to JRT Mechanical, Inc. for the Benton County Coroner's Autopsy Ventilation Upgrade Project – CB23-01. As directed an agreement has been prepared, reviewed, and approved as to form by the departmental assigned Deputy Prosecuting Attorney from the Civil Division, and has been executed by JRT Mechanical. Inc.

Fiscal Impact

Amount: $157,719.00

Fund: Capital Projects Fund

Recommendation

It is recommended by the Director of Operations and Capital Programs that the Board approve and sign the agreement with JRT Mechanical, Inc. for the Benton County Coroner's Autopsy Ventilation Upgrade Project.

Suggested Motion

Approve as part of the Consent Agenda.

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON:

IN THE MATTER OF AUTHORIZING THE CHAIRMAN TO SIGN THE AGREEMENT WITH JRT MECHANICAL, INC., PASCO WASHINGTON FOR THE BENTON COUNTY CORONERS AUTOPSY VENTILATION UPGRADE PROJECT

WHEREAS, by Resolution 2023-159 dated February 14, 2023, an award was made to JRT Mechanical, Inc., Pasco, Washington for the Benton County Coroner's Autopsy Ventilation Upgrade Project and as directed, staff has prepared a agreement for Board approval; and

WHEREAS, the departmental assigned Deputy Prosecuting Attorney from the Civil Division has reviewed and approved as to form said agreement; and

WHEREAS, the agreement in the amount of $157,719.00 excluding Washington State Sales Tax has been executed by JRT Mechanical, Inc.; **NOW, THEREFORE,**

BE IT RESOLVED, that the Board of Benton County Commissioners hereby approves the agreement awarded February 14, 2023 to JRT Mechanical Inc., Pasco, Washington in the amount of $157,719.00 excluding Washington State Sales Tax; and

BE IT FURTHER RESOLVED, the Director of Operations and Capital Programs is hereby authorized to proceed with the Benton County Coroner's Autopsy Ventilation Upgrade project according to the terms of the agreement; and

BE IT FURTHER RESOLVED, the project shall begin on the date of the Notice to Proceed, and construction shall be substantially complete within sixty (60) calendar days as described in the agreement documents.

Dated this 28th day of March, 2023.

_____
Chairman

_____
Chairman Pro-Tem

_____
Commissioner

Attest:_____
Clerk of the Board

Constituting the Board of County Commissioners of Benton County, Washington.

Orig.: Procurement D. Hope
cc: Auditor, PA, JRT Mechanical

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AIA® Document A104® – 2017

Standard Abbreviated Form of Agreement Between Owner and Contractor

AGREEMENT made as of the day of March in the year 2023
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Benton County
P.O. Box 1001
Prosser, WA 99350
Telephone Number: (509) 736-2704

and the Contractor:
(Name, legal status, address and other information)

J R T Mechanical, Inc.
2608 W. Sylvester St.
Pasco, WA 99301
(509) 314-4314

for the following Project:
(Name, location and detailed description)

Benton County Coroner's Office
7122 West Okanogan Place, #C110
Kennewick, WA 99336

The Architect:
(Name, legal status, address and other information)

Meier Architecture • Engineering
Colin Bates, PE
12 W. Kennewick Avenue
Kennewick, WA 99336
(509) 735-1589 or (509) 737-6962

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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TABLE OF ARTICLES

1 THE WORK OF THIS CONTRACT

2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

3 CONTRACT SUM

4 PAYMENT

5 DISPUTE RESOLUTION

6 ENUMERATION OF CONTRACT DOCUMENTS

7 GENERAL PROVISIONS

8 OWNER

9 CONTRACTOR

10 ARCHITECT

11 SUBCONTRACTORS

12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

13 CHANGES IN THE WORK

14 TIME

15 PAYMENTS AND COMPLETION

16 PROTECTION OF PERSONS AND PROPERTY

17 INSURANCE AND BONDS

18 CORRECTION OF WORK

19 MISCELLANEOUS PROVISIONS

20 TERMINATION OF THE CONTRACT

21 CLAIMS AND DISPUTES

EXHIBIT A DETERMINATION OF THE COST OF THE WORK

ARTICLE 1 THE WORK OF THIS CONTRACT

The Contractor shall execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 2.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[ ] The date of this Agreement.

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[X] A date set forth in a notice to proceed issued by the Owner.

[ ] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 2.2 The Contract Time shall be measured from the date on the notice to proceed issued by the Owner.

§ 2.3 Substantial Completion

§ 2.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check the appropriate box and complete the necessary information.)

[X] Not later than 60 (sixty) calendar days from the date of commencement of the Work.

[ ] By the following date:

§ 2.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 2.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 2.3, liquidated damages, if any, shall be assessed as set forth in Section 3.5.

ARTICLE 3 CONTRACT SUM

§ 3.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:
(Check the appropriate box.)

[X] Stipulated Sum, in accordance with Section 3.2 below

[ ] Cost of the Work plus the Contractor's Fee, in accordance with Section 3.3 below

[ ] Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 3.4 below

(Based on the selection above, complete Section 3.2, 3.3 or 3.4 below.)

§ 3.2 The Stipulated Sum shall be one hundred fifty seven thousand seven hundred nineteen dollars ($ $157,719.00), subject to additions and deductions as provided in the Contract Documents.

§ 3.2.1 The Stipulated Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:
(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 3.2.2 Unit prices, if any:

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(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 3.2.3 Allowances, if any, included in the stipulated sum:
(Identify each allowance.)

Item	Price

§ 3.3 Cost of the Work Plus Contractor's Fee
§ 3.3.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.3.2 The Contractor's Fee:
(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)

§ 3.4 Cost of the Work Plus Contractor's Fee With a Guaranteed Maximum Price
§ 3.4.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.4.2 The Contractor's Fee:
(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)

§ 3.4.3 Guaranteed Maximum Price
§ 3.4.3.1 The sum of the Cost of the Work and the Contractor's Fee is guaranteed by the Contractor not to exceed one hundred fifty seven thousand seven hundred nineteen dollars ($ 157,719.00), subject to additions and deductions by changes in the Work as provided in the Contract Documents. This maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.
(Insert specific provisions if the Contractor is to participate in any savings.)

§ 3.4.3.2 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:
(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 3.4.3.3 Unit Prices, if any:
(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 3.4.3.4 Allowances, if any, included in the Guaranteed Maximum Price:
(Identify each allowance.)

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Item	Price

§ 3.4.3.5 Assumptions, if any, on which the Guaranteed Maximum Price is based:

§ 3.4.3.6 To the extent that the Contract Documents are anticipated to require further development, the Guaranteed Maximum Price includes the costs attributable to such further development consistent with the Contract Documents and reasonably inferable therefrom. Such further development does not include changes in scope, systems, kinds and quality of materials, finishes or equipment, all of which, if required, shall be incorporated by Change Order.

§ 3.4.3.7 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in Section 3.4.3.5. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the agreed-upon assumptions contained in Section 3.4.3.5 and the revised Contract Documents.

§ 3.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

Liquidated damages are $750.00 per day.
If the Work is not substantially complete within this period of time, or extensions thereof granted by the Owner, the Owner will sustain damage that will be impracticable and extremely difficult to quantify in the event of and by reason of such delays. The Contractor shall pay to the Owner liquidated damages in the sum of $750 for each calendar day of delay. Any sums that may be due the Owner as liquidated damages may be deducted from any monies due or to become due the Contractor under the Contract or may be collected form the Contractor's surety.

ARTICLE 4 PAYMENT
§ 4.1 Progress Payments
§ 4.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 4.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 4.1.3 Provided that an Application for Payment is received by the Architect not later than the fifth day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the 30th day of the same month. If an Application for Payment is received by the Architect after the date fixed above, payment shall be made by the Owner not later than thirty (30) days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 4.1.4 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold retainage from the payment otherwise due as follows:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment and any terms for reduction of retainage during the course of the Work. The amount of retainage may be limited by governing law.)

five percent (5%)

§ 4.1.5 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

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%

§ 4.2 Final Payment

§ 4.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 18.2, and to satisfy other requirements, if any, which extend beyond final payment;

.2 the Contractor has submitted a final accounting for the Cost of the Work, where payment is on the basis of the Cost of the Work with or without a Guaranteed Maximum Price; and

.3 a final Certificate for Payment has been issued by the Architect in accordance with Section 15.7.1.

.4 Retainage will only be released in accordance with RCW 60.28 on completion of the work and once all required forms and reports have been filed with the Owner, Architect, Department of Labor and Industries, Department of Revenue and the Employment Securities Department

§ 4.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

ARTICLE 5 DISPUTE RESOLUTION

§ 5.1 Binding Dispute Resolution

For any claim subject to, but not resolved by, mediation pursuant to Section 21.5, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[ ] Arbitration pursuant to Section 21.6 of this Agreement

[**X**] Litigation in a court of competent jurisdiction

[ ] Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, claims will be resolved in a court of competent jurisdiction.

ARTICLE 6 ENUMERATION OF CONTRACT DOCUMENTS

§ 6.1 The Contract Documents are defined in Article 7 and, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 6.1.1 The Agreement is this executed AIA Document A104™–2017, Standard Abbreviated Form of Agreement Between Owner and Contractor.

§ 6.1.2 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203–2013 incorporated into this Agreement.)

§ 6.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

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§ 6.1.4 The Specifications:
(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

Section	Title	Date	Pages

§ 6.1.5 The Drawings:
(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

Number	Title	Date

§ 6.1.6 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are enumerated in this Article 6.

§ 6.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 Other Exhibits:
(Check all boxes that apply.)

[ ] Exhibit A, Determination of the Cost of the Work.

[ ] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

[ ] The Sustainability Plan:

Title	Date	Pages

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.2 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents.)

ARTICLE 7 GENERAL PROVISIONS

§ 7.1 The Contract Documents

The Contract Documents are enumerated in Article 6 and consist of this Agreement (including, if applicable, Supplementary and other Conditions of the Contract), Drawings, Specifications, Addenda issued prior to the execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. The

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intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 7.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than the Owner and the Contractor.

§ 7.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 7.4 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 7.5 Ownership and use of Drawings, Specifications and Other Instruments of Service

§ 7.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 7.5.2 The Contractor, Subcontractors, Sub-subcontractors and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to the protocols established pursuant to Sections 7.6 and 7.7, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 7.6 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 7.7 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

§ 7.8 Severability

The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and

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enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 7.9 Notice

§ 7.9.1 Except as otherwise provided in Section 7.9.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with AIA Document E203–2013, insert requirements for delivering Notice in electronic format such as name, title and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

Robert Blain procurement@co.benton.wa.us

§ 7.9.2 Notice of Claims shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 7.10 Relationship of the Parties

Where the Contract is based on the Cost of the Work plus the Contractor's Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.

ARTICLE 8 OWNER

§ 8.1 Information and Services Required of the Owner

§ 8.1.1 Prior to commencement of the Work, at the written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 8.1.1, the Contract Time shall be extended appropriately.

§ 8.1.2 The Owner shall furnish all necessary surveys and a legal description of the site.

§ 8.1.3 The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 8.1.4 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 9.6.1, the Owner shall secure and pay for other necessary approvals, easements, assessments, and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

§ 8.2 Owner's Right to Stop the Work

If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents, or repeatedly fails to carry out the Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order is eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

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§ 8.3 Owner's Right to Carry Out the Work

§ 8.3 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails to remedy any failure, defect, or damage within ten days of receiving notice or if the remedy continues to be inadequate or does not cure the defect or damage, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense. Such action by the Owner and amounts charged to the Contractor shall be discussed with and justified to the Architect and the Architect may, pursuant to Section 15.4.3, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including the Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 21.

ARTICLE 9 CONTRACTOR

§ 9.1 Review of Contract Documents and Field Conditions by Contractor

§ 9.1.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 9.1.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 8.1.2, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies, or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents.

§ 9.1.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 9.2 Supervision and Construction Procedures

§ 9.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

§ 9.2.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

§ 9.3 Labor and Materials

§ 9.3.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 9.3.2 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

§ 9.3.3 The Contractor may make a substitution only with the consent of the Owner, after evaluation by the Architect and in accordance with a Modification.

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§ 9.4 Warranty

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation or normal wear and tear under normal usage. All other warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 15.6.3.

§ 9.5 Taxes

The Contractor shall pay sales, consumer, use, and other similar taxes that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 9.6 Permits, Fees, Notices, and Compliance with Laws

§ 9.6.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 9.6.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 9.7 Allowances

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. The Owner shall select materials and equipment under allowances with reasonable promptness. Allowance amounts shall include the costs to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts. Contractor's costs for unloading and handling at the site, labor, installation, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowance.

§ 9.8 Contractor's Construction Schedules

§ 9.8.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 9.8.2 The Contractor shall perform the Work in general accordance with the most recent schedule submitted to the Owner and Architect.

§ 9.9 Submittals

§ 9.9.1 The Contractor shall review for compliance with the Contract Documents and submit to the Architect Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents in coordination with the Contractor's construction schedule and in such sequence as to allow the Architect reasonable time for review. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them; (2) determined and verified materials, field measurements, and field construction criteria related thereto, or will do so; and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Work shall be in accordance with approved submittals.

§ 9.9.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents.

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§ 9.9.3 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents or unless the Contractor needs to provide such services in order to carry out the Contractor's own responsibilities. If professional design services or certifications by a design professional are specifically required, the Owner and the Architect will specify the performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional. If no criteria are specified, the design shall comply with applicable codes and ordinances. Each Party shall be entitled to rely upon the information provided by the other Party. The Architect will review and approve or take other appropriate action on submittals for the limited purpose of checking for conformance with information provided and the design concept expressed in the Contract Documents. The Architect's review of Shop Drawings, Product Data, Samples, and similar submittals shall be for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. In performing such review, the Architect will approve, or take other appropriate action upon, the Contractor's Shop Drawings, Product Data, Samples, and similar submittals.

§ 9.10 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 9.11 Cutting and Patching

The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

§ 9.12 Cleaning Up

The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus material from and about the Project.

§ 9.13 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 9.14 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 9.15 Indemnification

§ 9.15.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. 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 person described in this Section 9.15.1.

§ 9.15.2 In claims against any person or entity indemnified under this Section 9.15 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 9.15.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

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ARTICLE 10 ARCHITECT

§ 10.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction, until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 10.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 10.3 The Architect will visit the site at intervals appropriate to the stage of the construction to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general, if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 10.4 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 10.5 Based on the Architect's evaluations of the Work and of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 10.6 The Architect has authority to reject Work that does not conform to the Contract Documents and to require inspection or testing of the Work.

§ 10.7 The Architect will review and approve or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 10.8 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect will make initial decisions on all claims, disputes, and other matters in question between the Owner and Contractor but will not be liable for results of any interpretations or decisions rendered in good faith.

§ 10.9 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

ARTICLE 11 SUBCONTRACTORS

§ 11.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site.

§ 11.2 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the Subcontractors or suppliers proposed for each of the principal portions of the Work. The Contractor shall not contract with any Subcontractor or supplier to whom the Owner or Architect has made reasonable written objection within ten days after receipt of the Contractor's list of Subcontractors and suppliers. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change,

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and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 11.3 Contracts between the Contractor and Subcontractors shall (1) require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by the Contract Documents, assumes toward the Owner and Architect, and (2) allow the Subcontractor the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Contract Documents, has against the Owner.

ARTICLE 12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 12.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 12.2 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's activities with theirs as required by the Contract Documents.

§ 12.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a Separate Contractor because of delays, improperly timed activities, or defective construction of the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work, or defective construction of a Separate Contractor.

ARTICLE 13 CHANGES IN THE WORK

§ 13.1 By appropriate Modification, changes in the Work may be accomplished after execution of the Contract. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, with the Contract Sum and Contract Time being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Owner, Contractor, and Architect, or by written Construction Change Directive signed by the Owner and Architect. Upon issuance of the Change Order or Construction Change Directive, the Contractor shall proceed promptly with such changes in the Work, unless otherwise provided in the Change Order or Construction Change Directive.

§ 13.2 Adjustments in the Contract Sum and Contract Time resulting from a change in the Work shall be determined by mutual agreement of the parties or, in the case of a Construction Change Directive signed only by the Owner and Architect, by the Contractor's cost of labor, material, equipment, and reasonable overhead and profit, unless the parties agree on another method for determining the cost or credit. Pending final determination of the total cost of a Construction Change Directive, the Contractor may request payment for Work completed pursuant to the Construction Change Directive. The Architect will make an interim determination of the amount of payment due for purposes of certifying the Contractor's monthly Application for Payment. When the Owner and Contractor agree on adjustments to the Contract Sum and Contract Time arising from a Construction Change Directive, the Architect will prepare a Change Order.

§ 13.3 After consultation with the owner, the Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work.

§ 13.4 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be equitably adjusted as mutually agreed between the Owner and Contractor; provided that the Contractor provides notice to the Owner and Architect promptly and before conditions are disturbed.

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ARTICLE 14 TIME

§ 14.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing this Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 14.2 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 14.3 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 14.4 The date of Substantial Completion is the date certified by the Architect in accordance with Section 15.6.3.

§ 14.5 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) changes ordered in the Work; (2) by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not reasonably anticipatable, unavoidable casualties, or any causes beyond the Contractor's control; or (3) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine, subject to the provisions of Article 21.

ARTICLE 15 PAYMENTS AND COMPLETION

§ 15.1 Schedule of Values

§ 15.1.1 Where the Contract is based on a Stipulated Sum or the Cost of the Work with a Guaranteed Maximum Price pursuant to Section 3.2 or 3.4, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Stipulated Sum or Guaranteed Maximum Price to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy required by the Architect. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 15.1.2 The allocation of the Stipulated Sum or Guaranteed Maximum Price under this Section 15.1 shall not constitute a separate stipulated sum or guaranteed maximum price for each individual line item in the schedule of values.

§ 15.2 Control Estimate

§ 15.2.1 Where the Contract Sum is the Cost of the Work, plus the Contractor's Fee without a Guaranteed Maximum Price pursuant to Section 3.3, the Contractor shall prepare and submit to the Owner a Control Estimate within 14 days of executing this Agreement. The Control Estimate shall include the estimated Cost of the Work plus the Contractor's Fee.

§ 15.2.2 The Control Estimate shall include:

- **.1** the documents enumerated in Article 6, including all Modifications thereto;
- **.2** a list of the assumptions made by the Contractor in the preparation of the Control Estimate to supplement the information provided by the Owner and contained in the Contract Documents;
- **.3** a statement of the estimated Cost of the Work organized by trade categories or systems and the Contractor's Fee;
- **.4** a project schedule upon which the Control Estimate is based, indicating proposed Subcontractors, activity sequences and durations, milestone dates for receipt and approval of pertinent information, schedule of shop drawings and samples, procurement and delivery of materials or equipment the Owner's occupancy requirements, and the date of Substantial Completion; and
- **.5** a list of any contingency amounts included in the Control Estimate for further development of design and construction.

§ 15.2.3 When the Control Estimate is acceptable to the Owner and Architect, the Owner shall acknowledge it in writing. The Owner's acceptance of the Control Estimate does not imply that the Control Estimate constitutes a Guaranteed Maximum Price.

§ 15.2.4 The Contractor shall develop and implement a detailed system of cost control that will provide the Owner and Architect with timely information as to the anticipated total Cost of the Work. The cost control system shall compare the Control Estimate with the actual cost for activities in progress and estimates for uncompleted tasks and proposed

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changes. This information shall be reported to the Owner, in writing, no later than the Contractor's first Application for Payment and shall be revised and submitted with each Application for Payment.

§ 15.2.5 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in the Control Estimate. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the Control Estimate and the revised Contract Documents.

§ 15.3 Applications for Payment

§ 15.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 15.1, for completed portions of the Work. The application shall be notarized, if required; be supported by all data substantiating the Contractor's right to payment that the Owner or Architect require; shall reflect retainage if provided for in the Contract Documents; and include any revised cost control information required by Section 15.2.4. Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 15.3.2 With each Application for Payment where the Contract Sum is based upon the Cost of the Work, or the Cost of the Work with a Guaranteed Maximum Price, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Contractor's Fee.

§ 15.3.3 Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment stored, and protected from damage, off the site at a location agreed upon in writing.

§ 15.3.4 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the Owner's interests.

§ 15.4 Certificates for Payment

§ 15.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner of the Architect's reasons for withholding certification in whole or in part as provided in Section 15.4.3.

§ 15.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluations of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 15.4.3 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 15.4.2 cannot

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be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 15.4.1. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 9.2.2, because of

- **.1** defective Work not remedied;
- **.2** third-party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- **.4** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- **.5** damage to the Owner or a Separate Contractor;
- **.6** reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- **.7** repeated failure to carry out the Work in accordance with the Contract Documents.

§ 15.4.4 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 15.4.3, in whole or in part, that party may submit a Claim in accordance with Article 21.

§ 15.5 Progress Payments

§ 15.5.1 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to sub-subcontractors in a similar manner.

§ 15.5.2 Neither the Owner nor Architect shall have an obligation to pay or see to the payment of money to a Subcontractor or supplier except as may otherwise be required by law.

§ 15.5.3 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 15.5.4 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 15.6 Substantial Completion

§ 15.6.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 15.6.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 15.6.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. When the Architect determines that the Work or designated portion thereof is substantially complete, the Architect will issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall

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commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 15.6.4 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 15.7 Final Completion and Final Payment

§ 15.7.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions stated in Section 15.7.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 15.7.2 Final payment shall not become due until the Contractor has delivered to the Owner a complete release of all liens arising out of this Contract or receipts in full covering all labor, materials and equipment for which a lien could be filed, or a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including costs and reasonable attorneys' fees.

§ 15.7.3 The making of final payment shall constitute a waiver of claims by the Owner except those arising from

- **.1** liens, claims, security interests or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 15.7.4 Acceptance of final payment by the Contractor, a Subcontractor or supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of the final Application for Payment.

ARTICLE 16 PROTECTION OF PERSONS AND PROPERTY

§ 16.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- **.1** employees on the Work and other persons who may be affected thereby;
- **.2** the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- **.3** other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation, or replacement in the course of construction.

The Contractor shall comply with, and give notices required by, applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury, or loss. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, a Subcontractor, a sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 16.1.2 and 16.1.3. The Contractor may make a claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 9.15.

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§ 16.2 Hazardous Materials and Substances

§ 16.2.1 The Contractor is responsible for compliance with the requirements of the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 16.2.2 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area, if in fact, the material or substance presents the risk of bodily injury or death as described in Section 16.2.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 16.2.3 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

ARTICLE 17 INSURANCE AND BONDS

§ 17.1 Contractor's Insurance

§ 17.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in this Section 17.1 or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the insurance required by this Agreement from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 18.4, unless a different duration is stated below:

§ 17.1.2 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than one million dollars ($ 1,000,00.00) each occurrence, two million dollars ($ 2,000,000.00) general aggregate, and one million dollars ($ 1,000,000.00) aggregate for products-completed operations hazard, providing coverage for claims including

- **.1** damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- **.2** personal and advertising injury;
- **.3** damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- **.4** bodily injury or property damage arising out of completed operations; and
- **.5** the Contractor's indemnity obligations under Section 9.15.

§ 17.1.3 Automobile Liability covering vehicles owned by the Contractor and non-owned vehicles used by the Contractor, with policy limits of not less than one million dollars ($ 1,000,000.00) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of those motor vehicles along with any other statutorily required automobile coverage.

§ 17.1.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as those required under Section 17.1.2 and 17.1.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage

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than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ 17.1.5 Workers' Compensation at statutory limits.

§ 17.1.6 Employers' Liability with policy limits not less than ($) each accident, ($) each employee, and ($) policy limit.

§ 17.1.7 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than ($) per claim and ($) in the aggregate.

§ 17.1.8 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than ($) per claim and ($) in the aggregate.

§ 17.1.9 Coverage under Sections 17.1.7 and 17.1.8 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than ($) per claim and ($) in the aggregate.

§ 17.1.10 The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Section 17.1 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the period required by Section 17.1.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy.

§ 17.1.11 The Contractor shall disclose to the Owner any deductible or self- insured retentions applicable to any insurance required to be provided by the Contractor.

§ 17.1.12 To the fullest extent permitted by law, the Contractor shall cause the commercial liability coverage required by this Section 17.1 to include (1) the Owner, the Architect, and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's Consultants, CG 20 32 07 04.

§ 17.1.13 Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.1, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 17.1.14 Other Insurance Provided by the Contractor
(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

Coverage	Limits

§ 17.2 Owner's Insurance
§ 17.2.1 Owner's Liability Insurance
The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

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§ 17.2.2 Property Insurance

§ 17.2.2.1 The Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed or materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section 17.2.2.2, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

§ 17.2.2.2 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section 17.2.2.1 or, if necessary, replace the insurance policy required under Section 17.2.2.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 18.4.

§ 17.2.2.3 If the insurance required by this Section 17.2.2 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

§ 17.2.2.4 If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 18.4, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

§ 17.2.2.5 Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Section 17.2.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by this Section 17.2.2. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

§ 17.2.2.6 Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.2.2, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 17.2.2.7 Waiver of Subrogation

§ 17.2.2.7.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by this Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 17.2.2.7 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

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§ 17.2.2.7.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 17.2.2.7.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 17.2.2.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements, written where legally required for validity, the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 17.2.3 Other Insurance Provided by the Owner
(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage	Limits

§ 17.3 Performance Bond and Payment Bond
§ 17.3.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in the Contract Documents on the date of execution of the Contract.

§ 17.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 18 CORRECTION OF WORK

§ 18.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed, or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense, unless compensable under Section A.1.7.3 in Exhibit A, Determination of the Cost of the Work.

§ 18.2 In addition to the Contractor's obligations under Section 9.4, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 15.6.3, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.

§ 18.3 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Section 8.3.

§ 18.4 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 18.5 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Article 18.

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ARTICLE 19 MISCELLANEOUS PROVISIONS

§ 19.1 Assignment of Contract

Neither party to the Contract shall assign the Contract without written consent of the other, except that the Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 19.2 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 21.6.

§ 19.3 Tests and Inspections

Tests, inspections, and approvals of portions of the Work required by the Contract Documents or by applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 19.4 The Owner's representative:
(Name, address, email address and other information)

Robert Blain
P.O. Box 1001
620 Market St.
Prosser, WA 99350
Telephone Number: 509-736-2704
procurement@co.benton.wa.us

§ 19.5 The Contractor's representative:
(Name, address, email address and other information)

David Tapani
J R T Mechanical, Inc.
2608 West Sylvester Street
Pasco, WA 99301
(509) 314-4314
servicesolutions@jrtmechanical.com

§ 19.6 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

ARTICLE 20 TERMINATION OF THE CONTRACT

§ 20.1 Termination by the Contractor

If the Architect fails to certify payment as provided in Section 15.4.1 for a period of 30 days through no fault of the Contractor, or if the Owner fails to make payment as provided in Section 4.1.3 for a period of 30 days, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 20.2 Termination by the Owner for Cause

§ 20.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

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.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 20.2.2 When any of the reasons described in Section 20.2.1 exists, the Owner, upon certification by the Architect that sufficient cause exists to justify such action, may, without prejudice to any other remedy the Owner may have and after giving the Contractor seven days' notice, terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 20.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 20.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 20.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

§ 20.3 Termination by the Owner for Convenience

The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. The Owner shall pay the Contractor for Work executed; and costs incurred by reason of such termination, including costs attributable to termination of Subcontracts; and a termination fee, if any, as follows:
(Insert the amount of or method for determining the fee payable to the Contractor by the Owner following a termination for the Owner's convenience, if any.)

ARTICLE 21 CLAIMS AND DISPUTES

§ 21.1 Claims, disputes, and other matters in question arising out of or relating to this Contract, including those alleging an error or omission by the Architect but excluding those arising under Section 16.2, shall be referred initially to the Architect for decision. Such matters, except those waived as provided for in Section 21.11 and Sections 15.7.3 and 15.7.4, shall, after initial decision by the Architect or 30 days after submission of the matter to the Architect, be subject to mediation as a condition precedent to binding dispute resolution.

§ 21.2 Notice of Claims

§ 21.2.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the Architect within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 21.2.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the other party.

§ 21.3 Time Limits on Claims

The Owner and Contractor shall commence all claims and causes of action against the other and arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in this Agreement whether in contract, tort, breach of warranty, or otherwise, within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 21.3.

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§ 21.4 If a claim, dispute or other matter in question relates to or is the subject of a mechanic's lien, the party asserting such matter may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 21.5 The parties shall endeavor to resolve their disputes by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with their Construction Industry Mediation Procedures in effect on the date of this Agreement. A request for mediation shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 21.6 If the parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association, in accordance with the Construction Industry Arbitration Rules in effect on the date of this Agreement. Demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 21.7 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation; (2) the arbitrations to be consolidated substantially involve common questions of law or fact; and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 21.8 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, any party to an arbitration may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a Claim not described in the written Consent.

§ 21.9 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to this Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 21.10 Continuing Contract Performance

Pending final resolution of a Claim, except as otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 21.11 Waiver of Claims for Consequential Damages

The Contractor and Owner waive claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 20. Nothing contained in this Section 21.11 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

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IN WITNESS WHEREOF, the parties have caused this Contract to be signed by their duly constituted legal representatives, and it is effective on the last date signed.

Dated:_____

for: Benton County

_____
Chairman

_____
Chairman Pro-Tem

_____
Commissioner

Constituting the Board of County Commissioners of Benton County, Washington.

Attest:_____
Clerk of the Board

Approved as to Form

DocuSigned by:
Eric Andrews 3/8/2023
B4F7673BB8A1486...
Eric Andrews, Civil Deputy Prosecuting Attorney
(Row deleted)

Dated: 3/8/2023

for: J R T Mechanical, Inc.

DocuSigned by:
Reid Craigo
466B3C3B0D0F485...
Signature

Service & Sales Manager
Title:

Reid Craigo
Print Name

LiceJRTMEI*066KE
License Number

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Additions and Deletions Report for

AIA® Document A104® – 2017

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

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PAGE 1

AGREEMENT made as of the day of February in the year 2023

...

Benton County
P.O. Box 1001
Prosser, WA 99350
Telephone Number: (509) 736-2704

...

J R T Mechanical, Inc.
2608 W. Sylvester St.
Pasco, WA 99301
(509) 314-4314

...

Benton County Coroner's Office
7122 West Okanogan Place, #C110
Kennewick, WA 99336

...

Meier Architecture • Engineering
Colin Bates, PE
12 W. Kennewick Avenue
Kennewick, WA 99336
(509) 735-1589 or (509) 737-6962

PAGE 3

[**X**] A date set forth in a notice to proceed issued by the Owner.

...

§ 2.2 The Contract Time shall be measured from the date ~~of commencement.~~on the notice to proceed issued by the Owner.

...

[**X**] Not later than 60 (sixty) calendar days from the date of commencement of the Work.

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...

[X] Stipulated Sum, in accordance with Section 3.2 below

...

§ 3.2 The Stipulated Sum shall be ~~($),~~ one hundred fifty seven thousand seven hundred nineteen dollars ($ $157,719.00), subject to additions and deductions as provided in the Contract Documents.
PAGE 4

§ 3.4.3.1 The sum of the Cost of the Work and the Contractor's Fee is guaranteed by the Contractor not to exceed one hundred fifty seven thousand seven hundred nineteen dollars ($ 157,719.00), subject to additions and deductions by changes in the Work as provided in the Contract Documents. This maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.
PAGE 5

Liquidated damages are $750.00 per day.
If the Work is not substantially complete within this period of time, or extensions thereof granted by the Owner, the Owner will sustain damage that will be impracticable and extremely difficult to quantify in the event of and by reason of such delays. The Contractor shall pay to the Owner liquidated damages in the sum of $750 for each calendar day of delay. Any sums that may be due the Owner as liquidated damages may be deducted from any monies due or to become due the Contractor under the Contract or may be collected form the Contractor's surety.

...

§ 4.1.3 Provided that an Application for Payment is received by the Architect not later than the fifth day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the 30th day of the same month. If an Application for Payment is received by the Architect after the date fixed above, payment shall be made by the Owner not later than thirty (30) days after the Architect receives the Application for Payment.

...

five percent (5%)
PAGE 6

.4 Retainage will only be released in accordance with RCW 60.28 on completion of the work and once all required forms and reports have been filed with the Owner, Architect, Department of Labor and Industries, Department of Revenue and the Employment Securities Department

...

[X] Litigation in a court of competent jurisdiction
PAGE 9

Robert Blain procurement@co.benton.wa.us
PAGE 10

§ 8.3 Owner's Right to Carry Out the Work
If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails ~~within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedies the Owner may have, correct such default or neglect.~~ to remedy any failure, defect, or damage within ten days of receiving notice or if the remedy continues to be inadequate or does not cure the defect or damage, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense. Such action by the Owner and amounts charged to the Contractor ~~are both subject to prior approval of~~ shall be discussed with and justified to the

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Architect and the Architect may, pursuant to Section 15.4.3, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including the Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article ~~21.~~ 21.

PAGE 14

§ 13.3 ~~The~~ After consultation with the owner, the Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work.

PAGE 19

§ 17.1.2 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than one million dollars ($ 1,000,00.00) each occurrence, two million dollars ($ 2,000,000.00) general aggregate, and one million dollars ($ 1,000,000.00) aggregate for products-completed operations hazard, providing coverage for claims including

...

§ 17.1.3 Automobile Liability covering vehicles owned by the Contractor and non-owned vehicles used by the Contractor, with policy limits of not less than one million dollars ($ 1,000,000.00) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of those motor vehicles along with any other statutorily required automobile coverage.

PAGE 23

Robert Blain
P.O. Box 1001
620 Market St.
Prosser, WA 99350
Telephone Number: 509-736-2704
procurement@co.benton.wa.us

...

David Tapani
J R T Mechanical, Inc.
2608 West Sylvester Street
Pasco, WA 99301
(509) 314-4314

PAGE 25

~~This Agreement entered into as of the day and year first written above.~~

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IN WITNESS WHEREOF, the parties have caused this Contract to be signed by their duly constituted legal representatives, and it is effective on the last date signed.

Dated:_____

for: Benton County

Will McKay, Chairman

Jerome Delvin, Member

Michael Alvarez, Member

Constituting the Board of County Commissioners of Benton County, Washington.

Attest:_____
Clerk of the Board

Approved as to Form

~~**OWNER** (Signature)~~

Eric Andrews, Civil Deputy Prosecuting Attorney

~~*(Printed name and title)*~~

Dated:_____

for: J R T Mechanical, Inc.

Signature

Title:

Print Name

License Number

~~**CONTRACTOR** (Signature)~~

~~*(Printed name and title)*~~

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Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 11:21:44 ET on 02/27/2023 under Order No. 2114411669 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A104™ – 2017, Standard Abbreviated Form of Agreement Between Owner and Contractor, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

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DOCUMENT 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 BID INFORMATION

A. Bidder: JRT MECHANICAL.

B. Project Name: Benton County Coroner's Autopsy Ventilation System Upgrade

C. Project Location: 7122 W. Okanogan Place, #C110 Kennewick, Washington.

D. Owner: Benton County

E. Owner Project Number: CB23-01

F. Architect: Meier Architecture & Engineering, Colin Bates, PE

G. Architect Project Number: 22-9051.

1.2 CERTIFICATIONS AND BIDS

A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Meier Architecture & Engineering and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

Benton County Coroner's Ventilation System Upgrade

1. One Hundred Fifty-Seven Thousand Seven Hundred Nineteen and 0/100 Dollars ($ 157719.00).
The above amount, which EXCLUDES WSST, may be modified by amounts indicated by the Bidder on the attached Document 004322 "Unit Prices Form" and Document 004323 "Alternates Form."

1.3 BID GUARANTEE

A. The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 days after a written Notice of Award, if offered within 60 days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Bid amount above:

1. Seven Thousand Eight Hundred Eighty-Five and 94/100 Dollars ($ 7885.94).

B. In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cashier's check, certified check, U.S. money order, or bid bond.

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1.4 TIME OF COMPLETION

A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Architect, and shall fully complete the Work within 60 calendar days.

1.5 ACKNOWLEDGEMENT OF ADDENDA

A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

1. Addendum No. 1, dated 1/30/2023.
2. Addendum No. 2, dated _____.
3. Addendum No. 3, dated _____.
4. Addendum No. 4, dated _____.

1.6 CONTRACTOR'S LICENSE

A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in City of Kennewick, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

1.7 ASSURANCE OF NON DISCRIMINATION

A. The undersigned hereby agrees that he shall comply with Benton County's Non Discrimination Policy and Plan, which is consistent with Titles VI and VII of the 1964 Civil Rights Act as amended in 1972; Executive Order 11246 as amended by Executive Order 11375; Sections 503 and 504 of the Rehabilitation Act of 1975 and the Age Discrimination in Employment Act of 1967; the 1974 Vietnam Era Veteran Readjustment Assistance Act; and the Washington State Laws Against Discrimination, Chapter 49.60 RCW. The policy reads as follows:

It is the policy of Benton County that no person shall be subjected to discrimination in the County or by its subcontractors because of race, color, national origin, sex, age, religion, creed, marital status, disabled or Vietnam era veteran status, or the presence of any physical, mental or sensory handicap.

1.8 NON COLLUSION DECLARATION

A. The undersigned hereby declares, under penalty of perjury under the laws of the United States that the following statements are true and correct:

That the undersigned person(s), firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.

1.10 CERTIFICATION OF COMPLIANCE WITH WAGE PAYMENT STATUTES

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A. The undersigned hereby certifies that, within the three-year period immediately preceding the bid solicitation date, the bidder is not a "willful" violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

1.11 REQUIRED PUBLIC WORKS TRAINING

A. The undersigned hereby certifies, per RCW 39.04.350 and RCW 39.06.020, the bidder has had L & I training or are they exempt from said public works training.

1.12 SUBMISSION OF BID

A. Respectfully submitted this 1 day of February, 2023.

B. Submitted By: JRT MECHANICAL (Name of bidding firm or corporation).

C. Authorized Signature: _____ (Handwritten signature).

D. Signed By: David Tapani (Type or print name).

E. Title: Vice President (Owner/Partner/President/Vice President).

F. Street Address: 2608 W SYLVESTER ST.

G. City, State, Zip: PASCO, WA 99301.

H. Phone: (509)314-4314.

I. Email: servicesolutions@jrtmechanical.com.

J. License No.: JRTMEI*066KE.

K. UBI No.: 601-518-070.

L. Washington State Employment Security No.: 795104008.

M. Federal ID No.: Q6K9NSCDLZG1 (Affix Corporate Seal Here).

END OF DOCUMENT 004113

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DOCUMENT 004313 - BID SECURITY FORMS

1.1 BID FORM SUPPLEMENT

A. A completed bid bond form is required to be attached to the Bid Form.

1.2 BID BOND FORM

A. AIA Document A310, "Bid Bond," is the recommended form for a bid bond. A bid bond acceptable to Owner, or other bid security as described in the Instructions to Bidders, is required to be attached to the Bid Form as a supplement.

B. Copies of AIA standard forms may be obtained from The American Institute of Architects; www.aia.org/contractdocs/purchase/index.htm; email: docspurchases@aia.org; (800) 942-7732.

END OF DOCUMENT 004313

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DOCUMENT 004393 - BID SUBMITTAL CHECKLIST

1.1 BID INFORMATION

A. Bidder: JRT MECHANICAL.

B. Project Name: Benton County Coroner's Autopsy Ventilation System Upgrade

C. Project Location: 7122 West Okanogan Place, #C110 Kennewick, WA 99336

D. Owner: Benton County

E. Owner Project Number: CB23-01

F. Architect: Meier Architecture & Engineering, Colin Bates, PE

G. Architect Project Number: 22-9051

1.2 BIDDER'S CHECKLIST

A. In an effort to assist the Bidder in properly completing all documentation required, the following checklist is provided for the Bidder's convenience. The Bidder is solely responsible for verifying compliance with bid submittal requirements.

B. Attach this completed checklist to the outside of the Submittal envelope.

1. Used the Bid Form provided in the Project Manual.
2. Prepared the Bid Form as required by the Instructions to Bidders.
3. Indicated on the Bid Form the Addenda received.
4. Attached to the Bid Form: Bid Bond OR a certified check for the amount required.
5. Bid envelope shows name and address of the Bidder.
6. Bid envelope shows name of Project being bid.

END OF DOCUMENT 004393

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BID BOND **Bond**

KNOW ALL BY THESE PRESENTS, That we, JRT Mechanical ,Inc.

of 2608 W Sylvester St, Pasco, WA 99301

(hereinafter called the Principal), as Principal, and Philadelphia Indemnity Insurance Company (hereinafter called the Surety), as Surety, are held and firmly bound unto BENTON COUNTY CORONER

(hereinafter called the Obligee) in the penal sum of five percent (5%) of the total bid amount

Dollars ($)

for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, That WHEREAS, the Principal has submitted or is about to submit a proposal to the Obligee on a contract for

Benton County Coroner's Autopsy Ventilation System Upgrade

NOW, THEREFORE, If the said Contract be timely awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing, and give bond, if bond is required, with surety acceptable to the Obligee for the faithful performance of the said Contract, then this obligation shall be void; otherwise to remain in full force and effect.

Signed and sealed this 31st day of January , 2023 .

JRT Mechanical ,Inc. (Seal)
Principal

Witness

Title

Philadelphia Indemnity Insurance Company

By
Regan Hupf Attorney-in-Fact

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PHILADELPHIA INDEMNITY INSURANCE COMPANY
One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004-0950

Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS: That **PHILADELPHIA INDEMNITY INSURANCE COMPANY** (the Company), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, does hereby constitute and appoint **Regan Hupf, Kathleen Maria Moss and Matthew Benoit of AssuredPartners of Washington,** its true and lawful Attorney-in-fact with full authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, issued in the course of its business and to bind the Company thereby, in an amount not to exceed **$50,000,000.**

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of PHILADELPHIA INDEMNITY INSURANCE COMPANY on the 14th of November, 2016.

RESOLVED: That the Board of Directors hereby authorizes the President or any Vice President of the Company: (1) Appoint Attorney(s) in Fact and authorize the Attorney(s) in Fact to execute on behalf of the Company bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof and to attach the seal of the Company thereto; and (2) to remove, at any time, any such Attorney-in-Fact and revoke the authority given. And, be it

FURTHER RESOLVED: That the signatures of such officers and the seal of the Company may be affixed to any such Power of Attorney or certificate relating thereto by facsimile, and any such Power of Attorney so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.

IN TESTIMONY WHEREOF, PHILADELPHIA INDEMNITY INSURANCE COMPANY HAS CAUSED THIS INSTRUMENT TO BE SIGNED AND ITS CORPORATE SEALTO BE AFFIXED BY ITS AUTHORIZED OFFICE THIS 5TH DAY OF MARCH, 2021.

(Seal)

John Glomb, President & CEO
Philadelphia Indemnity Insurance Company

On this 5th day of March, 2021 before me came the individual who executed the preceding instrument, to me personally known, and being by me duly sworn said that he is the therein described and authorized officer of the **PHILADELPHIA INDEMNITY INSURANCE COMPANY**; that the seal affixed to said instrument is the Corporate seal of said Company; that the said Corporate Seal and his signature were duly affixed.

Commonwealth of Pennsylvania - Notary Seal
Vanessa Mckenzie, Notary Public
Montgomery County
My commission expires November 3, 2024
Commission number 1366394
Member, Pennsylvania Association of Notaries

Notary Public: Vanessa McKenzie

residing at: Bala Cynwyd, PA

My commission expires: November 3, 2024

I, Edward Sayago, Corporate Secretary of PHILADELPHIA INDEMNITY INSURANCE COMPANY, do hereby certify that the foregoing resolution of the Board of Directors and the Power of Attorney issued pursuant thereto on the 5th day March, 2021 are true and correct and are still in full force and effect. I do further certify that John Glomb, who executed the Power of Attorney as President, was on the date of execution of the attached Power of Attorney the duly elected President of PHILADELPHIA INDEMNITY INSURANCE COMPANY.

In Testimony Whereof I have subscribed my name and affixed the facsimile seal of each Company this 31st day of January, 2023

Edward Sayago, Corporate Secretary
PHILADELPHIA INDEMNITY INSURANCE COMPANY

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Benton County Coroner Autopsy Suite Ventilation Upgrade
Kennewick, WA

Prepared for:

Benton County

December 2022

Prepared by:

Meier
ARCHITECTURE • ENGINEERING
Celebrating 40 years of Service

12 W. Kennewick Avenue
Kennewick, Washington 99336
(509) 735-1589
(509) 783-5075 Fax

Meier Project No. 22-9051

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DOCUMENT 000107 - SEALS PAGE

1.1 DESIGN PROFESSIONALS OF RECORD

A. Mechanical Engineer:
   1. Derek Archer.
   2. 49947.
   3. Responsible for Division 23.

END OF DOCUMENT 000107

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Table of Contents

Init	Division	Section Title	# of Pages
	Introductory Information		
	Directory	Design Professionals of Record	2
	TOC	Table of Contents	3
	Procurement and Contracting Requirements		
	Division 00	**Special Sections**	
		Solicitation	
	001113	Advertisement for Bids	5
	001116	Invitation to Bid	7
	002100	Instructions to Bidders	9
	002600	Procurement Substitution Procedures	15
	003143	Permit Application	17
	004113	Bid Form	18
	004313	Bid Security Forms	21
	004393	Bid Submittal Checklist	22
		Contract Forms	
		Public Works Payment Bond (informational only)	23
		Public Works Performance Bond (informational only)	24
		AIA A104 – 2017 Standard Form of Agreement Between Owner & Contractor	25
	Specifications		
	Division 01	**General Requirements**	
		Summary	
	011000	Summary	51
	012500	Substitution Procedures	55
	012600	Contract Modification Procedures	59
	012900	Payment Procedures	60
	013100	Project Management & Coordination	66
	013300	Submittal Procedures	75
	013516	Alteration Project Procedures	85
	014000	Quality Requirements	94
	014200	References	101
	015000	Temporary Facilities & Controls	108
	016000	Product Requirements	115
	017300	Execution	120
	017700	Closeout Procedures	129
	017823	Operation & Maintenance Data	135
	017839	Project Record Documents	143
	017900	Demonstration & Training	148

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

Specifications

Division 23 Heating Ventilating and Air Conditioning

Summary

230517 Sleeves & Sleeve Seals for HVAC Piping 153
230518 Escutcheons for HVAC Piping 155
230529 Hangers and Supports for HVAC Piping and Equipment 157
230548 Vibration and Seismic Controls for HVAC 166
230553 Identification for HVAC Piping and Equipment 172
230593 Testing, Adjusting, and Balancing for HVAC 175
230713 Duct Insulation 185
230923 Direct Digital Control (DDC) System for HVAC 194
232600 Condensate Drain Piping 207
233113 Metal Ducts 211
233300 Air Duct Accessories 220
233346 Flexible Ducts 226
233713.13 Air Diffusers 228
233713.23 Registers and Grilles 230
237433 Dedicated Outdoor-Air Units 232

Additional Documents

Structural Letter 249
Mechanical compliance Summary 250
Mechanical Requirements 252
Drawings 277

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

DOCUMENT 001113 - ADVERTISEMENT FOR BIDS

1.1 PROJECT INFORMATION

A. Notice to Bidders: Benton County will be utilizing their Small Public Works Roster through MRSC. Qualified bidders who are listed on the roster for this type of work will receive the solicitation and may submit bids for project as described in this Document. Submit bids according to the Instructions to Bidders.

1. Regulatory Requirements: Washington State Law and Benton County Procurement policy shall govern submittal, opening, and award of bids.

B. Project Identification: Benton County Coroner's Autopsy Ventilation System Upgrade CB23-01

1. Project Location: 7122 West Okanogan Place, #C110, Kennewick, WA 99336

C. Owner: Benton County 7122 West Okanogan Place, Kennewick, WA 99336

1. Owner's Representative: Robert Blain, (509) 736-2704, procurement@co.benton.wa.us

D. Architect: Meier Architecture & Engineering, Colin Bates, PE, (509) 737-6962 cmbates@meierinc.com

E. Project Description:

1. Benton County Coroner's Autopsy Ventilation System Upgrade: This Project consists of the installation of an HVAC system in the Coroner's Autopsy room which maintains negative air pressure. The project will also integrate the new system into the site HVAC management system.

a. Project cost range is anticipated to be under $75,000.

F. Construction Contract: Bids will be received for the following Work:

1. General Contract (all trades).

1.2 BID SUBMITTAL AND OPENING

A. Owner will receive electronic lump sum bids until the bid date and time given below. Owner will consider bids prepared in compliance with the Instructions to Bidders issued by Owner, and delivered as follows:

1. Bids due by: February 1, 2023 11:00 a.m., local time.

B. Bids may be submitted by email to Danica Hope at procurement@co.benton.wa.us . Bids shall be clearly marked "**Request for bids – Benton County Coroner's Autopsy Ventilation System Upgrade"** in the email subject line. Please keep in mind, due to the County's firewall safeguards, emails containing attached documents may be inadvertently delayed or not delivered. It is highly recommended that you request a message read receipt for your submittal

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and/or contact the Procurement Department at (509) 736-2704 to confirm receipt of your bid. The County will not be responsible for submittals that are not received due to issues with email transmittal or the firewall.

1.3 BID SECURITY

A. Bid security shall be submitted with each bid in the amount of 5 percent of the bid amount. No bids may be withdrawn for a period of 60 days after opening of bids. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

1.4 PREBID MEETING

A. Prebid Meeting: There is no pre-bid meeting scheduled for this project

1.5 DOCUMENTS

A. Complete digital project bidding documents will be emailed to participants registered with Benton County on the MRSC Small Works Roster list.

1.6 TIME OF COMPLETION AND LIQUIDATED DAMAGES

A. Successful bidder shall begin the Work on receipt of the Notice to Proceed and shall complete the Work within the Contract Time. Work is subject to liquidated damages as indicated in A104 Owner-Contractor Agreement.

1.7 BIDDER'S QUALIFICATIONS

A. Bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work. A Performance Bond, separate Labor and Material Payment Bond, and Insurance in a form acceptable to Owner will be required of the successful Bidder.

1.8 NOTIFICATION

A. This Advertisement for Bids document is issued by Robert Blain, Director of Operations and Capital Projects, Benton County

END OF DOCUMENT 001113

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DOCUMENT 001116 - INVITATION TO BID

1.1 PROJECT INFORMATION

A. Notice to Bidders: Benton County will be utilizing their Small Public Works Roster through MRSC. Qualified bidders who are listed on the roster for this type of work will receive the solicitation and are invited to submit bids for Project as described in this Document according to the Instructions to Bidders.

B. Project Identification: Benton County Coroner's Autopsy Ventilation System Upgrade

1. Project Location: 7122 West Okanogan Place, #C110 Kennewick, WA 99336

C. Owner: Benton County 7122 West Okanogan Place, Kennewick, WA 99336

1. Owner's Representative: Robert Blain, (509) 736-2704 procurement@co.benton.wa.us

D. Architect: Meier Architecture & Engineering, Colin Bates, PE, (509) 737-6962 cmbates@meierinc.com

E. Project Description:

a. Benton County Coroner's Autopsy Ventilation System Upgrade: This Project consists of the installation of an HVAC system in the Coroner's Autopsy room which maintains negative air pressure. The project will also integrate the new system into the site HVAC management system.

b. Project cost range is anticipated to be under $75,000.

F. Construction Contract: Bids will be received for the following Work:

1. General Contract (all trades).

1.2 BID SUBMITTAL AND OPENING

A. Owner will receive electronic lump sum bids until the bid date and time given below. Owner will consider bids prepared in compliance with the Instructions to Bidders issued by Owner, and delivered as follows:

1. Bids due by: February 1, 2023 11:00 a.m., local time.

B. Bids may be submitted by email to Danica Hope at procurement@co.benton.wa.us . Bids shall be clearly marked "**Request for bids – Benton County Coroner's Autopsy Ventilation System Upgrade"** in the email subject line. Please keep in mind, due to the County's firewall safeguards, emails containing attached documents may be inadvertently delayed or not delivered. It is highly recommended that you request a message read receipt for your submittal and/or contact the Procurement Department at (509) 736-2704 to confirm receipt of your bid.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

The County will not be responsible for submittals that are not received due to issues with email transmittal or the firewall.

1.3 BID SECURITY

A. Bid security shall be submitted with each bid in the amount of 5 percent of the bid amount. No bids may be withdrawn for a period of 60 days after opening of bids. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

1.4 PREBID MEETING

A. There is no pre-bid meeting scheduled for this project.

1.5 DOCUMENTS

A. Complete digital project bidding documents will be emailed to participants registered with Benton County on the MRSC Small Works Roster list.

1.6 TIME OF COMPLETION AND LIQUIDATED DAMAGES

A. Bidders shall begin the Work on receipt of the Notice to Proceed and shall complete the Work within the Contract Time. Work is subject to liquidated damages as stated in A104 Owner-Contractor Agreement.

1.7 BIDDER'S QUALIFICATIONS

A. Bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work. A Performance Bond, a separate Labor and Material Payment Bond, and Insurance in a form acceptable to Owner will be required of the successful Bidder.

Dated this 1/17/2023 day of January, 2023.

Approved as to Form:

DocuSigned by:
Eric Andrews
B4F7673BB8A1486...

Eric Andrews, Deputy Prosecuting Attorney
Benton County, Washington

END OF DOCUMENT 001116

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SECTION 002100 – INSTRUCTIONS TO BIDDERS

1.1 CONSIDERATIONS

A. To be considered, Bids must be made in accordance with these Instructions to Bidders.

1.2 DOCUMENTS

A. Prime bidders may obtain sets of documents as stipulated in the "Notice To Bidders". Incomplete, partial or single-page copies will not be issued.

1.3 DEFINITIONS

A. All definitions set forth in the General Conditions and in other parts of the Contract Documents are applicable to the Bidding Documents.

B. Addenda are written or graphic instruments issued by the Architect prior to execution of the Contract for Construction, which interpret or modify the Bidding Documents by additions, deletions, clarifications or corrections.

C. A Bid is a complete and properly executed proposal to do the Work or designated portion thereof for the sums stipulated therein. To be valid Bids must be submitted in accordance with Bidding Document requirements.

D. "Bidding Documents" include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Instructions to Bidders and other sample bidding and contract forms. The "Contract Documents" consist of the Agreement Between Owner and Contractor, which include the Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, and all Addenda issued prior to execution of the Contract.

E. A Bidder or "Bonafide Bidder" is a person or entity who submits a Bid.

F. A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, labor or services for a portion of the Work.

1.4 BIDDER'S REPRESENTATIONS

A. Bidders shall carefully examine the documents and the site of the work to obtain first-hand knowledge of existing conditions. Contractors will not be given extra payments for conditions that can be determined by examining the site, existing structures, and documents

1. The Owner, in making documents available for bidding, confers no license or grant for any other use.

B. By submitting his Bid each Bidder represents that:

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1. The Bidder has carefully examined the project site and the documents and understands the documents and the bid is made in accordance therewith.

2. The bid includes all costs to perform the work required by the contract documents considering all observable existing site and local conditions.

3. The Bidder is familiar with local labor conditions and state, local and federal regulations affecting the Work and has considered these factors in the preparation of his Bid.

4. The bidder is satisfied that the proposed contract Documents are adequate for purposes of providing and successfully completed the Work.

5. The Bidder/the Bidding Firm has adequate financial resources and will employ adequate numbers of qualified personnel to coordinate, schedule, supervise and perform the work in conformance with Contract Document requirements.

C. Asbestos-Free Materials: Bidder, if awarded a contract, hereby certifies and guarantees to the Owner that any products or materials sold, used or installed under the terms of the contract, will not contain any asbestos. In the event the product sold does not conform to the above standards, the Owner may return the product for correction or replacement at Bidder's option and at Bidder's expense. Services performed by the seller that do not conform to the above standards must be corrected by seller at seller's expense or make the appropriate correction within a reasonable time.

1.6 QUESTIONS

A. Submit questions about Contract Documents in writing to email address: procurement@co.benton.wa.us . Replies will be Addenda sent to the MRSC Small Public Works list. Owner and Architect will not be responsible for oral clarification. Questions received after January 26, 2023 will not be answered. No addenda will be issued less than 4 calendar days before the bid opening except for Addenda announcing a bid opening time extension.

1.7 SUBSTITUTIONS:

A. Specified materials, products and equipment indicated in the Bidding Documents establish a standard of required function, dimensions, appearance and quality to be met by any proposed substitution.

B. Where specific products and manufacturers are specified for any portion of the Work, such products and manufacturers shall be the basis for the Bid unless prior approval is granted by the Architect for substitution of products and/or manufacturer.

C. Bidders shall comply with the provisions of the project manual in requesting prior approval for proposed substitutions.

D. Requests for substitutions not in compliance with submittal requirements and not received by January 26, 2023 will not be considered.

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E. If the Architect approves, subject to limitations stated in the Project Manual, any proposed substitution, such approval will be set forth in an Addendum. Approvals made in any other manner shall not be valid.

F. No substitutions will be considered after the contract award except as specifically provided for in the Project Manual.

1.8 ADDENDA:

A. Addenda, if any, will be emailed to participants registered with Benton County on the MRSC Samll Works Roster List.

1.9 PREPARATION OF BID

A. Submit bid on form furnished by Architect in the Bidding Documents, without alterations or recapitulation of work to be done. Fill in blank spaces on form. Sign in longhand. If bidder is a partnership or co-partnership, each partner must sign, if a corporation, print name of state of incorporation and legal signature of an officer authorized to bind corporation to a contract.

1. Fill in all blanks in the bid forms by typewriter or manually with ink. Where indicated, express sums in both words and numerals. In case of a discrepancy the amount written in words shall govern.
2. Any modification or erasures on the bid forms must be initialized by the Bidder.

B. Include all cost breakdowns requested on Bid Form. Failure to comply may be cause for rejection. No segregated bids or assignments will be considered.

C. Registrations: All firms bidding this project shall be licensed by the State of Washington in conformance with RCW 18.27 and shall furnish state registration number.

D. Receipt of Documents: The failure or omission of a bidder to receive or examine any form, instrument, addendum, or other document shall in no way relieve any bidder from obligations with respect to the bid or to the contract.

E. Bidder's attention is directed to the insurance requirements in Document A104 Owner-Contractor Agreement. It is highly recommended that bidders confer with their respective insurance carriers or brokers to determine in advance of bid submission the availability of insurance policies and endorsements as prescribed and provided herein. If an apparent low bidder fails to comply strictly with the insurance requirements, that bidder may be disqualified from award of the contract.

F. The Bidder shall submit with the bid a list of:

1. Subcontractors list in accordance with RCW 39.30.060 and
2. The work those subcontractors will perform on the contract.
    a. The bidder shall not list more than one Subcontractor for each category of work identified, except, when Subcontractors vary with Bid alternates, in which case the Bidder shall identify which Subcontractor will be used for which alternate.

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b. If no Subcontractor is listed, the Bidder acknowledges that it does not intend to use any Subcontractor to perform those items of work.

1.10 BID SUBMITTAL

A. Submit bid, bid security and any other required submittals in a sealed opaque envelope. Identify envelope with the name of the project and the name of the Bidder. Submit bid in accordance with Notice to Bidders. Delivery of bid opening to place of bid is the responsibility of the Bidder. Facsimile or email transmission of the Bid will not be accepted.

1.11 MODIFICATIONS OR WITHDRAWAL OF BID

A. Modifications of bids already received will be considered only if modification is made prior to scheduled closing time for receipt of bid. Modifications must be over signature of the bidder. Telegraphic, telephone facsimile or other means of modifications will not be accepted. Delivery of modifications is the responsibility of the Bidder. Withdrawal of bids may be accomplished at any time prior to schedule closing time for bid opening in writing and delivered to the clerk of the Board at the same location bids are delivered.

B. Should a bidder submit a bid form with all spaces not filled, the Owner at its sole discretion may consider such bid irregular and may reject the bid. The bidder agrees to hold the Owner harmless if the bid is rejected.

1.12 AWARD & EXECUTION OF CONTRACT

A. It is the intent of the Owner to award a Contract to the lowest responsible bidder as defined in RCW 39.04.350, provided the bid has been submitted in accordance with Bidding Document Requirements.

B. Within ten (10) calendar days after the award date, the successful bidder shall return the signed Contract, an insurance certification as required by the Contract, and satisfactory bonds as required below. Before execution of the contract by the County, the successful bidder shall also provide any pre-award information the County may require under the contract. If the bidder experiences circumstances beyond their control that prevents return of the contract documents within the calendar days after the award date stated above, the Contracting Agency may grant up to a maximum of ten additional calendar days for return of the documents, provided the Contracting Agency deems the circumstances warrant it.

C. The Owner reserves the right to reject any and/or all bids or to make further calls for bids in the same manner as the original call, or to waive any informalities.

D. Taxes, Permits, Fees:

1. Bid amounts, and the Contract sum, and any agreed variations thereof shall not include all taxes imposed by law. Sales Tax shall be collected from the Owner and will be paid to the

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State by the Contractor in conformance with the law. Contractor shall furnish proof of payment of all taxes required by law.

2. Bid amounts, and the Contract sum, shall include all fees for inspections required by public authorities including electrical permits, hook-up fees, temporary facility costs, fees and use charges, and licenses, except the building permit and plan check fees, which will be paid by the Owner.

E. Non-Discrimination:

1. As a condition of submitting a bid for the project, bidders and sub bidders, as applicable, agree to comply fully with requirements for nondiscrimination and employment of minorities per the laws of the State of Washington and other applicable State and Federal laws.

1.13 APPEAL OF INTENDED AWARD

A. Unsuccessful bidders may protest the intended award of the contract to the Owner. The protest shall be submitted in writing within 2 days after the determination of the Owner of the apparent lowest responsible bidder. The protest shall clearly state all of the facts upon which the protest is based. The Owner will respond in writing to the protest prior to the award of the Contract by the Owner. The response shall be the final decision of the Owner.

1.14 POST BID INFORMATION

A. A bidder whose proposal is under consideration shall, upon request, promptly furnish satisfactory evidence of his financial resources, his experience, and the organization and equipment he has available for the performance of the contract, and shall submit to the Owner, if requested, a properly executed AIA Document A305, Contractor's Qualification Statement.

B. Within seven (7) days of notification of selection for the award of a contract for the work, the bidder shall submit the following information to the Owner:

1. A designation of the work to be performed by the Bidder with his own forces.
2. The proprietary names and suppliers of principal items or systems of materials and equipment proposed for the work.

C. The Bidder will be required to establish to the satisfaction of the Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the work described in the bidding documents.

D. Prior to the award of the contract, the Owner will notify the Bidder in writing if the Owner has reasonable objection to any such proposed person or entity. If the Owner has a reasonable objection to any such proposed person or entity, the Bidder may, at his option: (1) withdraw his bid, or (2) submit an acceptable substitute person or entity with an adjustment in his bid price which is equal to or less than the original bid price. If the Bidder fails or refuses to promptly submit an acceptable substitute person or entity with an adjustment in his bid price which is equal to or less than the original bid price, his bid shall be deemed withdrawn, and the Owner shall consider the next low bidder. In the event of either withdrawal or disqualification under

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this subparagraph, bid security will not be forfeited, notwithstanding other provisions of the bidding documents.

E. Persons and entities proposed by the bidder and to whom the Owner and the Architect have made no reasonable objection must be used for the work for which they were proposed and shall not be changed except with the written consent of the Owner and the Architect.

1.15 PERFORMANCE AND PAYMENT BONDS

A. The successful bidder shall file with the Owner a performance and payment bond, in the full amount of the contract, including Washington State Sales Tax, on form(s) acceptable to the Owner, as security for faithful performance of the Contract and the payment of all persons supplying labor and materials for construction and to cover all guarantees against defective workmanship or materials, or both, as required by the Contract Documents. The surety furnishing these bonds shall have a sound financial standing and a record of service satisfactory to the Owner and shall be authorized to do business in the State of Washington.

B. All bonds required in this invitation or under the contract documents shall be issued by a state authorized bonding company, licensed to transact business in Benton County and the State of Washington.

C. The attorney-in-fact (Resident Agent) who executes the bonds on behalf of the surety must attach a notarized copy of his power of attorney as evidence of his authority to bind the surety on the date of execution of the bonds.

END OF SECTION 002100

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DOCUMENT 002600 - PROCUREMENT SUBSTITUTION PROCEDURES

1.1 DEFINITIONS

A. Procurement Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Procurement and Contracting Documents, submitted prior to receipt of bids.

B. Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Contract Documents, submitted following Contract award. See Section 012500 "Substitution Procedures" for conditions under which Substitution requests will be considered following Contract award.

1.2 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.3 PROCUREMENT SUBSTITUTIONS

A. Procurement Substitutions, General: By submitting a bid, the Bidder represents that its bid is based on materials and equipment described in the Procurement and Contracting Documents, including Addenda. Bidders are encouraged to request approval of qualifying substitute materials and equipment when the Specifications Sections list materials and equipment by product or manufacturer name.

B. Procurement Substitution Requests will be received and considered by Owner when the following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action:

1. Extensive revisions to the Contract Documents are not required.
2. Proposed changes are in keeping with the general intent of the Contract Documents, including the level of quality of the Work represented by the requirements therein.
3. The request is fully documented and properly submitted.

1.4 SUBMITTALS

A. Procurement Substitution Request: Submit to Architect. Procurement Substitution Request must be made in writing in compliance with the following requirements:

1. Requests for substitution of materials and equipment will be considered if received no later than 9 days prior to date of bid opening.
2. Submittal Format: Submit Procurement Substitution Request, using format provided on Project Web site.

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a. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specifications Sections and drawing numbers.
b. Provide complete documentation on both the product specified and the proposed substitute, including the following information as appropriate:

1) Point-by-point comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.
2) Copies of current, independent third-party test data of salient product or system characteristics.
3) Samples where applicable or when requested by Architect.
4) Detailed comparison of significant qualities of the proposed substitute with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
5) Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
6) Research reports, where applicable, evidencing compliance with building code in effect for Project, from ICC-ES.
7) Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, which will become necessary to accommodate the proposed substitute.

c. Provide certification by manufacturer that the substitute proposed is equal to or superior to that required by the Procurement and Contracting Documents, and that its in-place performance will be equal to or superior to the product or equipment specified in the application indicated.
d. Bidder, in submitting the Procurement Substitution Request, waives the right to additional payment or an extension of Contract Time because of the failure of the substitute to perform as represented in the Procurement Substitution Request.

B. Architect's Action:

1. Architect may request additional information or documentation necessary for evaluation of the Procurement Substitution Request. Architect will notify all bidders of acceptance of the proposed substitute by means of an Addendum to the Procurement and Contracting Documents.

C. Architect's approval of a substitute during bidding does not relieve Contractor of the responsibility to submit required shop drawings and to comply with all other requirements of the Contract Documents.

END OF DOCUMENT 002600

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DOCUMENT 003143 - PERMIT APPLICATION

1.1 PERMIT APPLICATION INFORMATION

A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of the Bidders' own investigations. This Document and its attachments are not part of the Contract Documents.

B. Permit Application: The building permit for Project has been applied for by Architect and Owner.

END OF DOCUMENT 003143

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DOCUMENT 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 BID INFORMATION

A. Bidder: _____.

B. Project Name: Benton County Coroner's Autopsy Ventilation System Upgrade

C. Project Location: 7122 W. Okanogan Place, #C110 Kennewick, Washington.

D. Owner: Benton County

E. Owner Project Number: CB23-01

F. Architect: Meier Architecture & Engineering, Colin Bates, PE

G. Architect Project Number: 22-9051.

1.2 CERTIFICATIONS AND BIDS

A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Meier Architecture & Engineering and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

Benton County Coroner's Ventilation System Upgrade

1. _____ Dollars ($_____).
The above amount, which EXCLUDES WSST, may be modified by amounts indicated by the Bidder on the attached Document 004322 "Unit Prices Form" and Document 004323 "Alternates Form."

1.3 BID GUARANTEE

A. The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 days after a written Notice of Award, if offered within 60 days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Bid amount above:

1. _____ Dollars ($_____).

B. In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cashier's check, certified check, U.S. money order, or bid bond.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1.4 TIME OF COMPLETION

A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Architect, and shall fully complete the Work within 60 calendar days.

1.5 ACKNOWLEDGEMENT OF ADDENDA

A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

1. Addendum No. 1, dated _____.
2. Addendum No. 2, dated _____.
3. Addendum No. 3, dated _____.
4. Addendum No. 4, dated _____.

1.6 CONTRACTOR'S LICENSE

A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in City of Kennewick, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

1.7 ASSURANCE OF NON DISCRIMINATION

A. The undersigned hereby agrees that he shall comply with Benton County's Non Discrimination Policy and Plan, which is consistent with Titles VI and VII of the 1964 Civil Rights Act as amended in 1972; Executive Order 11246 as amended by Executive Order 11375; Sections 503 and 504 of the Rehabilitation Act of 1975 and the Age Discrimination in Employment Act of 1967; the 1974 Vietnam Era Veteran Readjustment Assistance Act; and the Washington State Laws Against Discrimination, Chapter 49.60 RCW. The policy reads as follows:

It is the policy of Benton County that no person shall be subjected to discrimination in the County or by its subcontractors because of race, color, national origin, sex, age, religion, creed, marital status, disabled or Vietnam era veteran status, or the presence of any physical, mental or sensory handicap.

1.8 NON COLLUSION DECLARATION

A. The undersigned hereby declares, under penalty of perjury under the laws of the United States that the following statements are true and correct:

That the undersigned person(s), firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.

1.10 CERTIFICATION OF COMPLIANCE WITH WAGE PAYMENT STATUTES

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A. The undersigned hereby certifies that, within the three-year period immediately preceding the bid solicitation date, the bidder is not a "willful" violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

1.11 REQUIRED PUBLIC WORKS TRAINING

A. The undersigned hereby certifies, per RCW 39.04.350 and RCW 39.06.020, the bidder has had L & I training or are they exempt from said public works training.

1.12 SUBMISSION OF BID

A. Respectfully submitted this ____ day of _____, 2023.

B. Submitted By:_____(Name of bidding firm or corporation).

C. Authorized Signature:_____(Handwritten signature).

D. Signed By:_____(Type or print name).

E. Title:_____(Owner/Partner/President/Vice President).

F. Street Address:_____.

G. City, State, Zip:_____.

H. Phone:_____.

I. Email:_____.

J. License No.:_____.

K. UBI No.:_____.

L. Washington State Employment Security No.:_____.

M. Federal ID No.:_____(Affix Corporate Seal Here).

END OF DOCUMENT 004113

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DOCUMENT 004313 - BID SECURITY FORMS

1.1 BID FORM SUPPLEMENT

A. A completed bid bond form is required to be attached to the Bid Form.

1.2 BID BOND FORM

A. AIA Document A310, "Bid Bond," is the recommended form for a bid bond. A bid bond acceptable to Owner, or other bid security as described in the Instructions to Bidders, is required to be attached to the Bid Form as a supplement.

B. Copies of AIA standard forms may be obtained from The American Institute of Architects; www.aia.org/contractdocs/purchase/index.htm; email: docspurchases@aia.org; (800) 942-7732.

END OF DOCUMENT 004313

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DOCUMENT 004393 - BID SUBMITTAL CHECKLIST

1.1 BID INFORMATION

A. Bidder: _____.

B. Project Name: Benton County Coroner's Autopsy Ventilation System Upgrade

C. Project Location: 7122 West Okanogan Place, #C110 Kennewick, WA 99336

D. Owner: Benton County

E. Owner Project Number: CB23-01

F. Architect: Meier Architecture & Engineering, Colin Bates, PE

G. Architect Project Number: 22-9051

1.2 BIDDER'S CHECKLIST

A. In an effort to assist the Bidder in properly completing all documentation required, the following checklist is provided for the Bidder's convenience. The Bidder is solely responsible for verifying compliance with bid submittal requirements.

B. Attach this completed checklist to the outside of the Submittal envelope.

1. Used the Bid Form provided in the Project Manual.
2. Prepared the Bid Form as required by the Instructions to Bidders.
3. Indicated on the Bid Form the Addenda received.
4. Attached to the Bid Form: Bid Bond OR a certified check for the amount required.
5. Bid envelope shows name and address of the Bidder.
6. Bid envelope shows name of Project being bid.

END OF DOCUMENT 004393

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work by Owner.
4. Access to site.
5. Coordination with occupants.
6. Work restrictions.
7. Specification and drawing conventions.
8. Miscellaneous provisions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

A. Project Identification: Benton County Coroner's Autopsy Ventilation System Upgrade

1. Project Location: 7122 West Okanogan Place, #C110 Kennewick, Washington

B. Owner: Benton County, 7122 West Okanogan Place, Kennewick, WA 99336

1. Owner's Representative: Robert Blain, (509) 736-2704, procurement@co.benton.wa.us

C. Architect: Meier Architecture & Engineering, Colin Bates, PE, (509) 737-6962, cmbates@meierinc.com

D. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Benton County Coroner's Autopsy Ventilation System Upgrade: This Project consists of the installation of an HVAC system in the Coroner's Autopsy room which maintains negative air pressure. The project will also integrate the new system into the site HVAC management system.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.4 WORK UNDER SEPARATE CONTRACTS

A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.

1.5 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to areas indicated on the Drawings.
2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

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.

1.6 COORDINATION WITH OCCUPANTS

A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

1. 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 authorities having jurisdiction.
2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.7 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.

1. Weekend Hours: None unless deemed necessary and agreed upon by both Owner and Contractor during construction.
2. Hours for Utility Shutdowns: prior to 8:00 a.m. or after 5:00 p.m.
3. Hours for Core Drilling or other miscellaneous activity: prior to 8:00 a.m. or after 5:00 p.m.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Owner not less than two days in advance of proposed utility interruptions.
2. Obtain Owner's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Owner not less than two days in advance of proposed disruptive operations.
2. Obtain Owner's written permission before proceeding with disruptive operations.

E. Controlled Substances: Use of tobacco products and other controlled substances within the existing building is not permitted.

F. Employee Identification: Owner will provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

G. Employee Screening: Comply with Owner's requirements for background screening of Contractor personnel working on Project site.

1. Maintain list of approved screened personnel with Owner's representative.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.3 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use CSI Form 13.1A.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

a. Statement indicating why specified product or fabrication, or installation cannot be provided, if applicable.
b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.
g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.5 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

    a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    b. Substitution request is fully documented and properly submitted.
    c. Requested substitution will not adversely affect Contractor's construction schedule.
    d. Requested substitution has received necessary approvals of authorities having jurisdiction.
    e. Requested substitution is compatible with other portions of the Work.
    f. Requested substitution has been coordinated with other portions of the Work.
    g. Requested substitution provides specified warranty.
    h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

    a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
    b. Requested substitution does not require extensive revisions to the Contract Documents.
    c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    d. Substitution request is fully documented and properly submitted.
    e. Requested substitution will not adversely affect Contractor's construction schedule.
    f. Requested substitution has received necessary approvals of authorities having jurisdiction.
    g. Requested substitution is compatible with other portions of the Work.
    h. Requested substitution has been coordinated with other portions of the Work.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

i. Requested substitution provides specified warranty.
j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Requirements:

1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.2 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.3 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include costs of labor and supervision directly attributable to the change.
    d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
    e. Quotation Form: Use CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail."

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use CSI Form 13.6A, "Change Order Request (Proposal)," with attachments CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail."

1.4 ADMINISTRATIVE CHANGE ORDERS

A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

B. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:

1. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
2. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.2 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Prevailing Wage Rates: Public contract awarding agencies are required by RCW 39.12.030 to include a provision stating the required prevailing rate(s) of wage in the bid and contract specifications for public works. Historically, this has required inclusion of a list of such rates in the specifications. Labor & Industries looked at how to allow an additional option within the law and rule.

Bid specifications may provide the required prevailing wage rate information in this alternate format:

The Department of Labor & Industries prevailing wage rate website is https://secure.lni.wa.gov/wagelookup/wageupdatepublication.aspx?PubCtlId=167

The publication date to use is February 1, 2023.

The public works project is located in Benton County.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

A copy of the prevailing wage rates, the benefit code key and the supplement are available for viewing at the Administration Building, 7122 W Okanogan Place, Ste. E330, Kennewick, WA 99336 Monday through Friday, between 8:00 a.m. & noon and between 1:00 p.m. & 5:00 p.m. except holidays.

The Procurement Department will mail a hard copy of the wage rates upon request. We can be reached at (509)786-5600 or (509)736-3080 or by email at procurement@co.benton.wa.us .

C. Payment Application Times: Submit Application for Payment to Architect by the fifth of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.

D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

    a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

G. Transmittal: Submit electronic copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

I. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit executed waivers of lien on forms, acceptable to Owner.

J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Sustainable design submittal for project materials cost data.
4. Contractor's construction schedule (preliminary if not final).
5. Products list (preliminary if not final).
6. Sustainable design action plans.
7. Schedule of unit prices.
8. Submittal schedule (preliminary if not final).
9. List of Contractor's staff assignments.
10. List of Contractor's principal consultants.
11. Copies of building permits.
12. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
13. Initial progress report.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

14. Report of preconstruction conference.
15. Certificates of insurance and insurance policies.
16. Performance and payment bonds.
17. Data needed to acquire Owner's insurance.
18. Approved Statement of Intent to Pay Prevailing Wages

K. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

L. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. Requests for Information (RFIs).
4. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Requirements:

1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.2 DEFINITIONS

A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.3 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within 10 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.4 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

C. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

    a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    b. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    c. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
    d. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
    e. Indicate required installation sequences.
    f. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Mechanical and Plumbing Work: Show the following:

    a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
    b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
    c. Fire-rated enclosures around ductwork.

7. Electrical Work: Show the following:

    a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
    b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
d. Location of pull boxes and junction boxes, dimensioned from column center lines.

8. Fire-Protection System: Show the following:

a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.

9. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make changes as directed and resubmit.
10. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 013300 "Submittal Procedures."

C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:

1. File Preparation Format: DWG, Version 2014, operating in Microsoft Windows operating system.
2. File Submittal Format: Submit or post coordination drawing files using Portable Data File (PDF) format.
3. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.

a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
b. Digital Data Software Program: Drawings are available in AutoCAD Version 2014.

1.6 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: AIA Document G716.

1. Attachments shall be electronic files in Adobe Acrobat PDF format.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

1. The following Contractor-generated RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for approval of Contractor's means and methods.
    d. Requests for coordination information already indicated in the Contract Documents.
    e. Requests for adjustments in the Contract Time or the Contract Sum.
    f. Requests for interpretation of Architect's actions on submittals.
    g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were returned without action or withdrawn.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:

a. Tentative construction schedule.
b. Phasing.
c. Critical work sequencing and long-lead items.
d. Designation of key personnel and their duties.
e. Lines of communications.
f. Procedures for processing field decisions and Change Orders.
g. Procedures for RFIs.
h. Procedures for testing and inspecting.
i. Procedures for processing Applications for Payment.
j. Distribution of the Contract Documents.
k. Submittal procedures.
l. Preparation of record documents.
m. Use of the premises and existing building.
n. Work restrictions.
o. Working hours.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

p. Owner's occupancy requirements.
q. Responsibility for temporary facilities and controls.
r. Procedures for moisture and mold control.
s. Procedures for disruptions and shutdowns.
t. Construction waste management and recycling.
u. Parking availability.
v. Office, work, and storage areas.
w. Equipment deliveries and priorities.
x. First aid.
y. Security.
z. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than five days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

a. Preparation of record documents.
b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
c. Submittal of written warranties.
d. Requirements for preparing operations and maintenance data.
e. Requirements for delivery of material samples, attic stock, and spare parts.
f. Requirements for demonstration and training.
g. Preparation of Contractor's punch list.
h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
i. Submittal procedures.
j. Owner's partial occupancy requirements.
k. Installation of Owner's furniture, fixtures, and equipment.
l. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

D. Progress Meetings: Conduct progress meetings at weekly intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

        1) Review schedule for next period.

    b. Review present and future needs of each entity present, including the following:

        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Deliveries.
        5) Off-site fabrication.
        6) Access.
        7) Site utilization.
        8) Temporary facilities and controls.
        9) Progress cleaning.
        10) Quality and work standards.
        11) Status of correction of deficient items.
        12) Field observations.
        13) Status of RFIs.
        14) Status of proposal requests.
        15) Pending changes.
        16) Status of Change Orders.
        17) Pending claims and disputes.
        18) Documentation of information for payment requests.

4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

    a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

E. Coordination Meetings: Conduct Project coordination meetings at regular intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
    c. Review present and future needs of each contractor present, including the following:

        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Deliveries.
        5) Off-site fabrication.
        6) Access.
        7) Site utilization.
        8) Temporary facilities and controls.
        9) Work hours.
        10) Hazards and risks.
        11) Progress cleaning.
        12) Quality and work standards.
        13) Change Orders.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Requirements:

1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
4. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.3 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.

    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

4. Format: Arrange the following information in a tabular format:

    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for Architect's final release or approval.
    g. Scheduled date of fabrication.
    h. Scheduled dates for purchasing.
    i. Scheduled dates for installation.
    j. Activity or event number.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 10 days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 14 days for initial review of each submittal.
5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 10 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

D. Paper Submittals: Place a permanent label or title block on each submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information for processing and recording action taken:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Construction Manager.
    e. Name of Contractor.
    f. Name of subcontractor.
    g. Name of supplier.
    h. Name of manufacturer.
    i. Submittal number or other unique identifier, including revision identifier.

        1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

    j. Number and title of appropriate Specification Section.
    k. Drawing number and detail references, as appropriate.
    l. Location(s) where product is to be installed, as appropriate.
    m. Other necessary identification.

4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

    a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.

5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Contractor.

    a. Transmittal Form for Paper Submittals: Use AIA Document G810.

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b. Transmittal Form for Paper Submittals: Provide locations on form for the following information:

1) Project name.
2) Date.
3) Destination (To:).
4) Source (From:).
5) Name and address of Architect.
6) Name of Construction Manager.
7) Name of Contractor.
8) Name of firm or entity that prepared submittal.
9) Names of subcontractor, manufacturer, and supplier.
10) Category and type of submittal.
11) Submittal purpose and description.
12) Specification Section number and title.
13) Specification paragraph number or drawing designation and generic name for each of multiple items.
14) Drawing number and detail references, as appropriate.
15) Indication of full or partial submittal.
16) Transmittal number.
17) Submittal and transmittal distribution record.
18) Remarks.
19) Signature of transmitter.

E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.

a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.

F. Options: Identify options requiring selection by Architect.

G. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.

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2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Submit electronic submittals via email as PDF electronic files.

    a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
3. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

    a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Standard color charts.
    d. Statement of compliance with specified referenced standards.

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e. Testing by recognized testing agency.
f. Application of testing agency labels and seals.
g. Notation of coordination requirements.
h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

a. Wiring diagrams showing factory-installed wiring.
b. Printed performance curves.
c. Operational range diagrams.
d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:

a. PDF electronic file.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Identification of products.
b. Schedules.
c. Compliance with specified standards.
d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
3. Submit Shop Drawings in the following format:

a. PDF electronic file.
b. Two opaque (bond) copies of each submittal. Architect will return one copy(ies).

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

a. Generic description of Sample.
b. Product name and name of manufacturer.
c. Sample source.
d. Number and title of applicable Specification Section.

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e. Specification paragraph number and generic name of each item.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

   a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

   a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

   a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.

      1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:

   a. PDF electronic file.

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F. Coordination Drawing Submittals: Comply with requirements specified in Section 013100 "Project Management and Coordination."

G. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."

H. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."

I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."

J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."

K. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."

L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

M. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

N. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

O. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

R. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

S. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

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T. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

W. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

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B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300

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SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes special procedures for alteration work.

1.2 DEFINITIONS

A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.

B. Consolidate: To strengthen loose or deteriorated materials in place.

C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.

D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish as approved by Architect.

F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.

G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.

H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.

I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.

J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.

K. Retain: To keep existing items that are not to be removed or dismantled.

L. Strip: To remove existing finish down to base material unless otherwise indicated.

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1.3 COORDINATION

A. Alteration Work Subschedule: A construction schedule coordinating the sequencing and scheduling of alteration work for entire Project, including each activity to be performed, and based on Contractor's Construction Schedule. Secure time commitments for performing critical construction activities from separate entities responsible for alteration work.

1. Schedule construction operations in sequence required to obtain best Work results.
2. Coordinate sequence of alteration work activities to accommodate the following:

    a. Owner's continuing occupancy of portions of existing building.
    b. Owner's partial occupancy of completed Work.
    c. Other known work in progress.
    d. Tests and inspections.

3. Detail sequence of alteration work, with start and end dates.
4. Utility Services: Indicate how long utility services will be interrupted. Coordinate shutoff, capping, and continuation of utility services.
5. Use of elevator and stairs.
6. Equipment Data: List gross loaded weight, axle-load distribution, and wheel-base dimension data for mobile and heavy equipment proposed for use in existing structure. Do not use such equipment without certification from Contractor's professional engineer that the structure can support the imposed loadings without damage.

B. Pedestrian Circulation: Coordinate alteration work with circulation patterns within Project building(s) and site. Some work is near circulation patterns. Circulation patterns cannot be closed off entirely and in places can be only temporarily redirected around small areas of work. Plan and execute the Work accordingly.

1.4 PROJECT MEETINGS FOR ALTERATION WORK

A. Preliminary Conference for Alteration Work: Before starting alteration work, conduct conference at Project site.

1. Attendees: In addition to representatives of Owner, Architect, and Contractor, testing service representative, specialists, and chemical-cleaner manufacturer(s) shall be represented at the meeting.
2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:

    a. Alteration Work Subschedule: Discuss and finalize; verify availability of materials, specialists' personnel, equipment, and facilities needed to make progress and avoid delays.
    b. Fire-prevention plan.
    c. Governing regulations.
    d. Areas where existing construction is to remain and the required protection.
    e. Hauling routes.
    f. Sequence of alteration work operations.
    g. Storage, protection, and accounting for salvaged and specially fabricated items.

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h. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
i. Qualifications of personnel assigned to alteration work and assigned duties.
j. Requirements for extent and quality of work, tolerances, and required clearances.
k. Embedded work such as flashings and lintels, special details, collection of waste, protection of occupants and the public, and condition of other construction that affects the Work or will affect the work.

3. Reporting: Record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.

B. Coordination Meetings: Conduct coordination meetings specifically for alteration work at weekly intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner, Architect, and Contractor, each specialist, supplier, installer, and other entity concerned with progress or involved in planning, coordination, or performance of alteration work activities shall be represented at these meetings. All participants at conference shall be familiar with Project and authorized to conclude matters relating to alteration work.
2. Agenda: Review and correct or approve minutes of previous coordination meeting. Review other items of significance that could affect progress of alteration work. Include topics for discussion as appropriate to status of Project.

a. Alteration Work Subschedule: Review progress since last coordination meeting. Determine whether each schedule item is on time, ahead of schedule, or behind schedule. Determine how construction behind schedule will be expedited with retention of quality; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities are completed within the Contract Time.
b. Schedule Updating: Revise Contractor's Alteration Work Subschedule after each coordination meeting where revisions to schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
c. Review present and future needs of each entity present, including review items listed in the "Preliminary Conference for Alteration Work" Paragraph in this article and the following:

1) Interface requirements of alteration work with other Project Work.
2) Status of submittals for alteration work.
3) Access to alteration work locations.
4) Effectiveness of fire-prevention plan.
5) Quality and work standards of alteration work.
6) Change Orders for alteration work.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

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1.5 MATERIALS OWNERSHIP

A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.

1. Carefully dismantle and salvage each item or object in a manner to prevent damage and protect it from damage, then promptly deliver it to Owner where directed.

1.6 INFORMATIONAL SUBMITTALS

A. Alteration Work Subschedule:

1. Submit alteration work subschedule within seven days of date established for commencement of alteration work.

B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements that are to remain, including finish surfaces, that might be misconstrued as damage caused by Contractor's alteration work operations.

C. Alteration Work Program: Submit 5 days before work begins.

D. Fire-Prevention Plan: Submit 5 days before work begins.

1.7 QUALITY ASSURANCE

A. Specialist Qualifications: An experienced firm regularly engaged in specialty work similar in nature, materials, design, and extent to alteration work as specified in each Section and that has completed a minimum of five recent projects with a record of successful in-service performance that demonstrates the firm's qualifications to perform this work.

1. Field Supervisor Qualifications: Full-time supervisors experienced in specialty work similar in nature, material, design, and extent to that indicated for this Project. Supervisors shall be on-site when specialty work begins and during its progress. Supervisors shall not be changed during Project except for causes beyond the control of the specialist firm.

B. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.

1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.

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C. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.

D. Safety and Health Standard: Comply with ANSI/ASSE A10.6.

1.8 STORAGE AND HANDLING OF SALVAGED MATERIALS

A. Salvaged Materials:

1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

B. Salvaged Materials for Reinstallation:

1. Repair and clean items for reuse as indicated.
2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.

C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.

D. Storage: Catalog and store items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.

1. Identify each item for reinstallation with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
2. Secure stored materials to protect from theft.
3. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5 deg F or more above the dew point.

E. Storage Space:

1. Owner will arrange for limited on-site location(s) for free storage of salvaged material. This storage space security for stored material.

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2. Arrange for off-site locations for storage and protection of salvaged material that cannot be stored and protected on-site.

1.9 FIELD CONDITIONS

A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of .

1. Comply with requirements specified in Section 013233 "Photographic Documentation."

B. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

C. Size Limitations in Existing Spaces: Materials, products, and equipment used for performing the Work and for transporting debris, materials, and products shall be of sizes that clear surfaces within existing spaces, areas, rooms, and openings, including temporary protection, by 12 inches or more.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PROTECTION

A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.

1. Use only proven protection methods, appropriate to each area and surface being protected.
2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
3. Erect temporary barriers to form and maintain fire-egress routes.
4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
8. Provide supplemental sound-control treatment to isolate demolition work from other areas of the building.

B. Temporary Protection of Materials to Remain:

1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.

D. Utility and Communications Services:

1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.

1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

3.2 PROTECTION FROM FIRE

A. General: Follow fire-prevention plan and the following:

1. Comply with NFPA 241 requirements unless otherwise indicated. Perform duties titled "Owner's Responsibility for Fire Protection."
2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.

a. If combustible material cannot be removed, provide fire blankets to cover such materials.

B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:

1. Obtain Owner's approval for operations involving use of open-flame or welding or other high-heat equipment. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.

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3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
6. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:

    a. Train each fire watch in the proper operation of fire-control equipment and alarms.
    b. Prohibit fire-watch personnel from other work that would be a distraction from fire-watch duties.
    c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.
    d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of work in each area to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
    e. Maintain fire-watch personnel at each area of Project site until 60 minutes after conclusion of daily work.

C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.

D. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to sprinklers, shield them temporarily with guards.

1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

3.3 PROTECTION DURING APPLICATION OF CHEMICALS

A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.

B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.

C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.

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D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.

E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.4 GENERAL ALTERATION WORK

A. Have specialty work performed only by qualified specialists.

B. Ensure that supervisory personnel are present when work begins and during its progress.

C. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.

1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 013516

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SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
4. Specific test and inspection requirements are not specified in this Section.

C. Related Requirements:

1. Section 012100 "Allowances" for testing and inspecting allowances.

1.2 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.

C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

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E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Qualification Data: For Contractor's quality-control personnel.

C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.

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2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.

D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.5 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.7 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.abma.com.
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CEA - Canadian Electricity Association; www.electricity.ca.
51. CEA - Consumer Electronics Association; www.ce.org.
52. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
53. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
54. CGA - Compressed Gas Association; www.cganet.com.
55. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
56. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
57. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
58. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
59. CPA - Composite Panel Association; www.pbmdf.com.
60. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
61. CRRC - Cool Roof Rating Council; www.coolroofs.org.
62. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
63. CSA - Canadian Standards Association; www.csa.ca.
64. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
65. CSI - Construction Specifications Institute (The); www.csinet.org.
66. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
67. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
68. CWC - Composite Wood Council; (See CPA).
69. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
70. DHI - Door and Hardware Institute; www.dhi.org.
71. ECA - Electronic Components Association; (See ECIA).
72. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
73. ECIA - Electronic Components Industry Association; www.eciaonline.org.
74. EIA - Electronic Industries Alliance; (See TIA).
75. EIMA - EIFS Industry Members Association; www.eima.com.
76. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
77. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
78. ESTA - Entertainment Services and Technology Association; (See PLASA).
79. EVO - Efficiency Valuation Organization; www.evo-world.org.
80. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
81. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

82. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
83. FM Approvals - FM Approvals LLC; www.fmglobal.com.
84. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
85. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridaroof.com.
86. FSA - Fluid Sealing Association; www.fluidsealing.com.
87. FSC - Forest Stewardship Council U.S.; www.fscus.org.
88. GA - Gypsum Association; www.gypsum.org.
89. GANA - Glass Association of North America; www.glasswebsite.com.
90. GS - Green Seal; www.greenseal.org.
91. HI - Hydraulic Institute; www.pumps.org.
92. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
93. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
94. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
95. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
96. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
97. IAS - International Accreditation Service; www.iasonline.org.
98. IAS - International Approval Services; (See CSA).
99. ICBO - International Conference of Building Officials; (See ICC).
100. ICC - International Code Council; www.iccsafe.org.
101. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
102. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
103. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
104. IEC - International Electrotechnical Commission; www.iec.ch.
105. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
106. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
107. IESNA - Illuminating Engineering Society of North America; (See IES).
108. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
109. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
110. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
111. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
112. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
113. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
114. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
115. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
116. ISO - International Organization for Standardization; www.iso.org.
117. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
118. ITU - International Telecommunication Union; www.itu.int/home.
119. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
120. LMA - Laminating Materials Association; (See CPA).
121. LPI - Lightning Protection Institute; www.lightning.org.
122. MBMA - Metal Building Manufacturers Association; www.mbma.com.
123. MCA - Metal Construction Association; www.metalconstruction.org.
124. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
125. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

126. MHIA - Material Handling Industry of America; www.mhia.org.
127. MIA - Marble Institute of America; www.marble-institute.com.
128. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
129. MPI - Master Painters Institute; www.paintinfo.com.
130. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
131. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
132. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
133. NADCA - National Air Duct Cleaners Association; www.nadca.com.
134. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
135. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
136. NBI - New Buildings Institute; www.newbuildings.org.
137. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
138. NCMA - National Concrete Masonry Association; www.ncma.org.
139. NEBB - National Environmental Balancing Bureau; www.nebb.org.
140. NECA - National Electrical Contractors Association; www.necanet.org.
141. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
142. NEMA - National Electrical Manufacturers Association; www.nema.org.
143. NETA - InterNational Electrical Testing Association; www.netaworld.org.
144. NFHS - National Federation of State High School Associations; www.nfhs.org.
145. NFPA - National Fire Protection Association; www.nfpa.org.
146. NFPA - NFPA International; (See NFPA).
147. NFRC - National Fenestration Rating Council; www.nfrc.org.
148. NHLA - National Hardwood Lumber Association; www.nhla.com.
149. NLGA - National Lumber Grades Authority; www.nlga.org.
150. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
151. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
152. NRCA - National Roofing Contractors Association; www.nrca.net.
153. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
154. NSF - NSF International; www.nsf.org.
155. NSPE - National Society of Professional Engineers; www.nspe.org.
156. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
157. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
158. NWFA - National Wood Flooring Association; www.nwfa.org.
159. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
160. PDI - Plumbing & Drainage Institute; www.pdionline.org.
161. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); www.plasa.org.
162. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
163. RFCI - Resilient Floor Covering Institute; www.rfci.com.
164. RIS - Redwood Inspection Service; www.redwoodinspection.com.
165. SAE - SAE International; www.sae.org.
166. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
167. SDI - Steel Deck Institute; www.sdi.org.
168. SDI - Steel Door Institute; www.steeldoor.org.
169. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
170. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
171. SIA - Security Industry Association; www.siaonline.org.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

172. SJI - Steel Joist Institute; www.steeljoist.org.
173. SMA - Screen Manufacturers Association; www.smainfo.org.
174. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
175. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
176. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
177. SPIB - Southern Pine Inspection Bureau; www.spib.org.
178. SPRI - Single Ply Roofing Industry; www.spri.org.
179. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
180. SSINA - Specialty Steel Industry of North America; www.ssina.com.
181. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
182. STI - Steel Tank Institute; www.steeltank.com.
183. SWI - Steel Window Institute; www.steelwindows.com.
184. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
185. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
186. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
187. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
188. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
189. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
190. TMS - The Masonry Society; www.masonrysociety.org.
191. TPI - Truss Plate Institute; www.tpinst.org.
192. TPI - Turfgrass Producers International; www.turfgrasssod.org.
193. TRI - Tile Roofing Institute; www.tileroofing.org.
194. UL - Underwriters Laboratories Inc.; www.ul.com.
195. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
196. USAV - USA Volleyball; www.usavolleyball.org.
197. USGBC - U.S. Green Building Council; www.usgbc.org.
198. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
199. WASTEC - Waste Equipment Technology Association; www.wastec.org.
200. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
201. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
202. WDMA - Window & Door Manufacturers Association; www.wdma.com.
203. WI - Woodwork Institute; www.wicnet.org.
204. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
205. WWPA - Western Wood Products Association; www.wwpa.org.

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. ICC - International Code Council; www.iccsafe.org.
2. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

C. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.

    a. Available from Defense Standardization Program; www.dsp.dla.mil.
    b. Available from General Services Administration; www.gsa.gov.
    c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org/ccb.

6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

D. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearhfti.ca.gov.
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
3. CDHS; California Department of Health Services; (See CDPH).
4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; www.txforestservice.tamu.edu.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Requirements:

1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.2 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.3 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
4. Waste handling procedures.
5. Other dust-control measures.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1.4 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.5 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

B. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

1. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

D. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

E. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed according to coordination drawings.

a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
b. Maintain negative air pressure within work area using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.

2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.

G. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Install lighting for Project identification sign.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Section 312000 "Earth Moving."
3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Section 321216 "Asphalt Paving."

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

G. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.

1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 011000 "Summary."

C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

D. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

E. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.

1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
2. Construct dustproof partitions with two layers of 6-mil polyethylene sheet on each side. Cover floor with two layers of 6-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.

a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain water-dampened foot mats in vestibule.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
4. Insulate partitions to control noise transmission to occupied areas.
5. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
6. Protect air-handling equipment.
7. Provide walk-off mats at each entrance through temporary partition.

F. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.5 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use permanent HVAC system to control humidity.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

    a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
    b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.

c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.6 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.

D. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

E. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

B. Related Requirements:

1. Section 012500 "Substitution Procedures" for requests for substitutions.
2. Section 014200 "References" for applicable industry standards for products specified.

1.2 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 10 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

    a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
    b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.6 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:

    a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.
    b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

4. Manufacturers:

    a. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

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2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

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SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
4. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.
5. Section 078413 "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.3 INFORMATIONAL SUBMITTALS

A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.

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3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

    a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.4 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

    a. Primary operational systems and equipment.
    b. Fire separation assemblies.
    c. Air or smoke barriers.
    d. Fire-suppression systems.
    e. Mechanical systems piping and ducts.
    f. Control systems.
    g. Communication systems.
    h. Fire-detection and -alarm systems.
    i. Conveying systems.
    j. Electrical wiring systems.
    k. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

a. Water, moisture, or vapor barriers.
b. Membranes and flashings.
c. Exterior curtain-wall construction.
d. Sprayed fire-resistive material.
e. Equipment supports.
f. Piping, ductwork, vessels, and equipment.
g. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

C. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

D. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. 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.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.7 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

    a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.
5. Repair of the Work.

B. Related Requirements:

1. Section 017300 "Execution" for progress cleaning of Project site.
2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
4. Section 017900 "Demonstration and Training" for requirements for instructing Owner's personnel.

1.2 ACTION SUBMITTALS

A. Product Data: For cleaning agents.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.3 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. Field Report: For pest control inspection.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1.5 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.

    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.

5. Submit test/adjust/balance records.
6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
6. Advise Owner of changeover in heat and other utilities.
7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements, including touchup painting.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.6 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

a. Project name.
b. Date.
c. Name of Architect.
d. Name of Contractor.
e. Page number.

4. Submit list of incomplete items in the following format:

a. Three paper copies. Architect will return two copies.

1.8 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

   a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
   b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
   c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
   d. Remove tools, construction equipment, machinery, and surplus material from Project site.
   e. Remove snow and ice to provide safe access to building.
   f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
   g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
   h. Sweep concrete floors broom clean in unoccupied spaces.
   i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
   j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
   k. Remove labels that are not permanent.
   l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
   m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
   n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
   o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
   p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
   q. Leave Project clean and ready for occupancy.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

C. Construction Waste Disposal: Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

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SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency manuals.
3. Operation manuals for systems, subsystems, and equipment.
4. Product maintenance manuals.
5. Systems and equipment maintenance manuals.

B. Related Requirements:

1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.2 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.3 CLOSEOUT SUBMITTALS

A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operations and maintenance manuals in the following format:

1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.

a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
b. Enable inserted reviewer comments on draft submittals.

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2. Three paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return two copies.

C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.

D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.

1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

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1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Construction Manager.
7. Name and contact information for Architect.
8. Name and contact information for Commissioning Authority.
9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
10. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

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a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.

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2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

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E. Piped Systems: Diagram piping as installed and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent,

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and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

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PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared record Drawings in Section 017839 "Project Record Documents."

F. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

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SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Requirements:

1. Section 017300 "Execution" for final property survey.
2. Section 017700 "Closeout Procedures" for general closeout procedures.
3. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set(s) of marked-up record prints.
2. Number of Copies: Submit copies of record Drawings as follows:

a. Initial Submittal:

1) Submit PDF electronic files of scanned record prints and one of file prints.

b. Final Submittal:

1) Submit PDF electronic files of scanned record prints and three set(s) of prints.
2) Print each drawing, whether or not changes and additional information were recorded.

B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

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D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

E. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

    a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    b. Accurately record information in an acceptable drawing technique.
    c. Record data as soon as possible after obtaining it.
    d. Record and check the markup before enclosing concealed installations.
    e. Cross-reference record prints to corresponding archive photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

    a. Dimensional changes to Drawings.
    b. Revisions to details shown on Drawings.
    c. Depths of foundations below first floor.
    d. Locations and depths of underground utilities.
    e. Revisions to routing of piping and conduits.
    f. Revisions to electrical circuitry.
    g. Actual equipment locations.
    h. Duct size and routing.
    i. Locations of concealed internal utilities.
    j. Changes made by Change Order or Construction Change Directive.
    k. Changes made following Architect's written orders.
    l. Details not on the original Contract Drawings.
    m. Field records for variable and concealed conditions.
    n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.

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4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
2. Format: DWG, Version 2014, Microsoft Windows operating system.
3. Format: Annotated PDF electronic file with comment function enabled.
4. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
5. Refer instances of uncertainty to Architect for resolution.
6. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.

    a. See Section 013300 "Submittal Procedures" for requirements related to use of Architect's digital data files.
    b. Architect will provide data file layer information. Record markups in separate layers.

C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.

1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
2. Consult Architect for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared record Drawings into record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

D. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file with comment function enabled.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:

    a. Project name.
    b. Date.

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c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as annotated PDF electronic file.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as annotated PDF electronic file.

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as PDF electronic file.

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

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PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 017839

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SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:

1. Demonstration of operation of systems, subsystems, and equipment.
2. Training in operation and maintenance of systems, subsystems, and equipment.
3. Demonstration and training video recordings.

B. Unit Price for Instruction Time: Length of instruction time will be measured by actual time spent performing demonstration and training in required location. No payment will be made for time spent assembling educational materials, setting up, or cleaning up. See requirements in Section 012200 "Unit Prices."

1.2 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.

1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

B. Qualification Data: For instructor.

C. Attendance Record: For each training module, submit list of participants and length of instruction time.

D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.3 CLOSEOUT SUBMITTALS

A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.

1. Identification: On each copy, provide an applied label with the following information:

a. Name of Project.
b. Name and address of videographer.
c. Name of Architect.

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d. Name of Construction Manager.
e. Name of Contractor.
f. Date of video recording.

2. Transcript: Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links to corresponding training components. Include name of Project and date of video recording on each page.
3. At completion of training, submit complete training manual(s) for Owner's use in PDF electronic file format on compact disc.

1.4 QUALITY ASSURANCE

A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.

B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

C. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.

D. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

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PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.

B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:

1. Basis of System Design, Operational Requirements, and Criteria: Include the following:

    a. System, subsystem, and equipment descriptions.
    b. Performance and design criteria if Contractor is delegated design responsibility.
    c. Operating standards.
    d. Regulatory requirements.
    e. Equipment function.
    f. Operating characteristics.
    g. Limiting conditions.
    h. Performance curves.

2. Documentation: Review the following items in detail:

    a. Emergency manuals.
    b. Operations manuals.
    c. Maintenance manuals.
    d. Project record documents.
    e. Identification systems.
    f. Warranties and bonds.
    g. Maintenance service agreements and similar continuing commitments.

3. Emergencies: Include the following, as applicable:

    a. Instructions on meaning of warnings, trouble indications, and error messages.
    b. Instructions on stopping.
    c. Shutdown instructions for each type of emergency.
    d. Operating instructions for conditions outside of normal operating limits.
    e. Sequences for electric or electronic systems.
    f. Special operating instructions and procedures.

4. Operations: Include the following, as applicable:

    a. Startup procedures.
    b. Equipment or system break-in procedures.
    c. Routine and normal operating instructions.
    d. Regulation and control procedures.
    e. Control sequences.

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f. Safety procedures.
g. Instructions on stopping.
h. Normal shutdown instructions.
i. Operating procedures for emergencies.
j. Operating procedures for system, subsystem, or equipment failure.
k. Seasonal and weekend operating instructions.
l. Required sequences for electric or electronic systems.
m. Special operating instructions and procedures.

5. Adjustments: Include the following:

a. Alignments.
b. Checking adjustments.
c. Noise and vibration adjustments.
d. Economy and efficiency adjustments.

6. Troubleshooting: Include the following:

a. Diagnostic instructions.
b. Test and inspection procedures.

7. Maintenance: Include the following:

a. Inspection procedures.
b. Types of cleaning agents to be used and methods of cleaning.
c. List of cleaning agents and methods of cleaning detrimental to product.
d. Procedures for routine cleaning
e. Procedures for preventive maintenance.
f. Procedures for routine maintenance.
g. Instruction on use of special tools.

8. Repairs: Include the following:

a. Diagnosis instructions.
b. Repair instructions.
c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
d. Instructions for identifying parts and components.
e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.1 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."

B. Set up instructional equipment at instruction location.

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3.2 INSTRUCTION

A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.

B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

1. Owner will furnish Contractor with names and positions of participants.

C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.

1. Schedule training with Owner with at least 14 days' advance notice.

D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

E. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of an oral performance-based test.

F. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 017900

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 230517 - SLEEVES AND SLEEVE SEALS FOR HVAC PIPING

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. Sleeves.
   2. Sleeve-seal fittings.
   3. Silicone sealants.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 SLEEVES

A. PVC Pipe Sleeves: ASTM D 1785, Schedule 40.

2.2 SLEEVE-SEAL FITTINGS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. HOLDRITE.

B. Description:
   1. Manufactured plastic, sleeve-type, waterstop assembly, made for imbedding in concrete slab or wall.
   2. Plastic or rubber waterstop collar with center opening to match piping OD.

2.3 SILICONE SEALANTS

A. Silicone, S, NS, 25, NT: Single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant, ASTM C 920, Type S, Grade NS, Class 25, use NT.
   1. Sealant shall have a VOC content of 250 g/L or less.

B. Silicone, S, P, 25, T, NT: Single-component, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade P, Class 25, Uses T and NT. Grade P Pourable (self-leveling) formulation is for opening in floors and other horizontal surfaces that are not fire rated.
   1. Sealant shall have a VOC content of 250 g/L or less.

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C. Silicone Foam: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.
   1. Sealant shall have a VOC content of 250 g/L or less.

PART 3 - EXECUTION

3.1 SLEEVE INSTALLATION

A. Install sleeves for piping passing through penetrations in floors, partitions, roofs, and walls.
   1. Sleeves are not required for core-drilled holes.
   2. Cut sleeves to length for mounting flush with both surfaces.
      a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches above finished floor level.
   3. Using silicone sealant, seal space outside of sleeves in slabs and walls without sleeve-seal system.

B. Install sleeves for pipes passing through interior partitions.
   1. Cut sleeves to length for mounting flush with both surfaces.
   2. Install sleeves that are large enough to provide 1/4-inch annular clear space between sleeve and pipe or pipe insulation.
   3. Seal annular space between sleeve and piping or piping insulation; use sealants appropriate for size, depth, and location of joint.

3.2 SLEEVE-SEAL-FITTING INSTALLATION

A. Install sleeve-seal fittings as new walls and slabs are constructed.

B. Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position waterstop flange to be centered in concrete slab or wall.

C. Secure nailing flanges to concrete forms.

D. Using silicone sealant, seal space around outside of sleeve-seal fittings.

3.3 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:
   1. Leak Test: After allowing for a full cure, test sleeves and sleeve seals for leaks. Repair leaks and retest until no leaks exist.

B. Sleeves and sleeve seals will be considered defective if they do not pass tests and inspections.

3.4 SLEEVE AND SLEEVE-SEAL SCHEDULE

A. Use sleeves and sleeve seals for the following piping-penetration applications:
   1. Concrete Slabs Above Grade:
      a. Piping Smaller Than NPS 6: Sleeve-seal fittings.
   2. Interior Partitions:
      a. Piping Smaller Than NPS 6: PVC-pipe sleeves.

END OF SECTION 230517

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 230518 - ESCUTCHEONS FOR HVAC PIPING

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. Escutcheons.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1 ESCUTCHEONS

A. One-Piece, Cast-Brass Type: With polished, chrome-plated finish and setscrew fastener.

B. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with chrome-plated finish and spring-clip fasteners.

C. One-Piece, Stamped-Steel Type: With chrome-plated finish and spring-clip fasteners.

D. Split-Casting Brass Type: With polished, chrome-plated finish and with concealed hinge and setscrew.

E. Split-Plate, Stamped-Steel Type: With chrome-plated finish, concealed and exposed-rivet hinge, and spring-clip fasteners.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install escutcheons for piping penetrations of walls, ceilings, and finished floors.

B. Install escutcheons with ID to closely fit around pipe, tube, and insulation of piping and with OD that completely covers opening.
   1. Escutcheons for New Piping:
      a. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep-pattern type.
      b. Chrome-Plated Piping: One-piece, cast-brass type with polished, chrome-plated finish.
      c. Insulated Piping: One-piece, stamped-steel type.
      d. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece, cast-brass type with polished, chrome-plated finish.

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e. Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece, cast-brass type with polished, chrome-plated finish.
f. Bare Piping in Unfinished Service Spaces: One-piece, stamped-steel type or split-plate, stamped-steel type with concealed hinge or split-plate, stamped-steel type with exposed-rivet hinge.
g. Bare Piping in Equipment Rooms: One-piece, stamped-steel type or split-plate, stamped-steel type with concealed hinge or split-plate, stamped-steel type with exposed-rivet hinge.

3.2 FIELD QUALITY CONTROL

A. Replace broken and damaged escutcheons and floor plates using new materials.

END OF SECTION 230518

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SECTION 230529 - HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
1. Metal pipe hangers and supports.
2. Trapeze pipe hangers.
3. Metal framing systems.
4. Thermal-hanger shield inserts.
5. Fastener systems.
6. Pipe stands.

B. Related Sections:
1. Section 230548 "Vibration and Seismic Controls for HVAC" for vibration isolation devices.
2. Section 233113 "Metal Ducts" for duct hangers and supports.

1.3 DEFINITIONS

A. MSS: Manufacturers Standardization Society of The Valve and Fittings Industry Inc.

1.4 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design trapeze pipe hangers and equipment supports, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

B. Structural Performance: Hangers and supports for HVAC piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
1. Design supports for multiple pipes, including pipe stands, capable of supporting combined weight of supported systems, system contents, and test water.
2. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
3. Design seismic-restraint hangers and supports for piping and equipment.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

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PART 2 - PRODUCTS

2.1 METAL PIPE HANGERS AND SUPPORTS

A. Carbon-Steel Pipe Hangers and Supports:
1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
2. Galvanized Metallic Coatings: Pregalvanized or hot dipped.
3. Nonmetallic Coatings: Plastic coating, jacket, or liner.
4. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping.
5. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.

B. Copper Pipe Hangers:
1. Description: MSS SP-58, Types 1 through 58, copper-coated-steel, factory-fabricated components.
2. Hanger Rods: Continuous-thread rod, nuts, and washer made of stainless steel.

2.2 TRAPEZE PIPE HANGERS

A. Description: MSS SP-69, Type 59, shop- or field-fabricated pipe-support assembly made from structural carbon-steel shapes with MSS SP-58 carbon-steel hanger rods, nuts, saddles, and U-bolts.

2.3 METAL FRAMING SYSTEMS

A. MFMA Manufacturer Metal Framing Systems:
1. Description: Shop- or field-fabricated pipe-support assembly for supporting multiple parallel pipes.
2. Standard: MFMA-4.
3. Channels: Continuous slotted steel channel with inturned lips.
4. Channel Nuts: Formed or stamped steel nuts or other devices designed to fit into channel slot and, when tightened, prevent slipping along channel.
5. Hanger Rods: Continuous-thread rod, nuts, and washer made of [**carbon steel**].
6. Metallic Coating: Hot-dipped galvanized or Mill galvanized.

B. Non-MFMA Manufacturer Metal Framing Systems:
1. Description: Shop- or field-fabricated pipe-support assembly made of steel channels, accessories, fittings, and other components for supporting multiple parallel pipes.
2. Standard: Comply with MFMA-4.
3. Channels: Continuous slotted steel channel with inturned lips.
4. Channel Nuts: Formed or stamped steel nuts or other devices designed to fit into channel slot and, when tightened, prevent slipping along channel.
5. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.
6. Coating: Zinc.

2.4 THERMAL-HANGER SHIELD INSERTS

A. Insulation-Insert Material for Cold Piping: ASTM C 591, Type VI, Grade 1 polyisocyanurate with 125-psig minimum compressive strength and vapor barrier.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

B. Insulation-Insert Material for Hot Piping: ASTM C 591, Type VI, Grade 1 polyisocyanurate with 125-psig minimum compressive strength.

C. For Trapeze or Clamped Systems: Insert and shield shall cover entire circumference of pipe.

D. For Clevis or Band Hangers: Insert and shield shall cover lower 180 degrees of pipe.

E. Insert Length: Extend 2 inches beyond sheet metal shield for piping operating below ambient air temperature.

2.5 FASTENER SYSTEMS

A. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel anchors, for use in hardened portland cement concrete; with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

2.6 PIPE STANDS

A. General Requirements for Pipe Stands: Shop- or field-fabricated assemblies made of manufactured corrosion-resistant components to support roof-mounted piping.

B. Compact Pipe Stand: One-piece plastic unit with integral-rod roller, pipe clamps, or V-shaped cradle to support pipe, for roof installation without membrane penetration.

2.7 EQUIPMENT SUPPORTS

A. Description: Welded, shop- or field-fabricated equipment support made from structural carbon-steel shapes.

2.8 MISCELLANEOUS MATERIALS

A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.

B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications.
   1. Properties: Nonstaining, noncorrosive, and nongaseous.
   2. Design Mix: 5000-psi, 28-day compressive strength.

PART 3 - EXECUTION

3.1 HANGER AND SUPPORT INSTALLATION

A. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure.

B. Metal Trapeze Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Arrange for grouping of parallel runs of horizontal piping, and support together on field-fabricated trapeze pipe hangers.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Pipes of Various Sizes: Support together and space trapezes for smallest pipe size or install intermediate supports for smaller diameter pipes as specified for individual pipe hangers.
2. Field fabricate from ASTM A 36/A 36M, carbon-steel shapes selected for loads being supported. Weld steel according to AWS D1.1/D1.1M.

C. Metal Framing System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.

D. Thermal-Hanger Shield Installation: Install in pipe hanger or shield for insulated piping.

E. Fastener System Installation:
1. Install mechanical-expansion anchors in concrete after concrete is placed and completely cured. Install fasteners according to manufacturer's written instructions.

F. Pipe Stand Installation:
1. Pipe Stand Types except Curb-Mounted Type: Assemble components and mount on smooth roof surface. Do not penetrate roof membrane.

G. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.

H. Equipment Support Installation: Fabricate from welded-structural-steel shapes.

I. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.

J. Install lateral bracing with pipe hangers and supports to prevent swaying.

K. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.

L. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.

M. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

N. Insulated Piping:
1. Attach clamps and spacers to piping.
    a. Piping Operating above Ambient Air Temperature: Clamp may project through insulation.
    b. Piping Operating below Ambient Air Temperature: Use thermal-hanger shield insert with clamp sized to match OD of insert.
    c. Do not exceed pipe stress limits allowed by ASME B31.9 for building services piping.
2. Install MSS SP-58, Type 39, protection saddles if insulation without vapor barrier is indicated. Fill interior voids with insulation that matches adjoining insulation.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

a. Option: Thermal-hanger shield inserts may be used. Include steel weight-distribution plate for pipe NPS 4 and larger if pipe is installed on rollers.

3. Install MSS SP-58, Type 40, protective shields on cold piping with vapor barrier. Shields shall span an arc of 180 degrees.
   a. Option: Thermal-hanger shield inserts may be used. Include steel weight-distribution plate for pipe NPS 4 and larger if pipe is installed on rollers.
4. Shield Dimensions for Pipe: Not less than the following:
   a. NPS 1/4 to NPS 3-1/2: 12 inches long and 0.048 inch thick.
   b. NPS 4: 12 inches long and 0.06 inch thick.
   c. NPS 5 and NPS 6: 18 inches long and 0.06 inch thick.
   d. NPS 8 to NPS 14: 24 inches long and 0.075 inch thick.
   e. NPS 16 to NPS 24: 24 inches long and 0.105 inch thick.
5. Pipes NPS 8 and Larger: Include wood or reinforced calcium-silicate-insulation inserts of length at least as long as protective shield.
6. Thermal-Hanger Shields: Install with insulation same thickness as piping insulation.

3.2 METAL FABRICATIONS

A. Cut, drill, and fit miscellaneous metal fabrications for trapeze pipe hangers.

B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.

C. Field Welding: Comply with AWS D1.1/D1.1M procedures for shielded, metal arc welding; appearance and quality of welds; and methods used in correcting welding work; and with the following:
1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. Finish welds at exposed connections so no roughness shows after finishing and so contours of welded surfaces match adjacent contours.

3.3 ADJUSTING

A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.

B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

3.4 PAINTING

A. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

3.5 HANGER AND SUPPORT SCHEDULE

A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

B. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified in piping system Sections.

C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finish.

D. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.

E. Use carbon-steel pipe hangers and supports, metal trapeze pipe hangers, and metal framing systems and attachments for general service applications.

F. Use copper-plated pipe hangers and copper or stainless-steel attachments for copper piping and tubing.

G. Use padded hangers for piping that is subject to scratching.

H. Use thermal-hanger shield inserts for insulated piping and tubing.

I. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
   1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated, stationary pipes NPS 1/2 to NPS 30.
   2. Yoke-Type Pipe Clamps (MSS Type 2): For suspension of up to 1050 deg F, pipes NPS 4 to NPS 24, requiring up to 4 inches of insulation.
   3. Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3): For suspension of pipes NPS 3/4 to NPS 36, requiring clamp flexibility and up to 4 inches of insulation.
   4. Steel Pipe Clamps (MSS Type 4): For suspension of cold and hot pipes NPS 1/2 to NPS 24 if little or no insulation is required.
   5. Pipe Hangers (MSS Type 5): For suspension of pipes NPS 1/2 to NPS 4, to allow off-center closure for hanger installation before pipe erection.
   6. Adjustable, Swivel Split- or Solid-Ring Hangers (MSS Type 6): For suspension of noninsulated, stationary pipes NPS 3/4 to NPS 8.
   7. Adjustable, Steel Band Hangers (MSS Type 7): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 8.
   8. Adjustable Band Hangers (MSS Type 9): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 8.
   9. Adjustable, Swivel-Ring Band Hangers (MSS Type 10): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 8.
   10. Split Pipe Ring with or without Turnbuckle Hangers (MSS Type 11): For suspension of noninsulated, stationary pipes NPS 3/8 to NPS 8.
   11. Extension Hinged or Two-Bolt Split Pipe Clamps (MSS Type 12): For suspension of noninsulated, stationary pipes NPS 3/8 to NPS 3.
   12. U-Bolts (MSS Type 24): For support of heavy pipes NPS 1/2 to NPS 30.
   13. Clips (MSS Type 26): For support of insulated pipes not subject to expansion or contraction.
   14. Pipe Saddle Supports (MSS Type 36): For support of pipes NPS 4 to NPS 36, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate.
   15. Pipe Stanchion Saddles (MSS Type 37): For support of pipes NPS 4 to NPS 36, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate, and with U-bolt to retain pipe.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

16. Adjustable Pipe Saddle Supports (MSS Type 38): For stanchion-type support for pipes NPS 2-1/2 to NPS 36 if vertical adjustment is required, with steel-pipe base stanchion support and cast-iron floor flange.
17. Single-Pipe Rolls (MSS Type 41): For suspension of pipes NPS 1 to NPS 30, from two rods if longitudinal movement caused by expansion and contraction might occur.
18. Adjustable Roller Hangers (MSS Type 43): For suspension of pipes NPS 2-1/2 to NPS 24, from single rod if horizontal movement caused by expansion and contraction might occur.
19. Complete Pipe Rolls (MSS Type 44): For support of pipes NPS 2 to NPS 42 if longitudinal movement caused by expansion and contraction might occur but vertical adjustment is not necessary.
20. Pipe Roll and Plate Units (MSS Type 45): For support of pipes NPS 2 to NPS 24 if small horizontal movement caused by expansion and contraction might occur and vertical adjustment is not necessary.
21. Adjustable Pipe Roll and Base Units (MSS Type 46): For support of pipes NPS 2 to NPS 30 if vertical and lateral adjustment during installation might be required in addition to expansion and contraction.

J. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 24.
2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS 3/4 to NPS 24 if longer ends are required for riser clamps.

K. Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Steel Turnbuckles (MSS Type 13): For adjustment up to 6 inches for heavy loads.
2. Steel Clevises (MSS Type 14): For 120 to 450 deg F piping installations.
3. Swivel Turnbuckles (MSS Type 15): For use with MSS Type 11, split pipe rings.
4. Malleable-Iron Sockets (MSS Type 16): For attaching hanger rods to various types of building attachments.
5. Steel Weldless Eye Nuts (MSS Type 17): For 120 to 450 deg F piping installations.

L. Building Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Steel or Malleable Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
2. Top-Beam C-Clamps (MSS Type 19): For use under roof installations with bar-joist construction, to attach to top flange of structural shape.
3. Side-Beam or Channel Clamps (MSS Type 20): For attaching to bottom flange of beams, channels, or angles.
4. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
5. Welded Beam Attachments (MSS Type 22): For attaching to bottom of beams if loads are considerable and rod sizes are large.
6. C-Clamps (MSS Type 23): For structural shapes.
7. Top-Beam Clamps (MSS Type 25): For top of beams if hanger rod is required tangent to flange edge.
8. Side-Beam Clamps (MSS Type 27): For bottom of steel I-beams.
9. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

10. Linked-Steel Clamps with Eye Nuts (MSS Type 29): For attaching to bottom of steel I-beams for heavy loads, with link extensions.
11. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel.
12. Welded-Steel Brackets: For support of pipes from below or for suspending from above by using clip and rod. Use one of the following for indicated loads:
    a. Light (MSS Type 31): 750 lb.
    b. Medium (MSS Type 32): 1500 lb.
    c. Heavy (MSS Type 33): 3000 lb.
13. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.
14. Plate Lugs (MSS Type 57): For attaching to steel beams if flexibility at beam is required.
15. Horizontal Travelers (MSS Type 58): For supporting piping systems subject to linear horizontal movement where headroom is limited.

M. Saddles and Shields: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Steel-Pipe-Covering Protection Saddles (MSS Type 39): To fill interior voids with insulation that matches adjoining insulation.
2. Protection Shields (MSS Type 40): Of length recommended in writing by manufacturer to prevent crushing insulation.
3. Thermal-Hanger Shield Inserts: For supporting insulated pipe.

N. Spring Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Restraint-Control Devices (MSS Type 47): Where indicated to control piping movement.
2. Spring Cushions (MSS Type 48): For light loads if vertical movement does not exceed 1-1/4 inches.
3. Spring-Cushion Roll Hangers (MSS Type 49): For equipping Type 41, roll hanger with springs.
4. Spring Sway Braces (MSS Type 50): To retard sway, shock, vibration, or thermal expansion in piping systems.
5. Variable-Spring Hangers (MSS Type 51): Preset to indicated load and limit variability factor to 25 percent to allow expansion and contraction of piping system from hanger.
6. Variable-Spring Base Supports (MSS Type 52): Preset to indicated load and limit variability factor to 25 percent to allow expansion and contraction of piping system from base support.
7. Variable-Spring Trapeze Hangers (MSS Type 53): Preset to indicated load and limit variability factor to 25 percent to allow expansion and contraction of piping system from trapeze support.
8. Constant Supports: For critical piping stress and if necessary to avoid transfer of stress from one support to another support, critical terminal, or connected equipment. Include auxiliary stops for erection, hydrostatic test, and load-adjustment capability. These supports include the following types:
    a. Horizontal (MSS Type 54): Mounted horizontally.
    b. Vertical (MSS Type 55): Mounted vertically.
    c. Trapeze (MSS Type 56): Two vertical-type supports and one trapeze member.

O. Comply with MSS SP-69 for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

P. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.

Q. Use mechanical-expansion anchors instead of building attachments where required in concrete construction.

END OF SECTION 230529

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SECTION 230548 - VIBRATION AND SEISMIC CONTROLS FOR HVAC

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. Snubbers.
   2. Restraint channel bracings.
   3. Restraint cables.
   4. Seismic-restraint accessories.
   5. Mechanical anchor bolts.
   6. Adhesive anchor bolts.

B. Related Requirements:
   1. Refer to individual equipment Sections for information on factory-provided vibration isolation devices.

1.3 DEFINITIONS

A. IBC: International Building Code.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include rated load, rated deflection, and overload capacity for each seismic control device.
   2. Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of seismic-restraint component required.
      a. Tabulate types and sizes of seismic restraints, complete with report numbers and rated strength in tension and shear as evaluated by an agency acceptable to authorities having jurisdiction.
      b. Annotate to indicate application of each product submitted and compliance with requirements.
   3. Interlocking Snubbers: Include ratings for horizontal, vertical, and combined loads.

B. Delegated-Design Submittal: For each seismic-restraint device.
   1. Include design calculations and details for selecting seismic restraints, complying with performance requirements, design criteria, and analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
   2. Design Calculations: Calculate static and dynamic loading due to equipment weight, operation, and seismic and wind forces required to select seismic and wind restraints.
      a. Coordinate design calculations with wind load calculations required for equipment mounted outdoors. Comply with requirements in other Sections for equipment mounted outdoors.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3. Seismic- and Wind-Restraint Details:
    a. Design Analysis: To support selection and arrangement of seismic and wind restraints. Include calculations of combined tensile and shear loads.
    b. Details: Indicate fabrication and arrangement. Detail attachments of restraints to the restrained items and to the structure. Show attachment locations, methods, and spacings. Identify components, list their strengths, and indicate directions and values of forces transmitted to the structure during seismic events. Indicate association with vibration isolation devices.
    c. Coordinate seismic-restraint and vibration isolation details with wind-restraint details required for equipment mounted outdoors. Comply with requirements in other Sections for equipment mounted outdoors.
    d. Preapproval and Evaluation Documentation: By an agency acceptable to authorities having jurisdiction, showing maximum ratings of restraint items and the basis for approval (tests or calculations).

1.5 QUALITY ASSURANCE

A. Comply with seismic-restraint requirements in the IBC unless requirements in this Section are more stringent.

B. Seismic-restraint devices shall have horizontal and vertical load testing and analysis and shall bear anchorage preapproval by ICC-ES or preapproval by another agency acceptable to authorities having jurisdiction, showing maximum seismic-restraint ratings. Ratings based on independent testing are preferred to ratings based on calculations. If preapproved ratings are unavailable, submittals based on independent testing are preferred. Calculations (including combining shear and tensile loads) to support seismic-restraint designs must be signed and sealed by a qualified professional engineer.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Wind-Restraint Loading:
    1. Basic Wind Speed: To be determined by Delegated Design Engineer.
    2. Building Classification Category: To be determined by Delegated Design Engineer.
    3. Minimum 10 lb/sq. ft. multiplied by maximum area of HVAC component projected on vertical plane normal to wind direction, and 45 degrees either side of normal.

B. Seismic-Restraint Loading:
    1. Site Class as Defined in the IBC: D unless Delegated Design Engineer determines that class C is applicable.
    2. Assigned Seismic Use Group or Building Category as Defined in the IBC: To be determined by Delegated Design Engineer..
        a. Component Importance Factor: 1.0.
        b. Component Response Modification Factor: To be determined by Delegated Design Engineer..
        c. Component Amplification Factor: To be determined by Delegated Design Engineer.>.
    3. Design Spectral Response Acceleration at Short Periods (0.2 Second): To be determined by Delegated Design Engineer..

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

4. Design Spectral Response Acceleration at 1.0-Second Period: To be determined by Delegated Design Engineer..
5. Rated strengths, features, and applications shall be as defined in reports by an agency acceptable to authorities having jurisdiction.
    a. Structural Safety Factor: Allowable strength in tension, shear, and pullout force of components shall be at least four times the maximum seismic forces to which they are subjected.

2.2 SNUBBERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Kinetics Noise Control, Inc.
2. Mason Industries, Inc.
3. Vibration Mountings & Controls, Inc.

B. Description: Factory fabricated using welded structural-steel shapes and plates, anchor bolts, and replaceable resilient isolation washers and bushings.
1. Anchor bolts for attaching to concrete shall be seismic-rated, drill-in, and stud-wedge or female-wedge type.
2. Resilient Isolation Washers and Bushings: Oil- and water-resistant neoprene.
3. Maximum 1/4-inch air gap, and minimum 1/4-inch- thick resilient cushion.

2.3 RESTRAINT CHANNEL BRACINGS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. B-line, an Eaton business.
2. Hilti, Inc.
3. Mason Industries, Inc.
4. Unistrut; Part of Atkore International.

B. Description: MFMA-4, shop- or field-fabricated bracing assembly made of slotted steel channels with accessories for attachment to braced component at one end and to building structure at the other end and other matching components and with corrosion-resistant coating; rated in tension, compression, and torsion forces.

2.4 RESTRAINT CABLES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Kinetics Noise Control, Inc.
2. Mason Industries, Inc.

B. Restraint Cables: ASTM A 603 galvanized-steel cables. End connections made of steel assemblies with thimbles, brackets, swivel, and bolts designed for restraining cable service; with a minimum of two clamping bolts for cable engagement.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

2.5 SEISMIC-RESTRAINT ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. B-line, an Eaton business.
   2. Kinetics Noise Control, Inc.
   3. Mason Industries, Inc.

B. Hanger-Rod Stiffener: Reinforcing steel angle clamped to hanger rod.

C. Hinged and Swivel Brace Attachments: Multifunctional steel connectors for attaching hangers to rigid channel bracings and restraint cables.

D. Resilient Isolation Washers and Bushings: One-piece, molded, oil- and water-resistant neoprene, with a flat washer face.

2.6 MECHANICAL ANCHOR BOLTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. B-line, an Eaton business.
   2. Hilti, Inc.
   3. Kinetics Noise Control, Inc.
   4. Mason Industries, Inc.

B. Mechanical Anchor Bolts: Drilled-in and stud-wedge or female-wedge type in zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E 488.

2.7 ADHESIVE ANCHOR BOLTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Hilti, Inc.
   2. Kinetics Noise Control, Inc.
   3. Mason Industries, Inc.

B. Adhesive Anchor Bolts: Drilled-in and capsule anchor system containing PVC or urethane methacrylate-based resin and accelerator, or injected polymer or hybrid mortar adhesive. Provide anchor bolts and hardware with zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E 488.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and equipment to receive seismic- and wind-control devices for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

B. Examine roughing-in of reinforcement and cast-in-place anchors to verify actual locations before installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLICATIONS

A. Multiple Pipe Supports: Secure pipes to trapeze member with clamps approved for application by an agency acceptable to authorities having jurisdiction.

B. Hanger-Rod Stiffeners: Install hanger-rod stiffeners where indicated or scheduled on Drawings to receive them and where required to prevent buckling of hanger rods due to seismic forces.

C. Strength of Support and Seismic-Restraint Assemblies: Where not indicated, select sizes of components so strength is adequate to carry present and future static and seismic loads within specified loading limits.

3.3 VIBRATION CONTROL AND SEISMIC-RESTRAINT DEVICE INSTALLATION

A. Coordinate the location of embedded connection hardware with supported equipment attachment and mounting points and with requirements for concrete reinforcement and formwork.

B. Equipment Restraints:
1. Install seismic snubbers on HVAC equipment mounted on vibration isolators. Locate snubbers as close as possible to vibration isolators and bolt to equipment base and supporting structure.
2. Install resilient bolt isolation washers on equipment anchor bolts where clearance between anchor and adjacent surface exceeds 0.125 inch.
3. Install seismic-restraint devices using methods approved by an agency acceptable to authorities having jurisdiction that provides required submittals for component.

C. Piping Restraints:
1. Comply with requirements in MSS SP-127.
2. Space lateral supports a maximum of 40 feet o.c., and longitudinal supports a maximum of 80 feet o.c.
3. Brace a change of direction longer than 12 feet.

D. Install cables so they do not bend across edges of adjacent equipment or building structure.

E. Install seismic-restraint devices using methods approved by an agency acceptable to authorities having jurisdiction that provides required submittals for component.

F. Attachment to Structure: If specific attachment is not indicated, anchor bracing to structure at flanges of beams, at upper truss chords of bar joists, or at concrete members.

G. Drilled-in Anchors:
1. Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not damage existing reinforcing or embedded items during coring or drilling. Notify the structural engineer if reinforcing steel or other embedded items are

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

encountered during drilling. Locate and avoid prestressed tendons, electrical and telecommunications conduit, and gas lines.

2. Do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.
3. Wedge Anchors: Protect threads from damage during anchor installation. Heavy-duty sleeve anchors shall be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
4. Adhesive Anchors: Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
5. Set anchors to manufacturer's recommended torque, using a torque wrench.
6. Install zinc-coated steel anchors for interior and stainless-steel anchors for exterior applications.

3.4 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:
   1. Verify snubber minimum clearances.

C. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION 230548

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 230553 - IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

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. Equipment labels.
   2. Warning signs and labels.
   3. Marking ribbons and rivets.
   4. Warning tags.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

A. Plastic Labels for Equipment:
   1. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8 inch thick, and having predrilled holes for attachment hardware.
   2. Colors:
      a. For installation where label is exposed in finished space:
         1) Letter Color: Black.
         2) Background Color: White.
      b. For all other installations:
         1) Letter Color: White.
         2) Background Color: Black.
   3. Maximum Temperature: Able to withstand temperatures up to 160 deg F.
   4. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
   5. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.
   6. Fasteners: Stainless-steel rivets or self-tapping screws.

B. Label Content: Include equipment's Drawing designation or unique equipment number.
   1. For air handling equipment, include design flow rate in cfm and design static pressure in inches of water column. Include separate label indicating flow and static pressure set prior to Substantial Completion if different from design value.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

2.2 WARNING SIGNS AND LABELS

A. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8 inch thick, and having predrilled holes for attachment hardware.

B. Letter Color: Black.

C. Background Color: Yellow.

D. Maximum Temperature: Able to withstand temperatures up to 160 deg F.

E. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.

F. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.

G. Fasteners: Stainless-steel rivets or self-tapping screws.

H. Label Content: Include caution and warning information plus emergency notification instructions.

2.3 MARKING RIBBONS AND RIVETS

A. Marking Ribbons: Synthetic fiber non-adhesive ribbon, minimum ½-inch nominal width. Color as indicated in Part 3 articles.

B. Marking Rivets: Minimum 3/16-inch nominal diameter pop rivets with colored surface as indicated in Part 3 articles.

2.4 WARNING TAGS

A. Description: Preprinted or partially preprinted accident-prevention tags of plasticized card stock with matte finish suitable for writing.
   1. Size: 3 by 5-1/4 inches minimum.
   2. Fasteners: Brass grommet and wire.
   3. Nomenclature: Large-size primary caption such as "DANGER," "CAUTION," or "DO NOT OPERATE."
   4. Color: Safety-yellow background with black lettering.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean piping and equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3.2 GENERAL INSTALLATION REQUIREMENTS

A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

B. Coordinate installation of identifying devices with locations of access panels and doors.

C. Install identifying devices before installing acoustical ceilings and similar concealment.

3.3 EQUIPMENT LABEL INSTALLATION

A. Install or permanently fasten labels on each major item of mechanical equipment.

B. Locate equipment labels where accessible and visible.

C. For equipment which is concealed above a removable ceiling system or behind an access panel, install an additional equipment label on the access panel or on the ceiling grid rails near the equipment location.

D. For equipment which is exposed in, and only accessible from, finished space (other than those behind access panels or above removable ceilings, such as ceiling mounted ventilators), install equipment labels within equipment such that labels are visible when normal access covers or devices are removed.

3.4 MARKING RIBBON AND RIVET INSTALLATION

A. Install ribbon on all manual volume damper operators in concealed ceiling spaces and all service areas. Tie non-adhesive ribbons in standard knot twice. Leave a minimum of 12 inches of ribbon hanging free.
   1. Colors:
      a. Same as background colors of duct labels specified in other Part 3 articles.

B. Install colored rivet markers in acoustic tile ceiling rails near all manual volume damper (including remote damper actuators), HVAC valve, and concealed equipment locations.
   1. Colors:
      a. Manual Volume Dampers:
         1) Supply Air: Blue.
         2) Return/Exhaust Air: Green.

3.5 WARNING-TAG INSTALLATION

A. Write required message on, and attach warning tags to, equipment and other items where required.

END OF SECTION 230553

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

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. Balancing Air Systems:
   2. Testing, Adjusting, and Balancing Equipment:
      a. Motors.
      b. Condensing units and packaged refrigeration systems.
      c. Heat-transfer coils.
   3. Control system verification.

1.3 DEFINITIONS

A. AABC: Associated Air Balance Council.

B. BAS: Building automation systems.

C. NEBB: National Environmental Balancing Bureau.

D. TAB: Testing, adjusting, and balancing.

E. TABB: Testing, Adjusting, and Balancing Bureau.

F. TAB Specialist: An independent entity, meeting qualifications to perform TAB work.

G. TDH: Total dynamic head.

H. VRF: Variable Refrigerant Flow.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: Within 30 days of Contractor's Notice to Proceed, submit documentation that the TAB specialist and this Project's TAB team members meet the qualifications specified in "Quality Assurance" Article.

B. Certified TAB reports.

C. Instrument calibration reports, to include the following:
   1. Instrument type and make.
   2. Serial number.
   3. Application.
   4. Dates of use.
   5. Dates of calibration.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1.5 QUALITY ASSURANCE

A. TAB Specialists Qualifications: Certified by NEBB or TABB.
   1. TAB Field Supervisor: Employee of the TAB specialist and certified by NEBB or TABB.
   2. TAB Technician: Employee of the TAB specialist and certified by NEBB or TABB as a TAB technician.

B. Instrumentation Type, Quantity, Accuracy, and Calibration: Comply with requirements in ASHRAE 111, Section 4, "Instrumentation."

1.6 FIELD CONDITIONS

A. Full Owner Occupancy: Owner will occupy the site and existing building during entire TAB period. Cooperate with Owner during TAB operations to minimize conflicts with Owner's operations.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems designs that may preclude proper TAB of systems and equipment.

B. Examine installed systems for balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers. Verify that locations of these balancing devices are applicable for intended purpose and are accessible.

C. Examine the approved submittals for HVAC systems and equipment.

D. Examine design data including HVAC system descriptions, statements of design assumptions for environmental conditions and systems output, and statements of philosophies and assumptions about HVAC system and equipment controls.

E. Examine equipment performance data including fan curves.

F. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.

G. Examine test reports specified in individual system and equipment Sections.

H. Examine HVAC equipment and verify that bearings are greased, belts are aligned and tight, filters are clean, and equipment with functioning controls is ready for operation.

I. Examine heat-transfer coils for correct piping connections and for clean and straight fins.

J. Examine operating safety interlocks and controls on HVAC equipment.

K. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3.2 PREPARATION

A. Perform system-readiness checks of HVAC systems and equipment to verify system readiness for TAB work. Include, at a minimum, the following:
   1. Airside:
      a. Duct systems are complete with terminals installed.
      b. Volume dampers are open and functional.
      c. Clean filters are installed.
      d. Fans are operating, free of vibration, and rotating in correct direction.
      e. Variable-frequency controllers' startup is complete, and safeties are verified.
      f. Automatic temperature-control systems are operational.
      g. Ceilings are installed.
      h. Windows and doors are installed.
      i. Suitable access to balancing devices and equipment is provided.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

A. Perform testing and balancing procedures on each system according to the procedures contained in ASHRAE 111, NEBB's "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems", or SMACNA's "HVAC Systems - Testing, Adjusting, and Balancing", and in this Section.

B. Cut insulation, ducts, pipes, and equipment cabinets for installation of test probes to the minimum extent necessary for TAB procedures.
   1. After testing and balancing, install test ports and duct access doors that comply with requirements in Section 233300 "Air Duct Accessories."
   2. Install and join new insulation that matches removed materials. Restore insulation, coverings, vapor barrier, and finish according to Section 230713 "Duct Insulation."

C. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.

D. Take and report testing and balancing measurements in inch-pound (IP) units.

3.4 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

A. Prepare test reports for both fans and outlets. Obtain manufacturer's outlet factors and recommended testing procedures. Cross-check the summation of required outlet volumes with required fan volumes.

B. Determine the best locations in main and branch ducts for accurate duct-airflow measurements.

C. Check airflow patterns from the outdoor-air louvers and dampers and the return- and exhaust-air dampers through the supply-fan discharge and mixing dampers.

D. Verify that motor variable-frequency or electronically commuted speed controls are in place and connected to external control input and output devices.

E. Check dampers for proper position to achieve desired airflow path.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

F. Check for airflow blockages.

G. Check condensate drains for proper connections and functioning.

H. Check for proper sealing of air-handling-unit components.

I. Verify that air duct system is sealed as specified in Section 233113 "Metal Ducts."

3.5 PROCEDURES FOR CONSTANT-VOLUME AND SINGLE-ZONE VARIABLE-VOLUME AIR SYSTEMS

A. Adjust fans to deliver total indicated airflows within the maximum allowable fan speed listed by fan manufacturer.
   1. Measure total airflow.
      a. Set outside-air, return-air, and relief-air dampers for proper position that simulates minimum outdoor-air conditions.
      b. Where duct conditions allow, measure airflow by Pitot-tube traverse. If necessary, perform multiple Pitot-tube traverses to obtain total airflow.
      c. Where duct conditions are not suitable for Pitot-tube traverse measurements, a coil traverse may be acceptable.
      d. If a reliable Pitot-tube traverse or coil traverse is not possible, measure airflow at terminals and calculate the total airflow.
   2. Measure fan static pressures as follows:
      a. Measure static pressure directly at the fan outlet or through the flexible connection.
      b. Measure static pressure directly at the fan inlet or through the flexible connection.
      c. Measure static pressure across each component that makes up the air-handling system.
      d. Report artificial loading of filters at the time static pressures are measured.
   3. Do not make fan-speed adjustments that result in motor overload. Consult equipment manufacturers about fan-speed safety factors. Modulate dampers and measure fan-motor amperage to ensure that no overload occurs. Measure amperage in full-cooling, full-heating, economizer, and any other operating mode to determine the maximum required brake horsepower.

B. Adjust volume dampers for main duct, submain ducts, and major branch ducts to indicated airflows.
   1. Measure airflow of submain and branch ducts.
   2. Adjust submain and branch duct volume dampers for specified airflow.
   3. Re-measure each submain and branch duct after all have been adjusted.

C. Adjust air inlets and outlets for each space to indicated airflows.
   1. Set airflow patterns of adjustable outlets for proper distribution without drafts.
   2. Measure inlets and outlets airflow.
   3. Adjust each inlet and outlet for specified airflow.
   4. Re-measure each inlet and outlet after they have been adjusted.

D. Adjust return and relief air dampers to operate coordinately with outdoor air intake dampers.
   1. For systems with powered return and/or relief, set relief air damper to operate independently of return and outdoor air intake dampers, and set return/relief fan to operate either on/off or modulating speed based on space pressurization or outdoor air intake damper position as detailed in the sequences of operation.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

E. Verify final system conditions.
1. Re-measure and confirm that minimum outdoor, return, and relief airflows are within design. Readjust to design if necessary.
2. Re-measure and confirm that total airflow is within design.
3. Re-measure all final fan operating data, rpms, volts, amps, and static profile.
4. Mark all final settings.
5. Test system in economizer mode. Verify proper operation and adjust if necessary.
6. Verify that space pressurization fan tracking and offset control for proper operation.
7. Measure and record all operating data.
8. Record final fan-performance data.

3.6 PROCEDURES FOR MOTORS

A. Motors 1/2 HP and Larger: Test at final balanced conditions and record the following data:
1. Manufacturer's name, model number, and serial number.
2. Motor horsepower rating.
3. Motor rpm.
4. Phase and hertz.
5. Nameplate and measured voltage, each phase.
6. Nameplate and measured amperage, each phase.
7. Starter size and thermal-protection-element rating.
8. Service factor and frame size.

B. The following motors are not required to be tested:
1. Motors with a nominal rating under 1/6 HP.

3.7 PROCEDURES FOR CONDENSING UNITS AND PACKAGED REFRIGERATION SYSTEMS

A. Verify proper rotation of condenser fans.

B. Measure condenser entering- and leaving-air temperatures.

C. Record fan and motor operating data.

3.8 PROCEDURES FOR HEAT-TRANSFER COILS

A. Measure, adjust, and record the following data for each electric heating coil:
1. Nameplate data.
2. Air velocity at minimum system design flow for reheat coils and duct coils.
3. Entering- and leaving-air temperature at full load.
4. Voltage and amperage input of each phase at full load.
5. Calculated kilowatt at full load.
6. Fuse or circuit-breaker rating for overload protection.

B. Measure, adjust, and record the following data for each refrigerant coil:
1. Dry-bulb temperature of entering and leaving air.
2. Wet-bulb temperature of entering and leaving air.
3. Airflow and air pressure drop for major equipment coils, excluding terminal equipment such as fan-coil units.
4. For dual-mode coils, take readings in cooling and heating mode.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3.9 CONTROLS VERIFICATION

A. In conjunction with system balancing, perform the following:
   1. Verify temperature control system is operating correctly.
   2. Verify pressurization control system is operating correctly and maintaining space pressurization without “hunting” or other adverse operation.
   3. Confirm that the sequences of operation are in compliance with Contract Documents.
   4. Verify that controllers are calibrated and function as intended.
   5. Verify that controller set points are as indicated.
   6. Verify the operation of lockout or interlock systems.
   7. Verify that controlled devices are properly installed and connected to correct controller.
   8. Verify location and installation of sensors to ensure that they sense only intended temperature, humidity, or pressure.

B. Reporting: Include a summary of verifications performed, remaining deficiencies, and variations from indicated conditions.

3.10 TOLERANCES

A. Set HVAC system's airflow rates and water flow rates within the following tolerances:
   1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus or minus 10 percent.
   2. Air Outlets and Inlets: Plus or minus 10 percent.

B. Maintaining pressure relationships as designed shall have priority over the tolerances specified above.

3.11 FINAL REPORT

A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.
   1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
   2. Include a list of instruments used for procedures, along with proof of calibration.
   3. Certify validity and accuracy of field data.

B. Final Report Contents: In addition to certified field-report data, include the following:
   1. Manufacturers' test data.
   2. Field test reports prepared by system and equipment installers.
   3. Other information relative to equipment performance; do not include Shop Drawings and Product Data.

C. General Report Data: In addition to form titles and entries, include the following data:
   1. Title page.
   2. Name and address of the TAB specialist.
   3. Project name.
   4. Project location.
   5. Architect's name and address.
   6. Engineer's name and address.
   7. Contractor's name and address.
   8. Report date.
   9. Signature of TAB supervisor who certifies the report.

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10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
11. Summary of contents including the following:
    a. Indicated versus final performance.
    b. Notable characteristics of systems.
    c. Description of system operation sequence if it varies from the Contract Documents.
12. Nomenclature sheets for each item of equipment.
13. Notes to explain why certain final data in the body of reports vary from indicated values.
14. Test conditions for fans performance forms including the following:
    a. Settings for outdoor-, return-, and exhaust-air dampers.
    b. Conditions of filters.
    c. Cooling coil, wet- and dry-bulb conditions.
    d. Fan drive settings including settings and percentage of maximum pitch diameter.
    e. Fan speed settings for variable-flow systems.
    f. Other system operating conditions that affect performance.

D. Air-Handling-Unit Test Reports: For air-handling units with coils, include the following:
1. Unit Data:
    a. Unit identification.
    b. Location.
    c. Make and type.
    d. Model number and unit size.
    e. Manufacturer's serial number.
    f. Unit arrangement and class.
    g. Discharge arrangement.
    h. Sheave make, size in inches, and bore.
    i. Center-to-center dimensions of sheave and amount of adjustments in inches.
    j. Number, make, and size of belts.
    k. Number, type, and size of filters.
2. Motor Data:
    a. Motor make, and frame type and size.
    b. Horsepower and rpm.
    c. Volts, phase, and hertz.
    d. Full-load amperage and service factor.
    e. Sheave make, size in inches, and bore.
    f. Center-to-center dimensions of sheave and amount of adjustments in inches.
3. Test Data (Indicated and Actual Values):
    a. Total airflow rate in cfm.
    b. Total system static pressure in inches wg.
    c. Fan rpm.
    d. Discharge static pressure in inches wg.
    e. Filter static-pressure differential in inches wg.
    f. Energy recovery device static-pressure differential in inches wg.
    g. Cooling-coil static-pressure differential in inches wg.
    h. Heating-coil static-pressure differential in inches wg.
    i. Outdoor airflow in cfm.
    j. Return airflow in cfm.
    k. Outdoor-air damper position.
    l. Return-air damper position.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

E. Apparatus-Coil Test Reports:
   1. Coil Data:
      a. System identification.
      b. Location.
      c. Coil type.
      d. Number of rows.
      e. Make and model number, if readily accessible.
   2. Test Data (Indicated and Actual Values):
      a. Airflow rate in cfm.
      b. Average face velocity in fpm.
      c. Air pressure drop in inches wg.
      d. Outdoor-air, wet- and dry-bulb temperatures in deg F.
      e. Return-air, wet- and dry-bulb temperatures in deg F.
      f. Entering-air, wet- and dry-bulb temperatures in deg F.
      g. Leaving-air, wet- and dry-bulb temperatures in deg F.
      h. Include temperature measurements in both heating and cooling mode for dual-mode coils if possible.
      i. Refrigerant suction temperature in deg F in cooling mode, refrigerant hot gas temperature in deg F in heating mode.

F. Electric-Coil Test Reports: For electric furnaces, duct coils, and electric coils installed in central-station air-handling units, include the following:
   1. Unit Data:
      a. System identification.
      b. Location.
      c. Coil identification.
      d. Capacity in kW.
      e. Number of stages.
      f. Connected volts, phase, and hertz.
      g. Rated amperage.
      h. Airflow rate in cfm.
      i. Face area in sq. ft.
      j. Minimum face velocity in fpm.
   2. Test Data (Indicated and Actual Values):
      a. Heat output in Btu/h.
      b. Airflow rate in cfm.
      c. Air velocity in fpm.
      d. Entering-air temperature in deg F.
      e. Leaving-air temperature in deg F.
      f. Voltage at each connection.
      g. Amperage for each phase.

G. Fan Test Reports: For supply, return, and exhaust fans, include the following:
   1. Fan Data:
      a. System identification.
      b. Location.
      c. Make and type.
      d. Model number and size.
      e. Manufacturer's serial number.
      f. Arrangement and class.
      g. Sheave make, size in inches, and bore.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

h. Center-to-center dimensions of sheave and amount of adjustments in inches.

2. Motor Data:
   a. Motor make, and frame type and size.
   b. Horsepower and rpm.
   c. Volts, phase, and hertz.
   d. Full-load amperage and service factor.
   e. Sheave make, size in inches, and bore.
   f. Center-to-center dimensions of sheave, and amount of adjustments in inches.
   g. Number, make, and size of belts.
3. Test Data (Indicated and Actual Values):
   a. Total airflow rate in cfm.
   b. Total system static pressure in inches wg.
   c. Fan rpm.
   d. Discharge static pressure in inches wg.
   e. Suction static pressure in inches wg.
   f. Fan speed controller settings at final balanced condition(s).

H. Round, Flat-Oval, and Rectangular Duct Traverse Reports: Include a diagram with a grid representing the duct cross-section and record the following:
1. Report Data:
   a. System and air-handling-unit number.
   b. Location and zone.
   c. Traverse air temperature in deg F.
   d. Duct static pressure in inches wg.
   e. Duct size in inches.
   f. Duct area in sq. ft.
   g. Indicated airflow rate in cfm.
   h. Indicated velocity in fpm.
   i. Actual airflow rate in cfm.
   j. Actual average velocity in fpm.
   k. Barometric pressure in psig.

I. Air-Terminal-Device Reports:
1. Unit Data:
   a. System and air-handling unit identification.
   b. Location and zone.
   c. Apparatus used for test.
   d. Area served.
   e. Size.
2. Test Data (Indicated and Actual Values):
   a. Airflow rate in cfm.
   b. Air velocity in fpm.
   c. Preliminary airflow rate as needed in cfm.
   d. Preliminary velocity as needed in fpm.
   e. Final airflow rate in cfm.
   f. Final velocity in fpm.
   g. Space temperature in deg F.

J. Instrument Calibration Reports:
1. Report Data:
   a. Instrument type and make.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

b. Serial number.
c. Application.
d. Dates of use.
e. Dates of calibration.

END OF SECTION 230593

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 230713 - DUCT INSULATION

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 insulating the following duct services:
   1. Indoor, concealed supply and return air.

B. Related Sections:
   1. Section 233113 "Metal Ducts" for duct liners.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory- and field-applied if any).

1.4 QUALITY ASSURANCE

A. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products according to ASTM E 84, by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.
   1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
   2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

1.6 COORDINATION

A. Coordinate sizes and locations of supports, hangers, and insulation shields specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."

B. Coordinate clearance requirements with duct Installer for duct insulation application. Before preparing ductwork Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

1.7 SCHEDULING

A. Schedule insulation application after sealing duct systems.

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B. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

A. Comply with requirements in "Duct Insulation Schedule, General," and "Indoor Duct and Plenum Insulation Schedule" articles for where insulating materials shall be applied.

B. Products shall not contain asbestos, lead, mercury, or mercury compounds.

C. Products that come in contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested according to ASTM C 871.

D. Foam insulation materials shall not use CFC or HCFC blowing agents in the manufacturing process.

E. Mineral-Fiber Blanket Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 553, Type II and ASTM C 1290, Type III with factory-applied FSK jacket. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. CertainTeed Corporation.
      b. Johns Manville; a Berkshire Hathaway company.
      c. Knauf Insulation.
      d. Manson Insulation Inc.
      e. Owens Corning.

F. Mineral-Fiber Board Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 612, Type IA or Type IB. For duct and plenum applications, provide insulation with factory-applied FSK jacket. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. CertainTeed Corporation.
      b. Johns Manville; a Berkshire Hathaway company.
      c. Knauf Insulation.
      d. Manson Insulation Inc.
      e. Owens Corning.

2.2 ADHESIVES

A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated unless otherwise indicated.
   1. Adhesives shall have a VOC content of 50 g/L or less.

B. Mineral-Fiber Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.
   1. For indoor applications, adhesive shall have a VOC content of 80 g/L or less.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

C. ASJ Adhesive, and FSK Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.
   1. For indoor applications, adhesive shall have a VOC content of 50 g/L or less.

2.3 MASTICS

A. Materials shall be compatible with insulation materials, jackets, and substrates; comply with MIL-PRF-19565C, Type II.
   1. VOC Content: 300 g/L or less.
   2. Verify that products listed comply with water-vapor permeance. Require proof of performance and certified test reports from vapor-barrier mastic manufacturer to support product literature claims.

B. Vapor-Barrier Mastic: Water based; suitable for indoor use on below ambient services.
   1. Water-Vapor Permeance: ASTM E 96/E 96M, Procedure B, 0.013 perm at 43-mil dry film thickness.
   2. Service Temperature Range: Minus 20 to plus 180 deg F.
   3. Solids Content: ASTM D 1644, 58 percent by volume and 70 percent by weight.
   4. Color: White.

C. Vapor-Barrier Mastic: Solvent based; suitable for outdoor use on below ambient services.
   1. Water-Vapor Permeance: ASTM F 1249, 0.05 perm at 30-mil dry film thickness.
   2. Service Temperature Range: Minus 50 to plus 220 deg F.
   3. Solids Content: ASTM D 1644, 33 percent by volume and 46 percent by weight.
   4. Color: White.

D. Breather Mastic: Water based; suitable for indoor and outdoor use on above ambient services.
   1. Water-Vapor Permeance: ASTM F 1249, 1.8 perms at 0.0625-inch dry film thickness.
   2. Service Temperature Range: Minus 20 to plus 180 deg F.
   3. Solids Content: 60 percent by volume and 66 percent by weight.
   4. Color: White.

2.4 SEALANTS

A. FSK and Metal Jacket Flashing Sealants:
   1. Materials shall be compatible with insulation materials, jackets, and substrates.
   2. Fire- and water-resistant, flexible, elastomeric sealant.
   3. Service Temperature Range: Minus 40 to plus 250 deg F.
   4. Color: Aluminum.
   5. Sealant shall have a VOC content of 420 g/L or less.

B. ASJ Flashing Sealants, and Vinyl and PVC Jacket Flashing Sealants:
   1. Materials shall be compatible with insulation materials, jackets, and substrates.
   2. Fire- and water-resistant, flexible, elastomeric sealant.
   3. Service Temperature Range: Minus 40 to plus 250 deg F.
   4. Color: White.
   5. Sealant shall have a VOC content of 420 g/L or less.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

2.5 FACTORY-APPLIED JACKETS

A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:
   1. FSK Jacket: Aluminum-foil, fiberglass-reinforced scrim with kraft-paper backing; complying with ASTM C 1136, Type II.

2.6 TAPES

A. FSK Tape: Foil-face, vapor-retarder tape matching factory-applied jacket with acrylic adhesive; complying with ASTM C 1136.
   1. Width: 3 inches.
   2. Thickness: 6.5 mils.
   3. Adhesion: 90 ounces force/inch in width.
   4. Elongation: 2 percent.
   5. Tensile Strength: 40 lbf/inch in width.
   6. FSK Tape Disks and Squares: Precut disks or squares of FSK tape.

B. Aluminum-Foil Tape: Vapor-retarder tape with acrylic adhesive.
   1. Width: 2 inches.
   2. Thickness: 3.7 mils.
   3. Adhesion: 100 ounces force/inch in width.
   4. Elongation: 5 percent.
   5. Tensile Strength: 34 lbf/inch in width.

2.7 SECUREMENTS

A. Bands:
   1. Stainless Steel: ASTM A 167 or ASTM A 240/A 240M, Type 304 or Type 316; 0.015 inch thick, 3/4 inch wide with wing seal or closed seal.
   2. Aluminum: ASTM B 209, Alloy 3003, 3005, 3105, or 5005; Temper H-14, 0.020 inch thick, 3/4 inch wide with wing seal or closed seal.

B. Insulation Pins and Hangers:
   1. Capacitor-Discharge-Weld Pins: Copper- or zinc-coated steel pin, fully annealed for capacitor-discharge welding, 0.135-inch-diameter shank, length to suit depth of insulation indicated.
   2. Cupped-Head, Capacitor-Discharge-Weld Pins: Copper- or zinc-coated steel pin, fully annealed for capacitor-discharge welding, 0.106-inch- diameter shank, length to suit depth of insulation indicated with integral 1-1/2-inch galvanized carbon-steel washer.
   3. Metal, Adhesively Attached, Perforated-Base Insulation Hangers: Baseplate welded to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:
      a. Baseplate: Perforated, galvanized carbon-steel sheet, 0.030 inch thick by 2 inches square.
      b. Spindle: Copper- or zinc-coated, low-carbon steel, fully annealed, 0.106-inch-diameter shank, length to suit depth of insulation indicated.
      c. Adhesive: Recommended by hanger manufacturer. Product with demonstrated capability to bond insulation hanger securely to substrates indicated without damaging insulation, hangers, and substrates.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

4. Nonmetal, Adhesively Attached, Perforated-Base Insulation Hangers: Baseplate fastened to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:
    a. Baseplate: Perforated, nylon sheet, 0.030 inch thick by 1-1/2 inches in diameter.
    b. Spindle: Nylon, 0.106-inch-diameter shank, length to suit depth of insulation indicated, up to 2-1/2 inches.
    c. Adhesive: Recommended by hanger manufacturer. Product with demonstrated capability to bond insulation hanger securely to substrates indicated without damaging insulation, hangers, and substrates.
5. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch-thick, galvanized-steel sheet, with beveled edge sized as required to hold insulation securely in place but not less than 1-1/2 inches in diameter.
    a. Protect ends with capped self-locking washers incorporating a spring steel insert to ensure permanent retention of cap in exposed locations.

C. Staples: Outward-clinching insulation staples, nominal 3/4-inch-wide, stainless steel or Monel.

D. Wire: 0.080-inch nickel-copper alloy.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.
1. Verify that systems to be insulated have been tested and are free of defects.
2. Verify that surfaces to be insulated are clean and dry.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces free of voids throughout the length of ducts and fittings.

B. Install insulation materials, vapor barriers or retarders, jackets, and thicknesses required for each item of duct system as specified in insulation system schedules.

C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.

D. Install insulation with longitudinal seams at top and bottom of horizontal runs.

E. Install multiple layers of insulation with longitudinal and end seams staggered.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

F. Keep insulation materials dry during application and finishing.

G. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.

H. Install insulation with least number of joints practical.

I. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.
   1. Install insulation continuously through hangers and around anchor attachments.
   2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
   3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.

J. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.

K. Install insulation with factory-applied jackets as follows:
   1. Draw jacket tight and smooth.
   2. Cover circumferential joints with 3-inch-wide strips of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches o.c.
   3. Overlap jacket longitudinal seams at least 1-1/2 inches. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 4 inches o.c.
      a. For below ambient services, apply vapor-barrier mastic over staples.
   4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
   5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to duct flanges and fittings.

L. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.

M. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.

N. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.

3.4 PENETRATIONS

A. Insulation Installation at Roof Penetrations: Install insulation continuously through roof penetrations.
   1. Seal penetrations with flashing sealant.
   2. For applications requiring only indoor insulation, terminate insulation above roof surface and seal with joint sealant. For applications requiring indoor and outdoor insulation,

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

install insulation for outdoor applications tightly joined to indoor insulation ends. Seal joint with joint sealant.

3. Extend jacket of outdoor insulation outside roof flashing at least 2 inches below top of roof flashing.
4. Seal jacket to roof flashing with flashing sealant.

B. Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated): Install insulation continuously through walls and partitions.

3.5 INSTALLATION OF MINERAL-FIBER INSULATION

A. Blanket Insulation Installation on Ducts and Plenums: Secure with adhesive and insulation pins.
1. Apply adhesives according to manufacturer's recommended coverage rates per unit area, for 50 percent coverage of duct and plenum surfaces.
2. Apply adhesive to entire circumference of ducts and to all surfaces of fittings and transitions.
3. Install either capacitor-discharge-weld pins and speed washers or cupped-head, capacitor-discharge-weld pins on sides and bottom of horizontal ducts and sides of vertical ducts as follows:
    a. On duct sides with dimensions 18 inches and smaller, place pins along longitudinal centerline of duct. Space 3 inches maximum from insulation end joints, and 16 inches o.c.
    b. On duct sides with dimensions larger than 18 inches, place pins 16 inches o.c. each way, and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing.
    c. Pins may be omitted from top surface of horizontal, rectangular ducts and plenums.
    d. Do not overcompress insulation during installation.
    e. Impale insulation over pins and attach speed washers.
    f. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing.
4. For ducts and plenums with surface temperatures below ambient, install a continuous unbroken vapor barrier. Create a facing lap for longitudinal seams and end joints with insulation by removing 2 inches from one edge and one end of insulation segment. Secure laps to adjacent insulation section with 1/2-inch outward-clinching staples, 1-inch o.c. Install vapor barrier consisting of factory- or field-applied jacket, adhesive, vapor-barrier mastic, and sealant at joints, seams, and protrusions.
    a. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-barrier seal.
    b. Install vapor stops for ductwork and plenums operating below 50 deg F at 18-foot intervals. Vapor stops shall consist of vapor-barrier mastic applied in a Z-shaped pattern over insulation face, along butt end of insulation, and over the surface. Cover insulation face and surface to be insulated a width equal to two times the insulation thickness, but not less than 3 inches.
5. Overlap unfaced blankets a minimum of 2 inches on longitudinal seams and end joints. At end joints, secure with steel bands spaced a maximum of 18 inches o.c.
6. Install insulation on rectangular duct elbows and transitions with a full insulation section for each surface. Install insulation on round and flat-oval duct elbows with individually mitered gores cut to fit the elbow.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

7. Insulate duct stiffeners, hangers, and flanges that protrude beyond insulation surface with 6-inch-wide strips of same material used to insulate duct. Secure on alternating sides of stiffener, hanger, and flange with pins spaced 6 inches o.c.

B. Board Insulation Installation on Ducts and Plenums: Secure with adhesive and insulation pins.
1. Apply adhesives according to manufacturer's recommended coverage rates per unit area, for 50 percent coverage of duct and plenum surfaces.
2. Apply adhesive to entire circumference of ducts and to all surfaces of fittings and transitions.
3. Install either capacitor-discharge-weld pins and speed washers or cupped-head, capacitor-discharge-weld pins on sides and bottom of horizontal ducts and sides of vertical ducts as follows:
   a. On duct sides with dimensions 18 inches and smaller, place pins along longitudinal centerline of duct. Space 3 inches maximum from insulation end joints, and 16 inches o.c.
   b. On duct sides with dimensions larger than 18 inches, space pins 16 inches o.c. each way, and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing.
   c. Pins may be omitted from top surface of horizontal, rectangular ducts and plenums.
   d. Do not over compress insulation during installation.
   e. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing.
4. For ducts and plenums with surface temperatures below ambient, install a continuous unbroken vapor barrier. Create a facing lap for longitudinal seams and end joints with insulation by removing 2 inches from one edge and one end of insulation segment. Secure laps to adjacent insulation section with 1/2-inch outward-clinching staples, 1-inch o.c. Install vapor barrier consisting of factory- or field-applied jacket, adhesive, vapor-barrier mastic, and sealant at joints, seams, and protrusions.
   a. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-barrier seal.
   b. Install vapor stops for ductwork and plenums operating below 50 deg F at 18-foot intervals. Vapor stops shall consist of vapor-barrier mastic applied in a Z-shaped pattern over insulation face, along butt end of insulation, and over the surface. Cover insulation face and surface to be insulated a width equal to two times the insulation thickness, but not less than 3 inches.
5. Install insulation on rectangular duct elbows and transitions with a full insulation section for each surface. Groove and score insulation to fit as closely as possible to outside and inside radius of elbows. Install insulation on round and flat-oval duct elbows with individually mitered gores cut to fit the elbow.
6. Insulate duct stiffeners, hangers, and flanges that protrude beyond insulation surface with 6-inch-wide strips of same material used to insulate duct. Secure on alternating sides of stiffener, hanger, and flange with pins spaced 6 inches o.c.

3.6 DUCT INSULATION SCHEDULE, GENERAL

A. Plenums and Ducts Requiring Insulation:
1. Indoor, concealed supply air.
2. Indoor, concealed return.

B. Items Not Insulated:

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Metal ducts with duct liner of sufficient thickness to comply with energy code and ASHRAE/IESNA 90.1.
2. Factory-insulated flexible ducts.
3. Factory-insulated plenums and casings.
4. Flexible connectors.
5. Vibration-control devices.
6. Factory-insulated access panels and doors.

3.7 INDOOR DUCT AND PLENUM INSULATION SCHEDULE

A. Where duct liners are indicated on Drawings, they shall be installed as the selected option per the sections below unless deviations are submitted to, and approved by, the Engineer. Otherwise, the choice of material in the sections below is the Contractor's choice.

B. Concealed, round and flat-oval, supply-air duct insulation shall be the following:
1. Mineral-Fiber Blanket: 1-1/2 inches thick and 0.75-lb/cu. ft. nominal density. Minimum installed R-value R-3.3.

C. Concealed, round and flat-oval, return-air duct insulation shall be the following:
1. Mineral-Fiber Blanket: 1-1/2 inches thick and 0.75-lb/cu. ft. nominal density. Minimum installed R-value R-3.3.

D. Concealed, rectangular, supply-air duct insulation shall be one of the following:
1. Mineral-Fiber Blanket: 1-1/2 inches thick and 0.75-lb/cu. ft. nominal density. Minimum installed R-value R-3.3.
2. Duct Liner: 1 inch thick and 1.5 lb/cu ft to 3 lb/cu ft. Minimum installed R-value R-3.3.

E. Concealed, rectangular, return-air duct insulation shall be the following:
1. Mineral-Fiber Blanket: 1-1/2 inches thick and 0.75-lb/cu. ft. nominal density. Minimum installed R-value R-3.3.

F. Concealed, supply-air plenum insulation shall be the following:
1. Mineral-Fiber Board: 1-1/2 inches thick and 6-lb/cu. ft. nominal density. Minimum installed R-value R-3.3.

G. Concealed, return-air plenum insulation shall be the following:
1. Mineral-Fiber Board: 1-1/2 inches thick and 6-lb/cu. ft. nominal density. Minimum installed R-value R-3.3.

END OF SECTION 230713

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SECTION 230923 - DIRECT DIGITAL CONTROL (DDC) SYSTEM FOR HVAC

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. Modifications to existing campus DDC system for monitoring and controlling of new HVAC systems.

B. Related Requirements:
   1. Sequences of operation indicated on Drawings.
   2. Refer to Drawings for information on room pressurization control system accessories.
   3. Refer to Drawings for additional information on DDC system scope.
   4. Individual equipment Sections for units with factory-provided DDC system interfaces and operation requirements.

1.3 DEFINITIONS

A. Algorithm: A logical procedure for solving a recurrent mathematical problem. A prescribed set of well-defined rules or processes for solving a problem in a finite number of steps.

B. Analog: A continuously varying signal value, such as current, flow, pressure, or temperature.

C. BACnet Specific Definitions:
   1. BACnet: Building Automation Control Network Protocol, ASHRAE 135. A communications protocol allowing devices to communicate data over and services over a network.
   2. BACnet Interoperability Building Blocks (BIBBs): BIBB defines a small portion of BACnet functionality that is needed to perform a particular task. BIBBs are combined to build the BACnet functional requirements for a device.
   3. BACnet/IP: Defines and allows using a reserved UDP socket to transmit BACnet messages over IP networks. A BACnet/IP network is a collection of one or more IP subnetworks that share the same BACnet network number.
   4. BACnet Testing Laboratories (BTL): Organization responsible for testing products for compliance with ASHRAE 135, operated under direction of BACnet International.
   5. PICS (Protocol Implementation Conformance Statement): Written document that identifies the particular options specified by BACnet that are implemented in a device.

D. Binary: Two-state signal where a high signal level represents ON" or "OPEN" condition and a low signal level represents "OFF" or "CLOSED" condition. "Digital" is sometimes used interchangeably with "Binary" to indicate a two-state signal.

E. Controller: Generic term for any standalone, microprocessor-based, digital controller residing on a network, used for local or global control. Three types of controllers are indicated: Network Controller, Programmable Application Controller, and Application-Specific Controller.

F. COV: Changes of value.

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G. DDC System Provider: Authorized representative of, and trained by, DDC system manufacturer and responsible for execution of DDC system Work indicated.

H. Distributed Control: Processing of system data is decentralized and control decisions are made at subsystem level. System operational programs and information are provided to remote subsystems and status is reported back. On loss of communication, subsystems shall be capable of operating in a standalone mode using the last best available data.

I. Gateway: Bidirectional protocol translator that connects control systems that use different communication protocols.

J. HLC: Heavy load conditions.

K. I/O: System through which information is received and transmitted. I/O refers to analog input (AI), binary input (BI), analog output (AO) and binary output (BO). Analog signals are continuous and represent control influences such as flow, level, moisture, pressure, and temperature. Binary signals convert electronic signals to digital pulses (values) and generally represent two-position operating and alarm status. "Digital," (DI and (DO), is sometimes used interchangeably with "Binary," (BI) and (BO), respectively.

L. LAN: Local area network.

M. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control, signaling power-limited circuits.

N. MS/TP: Master-slave/token-passing, IEE 8802-3. Datalink protocol LAN option that uses twisted-pair wire for low-speed communication.

O. MTBF: Mean time between failures.

P. Network Controller: Digital controller, which supports a family of programmable application controllers and application-specific controllers, that communicates on peer-to-peer network for transmission of global data.

Q. Network Repeater: Device that receives data packet from one network and rebroadcasts it to another network. No routing information is added to protocol.

R. Peer to Peer: Networking architecture that treats all network stations as equal partners.

S. PUE: Performance usage effectiveness.

T. RAM: Random access memory.

U. RF: Radio frequency.

V. TCP/IP: Transport control protocol/Internet protocol.

W. USB: Universal Serial Bus.

X. User Datagram Protocol (UDP): This protocol assumes that the IP is used as the underlying protocol.

Y. VAV: Variable air volume.

Z. WLED: White light emitting diode.

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1.4 ACTION SUBMITTALS

A. Product Data: For each type of product include the following:
   1. Construction details, material descriptions, dimensions of individual components and profiles, and finishes.
   2. Operating characteristics, electrical characteristics, and furnished accessories indicating process operating range, accuracy over range, control signal over range, default control signal with loss of power, calibration data specific to each unique application, electrical power requirements, and limitations of ambient operating environment, including temperature and humidity.
   3. Product description with complete technical data, performance curves, and product specification sheets.
   4. Installation, operation and maintenance instructions including factors effecting performance.
   5. Bill of materials of indicating quantity, manufacturer, and extended model number for each unique product.
      a. New DDC controllers.
      b. New Accessories.
      c. New Instruments.
   6. When manufacturer's product datasheets apply to a product series rather than a specific product model, clearly indicate and highlight only applicable information.

B. Shop Drawings:
   1. General Requirements:
      a. Include cover drawing with Project name, location, Owner, Architect, Contractor and issue date with each Shop Drawings submission.
      b. Include a drawing index sheet listing each drawing number and title that matches information in each title block.
      c. Drawings Size: 24 by 36 inches (Architectural D) or 11 by 17 inches at full drawing scale.
   2. Include plans and mounting details where applicable.
   3. Include details of product assemblies. Indicate location and size of each field connection.
   4. Plan Drawings indicating the following:
      a. Screened backgrounds of walls, structural grid lines, and all existing HVAC equipment.
      b. Each new and existing DDC controller, new and existing instruments connecting to DDC controller, and new equipment connecting to new and existing DDC controllers, if included in Project.
   5. Schematic drawings for each new or replacement controlled HVAC system component indicating the following:
      a. I/O points labeled with point names shown.
      b. A graphic showing location of control I/O in proper relationship to HVAC system.
      c. Wiring diagram with each I/O point having a unique identification and indicating labels for all wiring terminals.
      d. Unique identification of each I/O that shall be consistently used between different drawings showing same point.
      e. Elementary wiring diagrams of controls for HVAC equipment including interlocks, switches, relays and interface to DDC controllers.
      f. Narrative sequence of operation.
   6. DDC system network riser diagram indicating the following:
      a. Each device connected to network with unique identification for each, including both existing (which are related to the work of this project) and new devices.

1.5 CLOSEOUT SUBMITTALS

A. Updated Operation and Maintenance Data: For DDC system to include in emergency, operation and maintenance manuals.
   1. Include the following:
      a. Project Record Drawings of as-built versions of submittal Shop Drawings provided in electronic PDF format.

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b. Names, addresses, e-mail addresses and 24-hour telephone numbers of Installer and service representatives for DDC system and products.
c. Backup copy of existing, new, and modified graphic files, programs, and database which is related to work of this project on electronic media such as DVDs.
d. Licenses, guarantees, and warranty documents.
e. Recommended preventive maintenance procedures for system components, including schedule of tasks such as inspection, cleaning, and calibration; time between tasks; and task descriptions.
f. Owner training materials.

1.6 QUALITY ASSURANCE

A. DDC System Provider Qualifications:
1. Authorized representative of, and trained by, existing building's DDC system manufacturer.
2. In-place facility located within 30 miles of Project.
3. Demonstrated past experience with installation of DDC system products being installed for period within five consecutive years before time of bid.
4. Demonstrated past experience on five projects of similar complexity, scope and value.
5. Each person assigned to Project shall have demonstrated past experience.
6. Staffing resources of competent and experienced full-time employees that are assigned to execute work according to schedule.
7. Service and maintenance staff assigned to support Project during warranty period.

1.7 WARRANTY

A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace products that fail in materials or workmanship within specified warranty period.
1. Failures shall be adjusted, repaired, or replaced at no additional cost or reduction in service to Owner.
2. Include updates or upgrades to software and firmware if necessary to resolve deficiencies.
a. Install updates only after receiving Owner's written authorization.
3. Warranty service shall occur during normal business hours and commence within 24 hours of Owner's warranty service request.
4. Warranty Period: Two year(s) from date of Substantial Completion.
5. Warranty shall apply to all new components and all system software programming which is modified, upgraded, or replaced as part of this project.

PART 2 - PRODUCTS

2.1 DDC SYSTEM MANUFACTURERS

A. Project building and additional buildings on Owner's campus and remote sites are equipped with an existing DDC system and all components and software provided shall be compatible with the existing system.

B. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. Johnson Controls.

2.2 DDC SYSTEM DESCRIPTION

A. Existing building's primary air handling, heating, and cooling systems are controlled by standalone controls. New equipment within this building is to be connected to Owner's existing local area network within the project building to allow equipment to be monitored/interface with existing campus DDC system at other buildings over BACnet IP/Ethernet. Owner shall be responsible for local area network connection in project building and connectivity to DDC system at adjacent buildings as required.

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B. Contractor shall provide all required labor, materials, permits, design, installation, and commissioning work to modify existing campus control system as necessary to accommodate new components and sequence of operation modifications indicated on drawings and in specification sections. Contractor shall be responsible for verification of site conditions and determination of the effort and materials required to monitor and control the proposed equipment. Any deficiencies shall be reported to the engineer during the bidding process. No change orders will be approved after the bid opening for contractor's failure to evaluate all site conditions and verify compatibility with new equipment and ability of existing equipment to be operated with new sequences.

2.3 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional to design existing campus DDC system modifications to satisfy requirements indicated.
   1. System Performance Objectives:
      a. DDC system shall continue to manage all existing HVAC systems and components that it currently controls at other buildings on Owner’s campus and remote buildings.
      b. DDC system control shall monitor and operate new HVAC systems and components to achieve specified performance while using the least possible energy.
      c. DDC system shall respond to power failures, HVAC equipment failures, and adverse and emergency conditions encountered through connected I/O points.

B. Continuity of Operation after Electric Power Interruption:
   1. Equipment and associated factory-installed controls, field-installed controls, electrical equipment, and power supply connected to building normal power systems shall automatically return equipment and associated controls to operating state occurring immediately before loss of normal power, without need for manual intervention by operator when power is restored.

2.4 SYSTEM ARCHITECTURE

A. Current system architecture shall be maintained in operation, with additional hardware components as needed to communicate with and operate new DDC controllers and other equipment.

B. Where compatible controllers are available as a factory option from an equipment manufacturer, the equipment shall utilize this option and be connected natively to the DDC system communications network over the owner’s local area and campus area IP/Ethernet network. Where compatible controllers are not available, compatible DDC interface controllers/devices shall be provided to interface hardwired points of equipment to the DDC system over BACnet IP similar to a native controller.

2.5 DDC CONTROLLERS

A. Existing DDC controllers which supervise and control other controllers on the network shall remain in operation. Programming shall be altered as necessary to accommodate new controllers which are added to the network or changes made to existing controllers that are re-used. If existing DDC controllers cannot be reused with the new system configuration they shall be replaced to the extent necessary to do so.

B. Input and Output Point Interface For New Controllers:
   1. Hardwired input and output points shall connect to network, programmable application and application-specific controllers.
   2. Input and output points shall be protected so shorting of point to itself, to another point, or to ground will not damage controller.
   3. Input and output points shall be protected from voltage up to 24 V of any duration so that contact will not damage controller.
   4. AIs:
      a. AIs shall include monitoring of low-voltage (zero- to 10-V dc), current (4 to 20 mA) and resistance signals from thermistor and RTD sensors.

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b. AIs shall be compatible with, and field configurable to, sensor and transmitters installed.
c. Controller AIs shall perform analog-to-digital (A-to-D) conversion with a minimum resolution to comply with accuracy requirements.
d. Capable of being individually calibrated for zero and span.

5. AOs:
   a. Controller AOs shall perform analog-to-digital (A-to-D) conversion with a minimum resolution of 8 bits or better to comply with accuracy requirements.
   b. Output signals shall have a range of 4 to 20 mA dc or zero- to 10-V dc as required to include proper control of output device.
   c. Capable of being individually calibrated for zero and span.
6. BIs:
   a. Controller BIs shall accept contact closures and shall ignore transients of less than 5-ms duration.
   b. Isolation and protection against an applied steady-state voltage of up to 180-V ac peak.
   c. BIs shall include a wetting current of at least 12 mA to be compatible with commonly available control devices and shall be protected against effects of contact bounce and noise.
   d. BIs shall sense "dry contact" closure without external power (other than that provided by the controller) being applied.
7. BOs:
   a. Controller BOs shall include relay contact closures or triac outputs for momentary and maintained operation of output devices.
      1) Relay contact closures shall have a minimum duration of 0.1 second. Relays shall include at least 180 V of isolation. Electromagnetic interference suppression shall be provided on all output lines to limit transients to non-damaging levels. Minimum contact rating shall be 1 A at 24-V ac.
      2) Triac outputs shall include at least 180 V of isolation. Minimum contact rating shall be 1 A at 24-V ac.
   b. BOs shall include for two-state operation or a pulsed low-voltage signal for pulse-width modulation control.
   c. BOs shall be selectable for either normally open or normally closed operation.

2.6 PROGRAMMABLE APPLICATION CONTROLLERS

A. General Programmable Application Controller Requirements:
1. Include adequate number of controllers to achieve performance indicated.
2. Controller shall have enough memory to support its operating system, database, and programming requirements.
3. Controllers that perform scheduling shall have a real-time clock.
4. Controllers shall be fully programmable.

B. Communication:
1. Programmable application controllers shall communicate with other devices on network.

2.7 APPLICATION-SPECIFIC CONTROLLERS

A. Description: Microprocessor-based controllers, which through hardware or firmware design are dedicated to control a specific piece of equipment. Controllers are not fully user-programmable but are configurable and customizable for operation of equipment they are designed to control.

B. Communication: Application-specific controllers shall communicate with other application-specific controller and devices on network, and to programmable application and network controllers.

2.8 ENCLOSURES

A. General Enclosure Requirements:

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. House each controller and associated control accessories in controls enclosures of the equipment it controls when possible. If the equipment control enclosure cannot be used or an enclosure is otherwise required, provide a single enclosure for all controllers and DDC equipment associated with the particular device or equipment being controlled. Enclosure shall serve as central tie-in point for control devices such as switches, transmitters, transducers, power supplies and transformers.
2. Individual wall-mounted single-door enclosures shall not exceed 24inches wide and 24 inches high.
3. Include wall-mounted enclosures with brackets suitable for mounting enclosures to wall or freestanding support stand as indicated.

B. Internal Arrangement:
1. Internal layout of enclosure shall group and protect electric and electronic components associated with a controller, but not an integral part of controller.
2. Arrange layout to group similar products together.
3. Include a barrier between line-voltage and low-voltage electrical and electronic products.
4. Factory or shop install products, tubing, cabling and wiring complying with requirements and standards indicated.
5. Terminate field cable and wire using heavy-duty terminal blocks.
6. Include spare terminals, equal to not less than 10 percent of used terminals.
7. Install a maximum of two wires on each side of a terminal.
8. Include enclosure field power supply with a toggle-type switch located at entrance inside enclosure to disconnect power if items in enclosure require power supply separate from control power provided by associated equipment.
9. Mount products within enclosure on removable internal panel(s).
10. Route tubing cable and wire located inside enclosure within a raceway with a continuous removable cover.
11. Label each end of cable, wire and tubing in enclosure following an approved identification system that extends from field I/O connection and all intermediate connections throughout length to controller connection.

C. Environmental Requirements:
1. Enclosure shall be generally designed with components that do not require active ventilation, heating, or cooling. Use larger enclosure or ventilation or heating means for devices which must have these provisions.

D. Wall-Mounted, NEMA 250, Type 1:
1. Enclosure shall be NRTL listed according to UL 50 or UL 50E.
2. Construct enclosure of steel:
3. Finish enclosure inside and out with polyester powder coating that is electrostatically applied and then baked to bond to substrate.
    a. Exterior color shall be manufacturer's standard.
    b. Interior color shall be manufacturer's standard.
4. Hinged door full size of front face of enclosure and supported using multiple butt hinges.
5. Removable internal panel with a white polyester powder coating that is electrostatically applied and then baked to bond to substrate.
    a. Size less than 24 in.: Solid or Perforated steel, 0.053 in. thick.
6. Internal panel mounting hardware, grounding hardware and sealing washers.
7. Grounding stud on enclosure body.

2.9 RELAYS

A. General-Purpose Relays:
1. Relays shall be heavy duty and rated for at least 10 A at 250-V ac and 60 Hz.
2. Relays shall be either single pole double throw (SPDT), double pole double throw (DPDT), or three-pole double throw, depending on the control application.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3. Relays shall have LED indication.
4. Performance:
    a. Mechanical Life: At least 10 million cycles.
    b. Electrical Life: At least 100,000 cycles at rated load.
    c. Pickup Time: 15 ms or less.
    d. Dropout Time: 10 ms or less.
    e. Pull-in Voltage: 85 percent of rated voltage.
    f. Dropout Voltage: 50 percent of nominal rated voltage.
    g. Power Consumption: 2 VA.
    h. Ambient Operating Temperatures: Minus 40 to 115 deg F.

B. Current Sensing Relay:
1. Monitors ac current.
2. Independent adjustable controls for pickup and dropout current.
3. Energized when supply voltage is present and current is above pickup setting.
4. De-energizes when monitored current is below dropout current.
5. Dropout current is adjustable from 50 to 95 percent of pickup current.
6. Include a current transformer, if required for application.

C. Combination On-Off Status Sensor and On-Off Relay:
1. Description:
    a. On-off control and status indication in a single device.
    b. LED status indication of activated relay and current trigger.
2. Performance:
    a. Ambient Temperature: Minus 30 to 140 deg F.
    b. Voltage Rating: Single-phase loads rated for 300-V ac. Three-phase loads rated for 600-V ac.
3. Status Indication:
    a. Current Sensor: Integral sensing for single-phase loads up to 20 A and external solid or split sensing ring for three-phase loads up to 150 A.
    b. Current Sensor Range: As required by application.
    c. Current Set Point: Fixed or adjustable as required by application.
    d. Current Sensor Output:
        1) Solid-state, single-pole double-throw contact rated for 30-V ac and dc and for 0.4 A.
        2) Solid-state, single-pole double-throw contact rated for 120-V ac and 1.0 A.
        3) Analog, zero- to 5- or 10-V dc.
        4) Analog, 4 to 20 mA, loop powered.
4. Relay: Single-pole double-throw, continuous-duty coil; rated for 10-million mechanical cycles.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
1. Verify compatibility with and suitability of substrates.

B. Examine roughing-in for products to verify actual locations of connections before installation.
1. Examine roughing-in for instruments installed in piping to verify actual locations of connections before installation.
2. Examine roughing-in for instruments installed in duct systems to verify actual locations of connections before installation.

C. Examine walls, floors, roofs, and ceilings for suitable conditions where product will be installed.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

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3.2 DDC SYSTEM INTERFACE WITH OTHER SYSTEMS AND EQUIPMENT

A. Communication Interface to Equipment with Integral Controls:
   1. DDC system shall have communication interface over BACnet IP/Ethernet with equipment having integral controls and having a communication interface for remote monitoring or control.
   2. Equipment to Be Connected:
      a. Dedicated Outdoor-Air units specified in Section 237433 "Dedicated Outdoor-Air Units."
      b. Room pressurization control system specified on Drawings.

3.3 CONTROL DEVICES FOR INSTALLATION BY INSTALLERS

A. Deliver control devices to installers for field installation.

3.4 GENERAL INSTALLATION REQUIREMENTS

A. Install products to satisfy more stringent of all requirements indicated.

B. Install products level, plumb, parallel, and perpendicular with building construction.

C. Support products, tubing, piping wiring and raceways. Brace products to prevent lateral movement and sway or a break in attachment under normal operating conditions.

D. If codes and referenced standards are more stringent than requirements indicated, comply with requirements in codes and referenced standards.

E. Fabricate openings and install sleeves in ceilings, floors, roof, and walls required by installation of products. Before proceeding with drilling, punching, and cutting, check for concealed work to avoid damage. Patch, flash, grout, seal, and refinish openings to match adjacent condition.

F. Welding Requirements:
   1. Restrict welding and burning to supports and bracing.
   2. No equipment shall be cut or welded without approval. Welding or cutting will not be approved if there is risk of damage to adjacent Work.
   3. Welding, where approved, shall be by inert-gas electric arc process and shall be performed by qualified welders according to applicable welding codes.

G. Fastening Hardware:
   1. Tighten bolts and nuts firmly and uniformly. Do not overstress threads by excessive force or by oversized wrenches.

3.5 CONTROLLER INSTALLATION

A. Install controllers in enclosures to comply with indicated requirements.

B. Connect controllers to field power supply or connected equipment control power source if designed to provide power for field controllers. If control power system in equipment is only intended to operate factory controls, provide field power supply or alternate control power source.

C. Install controller with latest version of applicable software and configure to execute requirements indicated.

D. Test and adjust controllers to verify operation of connected I/O to achieve performance indicated requirements while executing sequences of operation.

E. Installation of Programmable Application Controllers:

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1. Quantity and location of programmable application controllers shall be determined by DDC system designer to satisfy requirements indicated.
2. Install controllers in a protected location that is easily accessible by operators.

F. Application-Specific Controllers:
1. Quantity and location of application-specific controllers shall be determined by DDC system designer to satisfy requirements indicated.
2. For controllers not mounted directly on equipment being controlled, install controllers in a protected location that is easily accessible by operators.

3.6 ENCLOSURES INSTALLATION

A. Install the following items in enclosures, to comply with indicated requirements:
1. Controllers.
2. Electrical power devices.
3. Relays.
4. Accessories.
5. Instruments.

B. Attach wall-mounted enclosures to wall.

C. Align top or bottom of adjacent enclosures.

D. Install continuous and fully accessible wireways to connect conduit, wire, and cable to multiple adjacent enclosures. Wireway used for application shall have protection equal to NEMA 250 rating of connected enclosures.

3.7 ELECTRIC POWER CONNECTIONS

A. Connect electrical power to DDC system products requiring electrical power connections.

B. Design of electrical power to products not indicated with electric power is delegated to DDC system provider and installing trade. Work shall comply with NFPA 70 and other requirements indicated.

3.8 CONTROL WIRE, CABLE AND RACEWAYS INSTALLATION

A. Wire and Cable Installation:
1. Install cables with protective sheathing that is waterproof and capable of withstanding continuous temperatures of 90 deg C with no measurable effect on physical and electrical properties of cable.
a. Provide shielding if required to prevent interference and distortion from adjacent cables and equipment.
2. Terminate field wiring and cable not directly connected to instruments and control devices having integral wiring terminals using terminal blocks.
3. Perform continuity and meager testing on wire and cable after installation.
4. Wire within air plenum spaces shall be rated and labeled for plenum installation. Raceways may be used for non-plenum-rated wire and cable.

B. Conduit Installation:
1. Provide raceways as required for control wiring traveling between equipment locations. Raceway is not required between control enclosures and associated equipment, unless being used to house non-plenum-rated wire and cable in an air plenum space.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3.9 FIELD QUALITY CONTROL

A. Perform the following tests and inspections with the assistance of a factory-authorized service representative :
   1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
   2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.10 DDC SYSTEM I/O CHECKOUT PROCEDURES

A. Check installed products before continuity tests, leak tests and calibration.

B. Check instruments for proper location and accessibility.

C. Check instruments for proper installation on direction of flow, elevation, orientation, insertion depth, or other applicable considerations that will impact performance.

D. Check instrument tubing for proper isolation, fittings, slope, dirt legs, drains, material and support.

E. Instrument Checkout:
   1. Verify that instrument is correctly installed for location, orientation, direction and operating clearances.
   2. Verify that attachment is properly secured and sealed.
   3. Verify that conduit connections are properly secured and sealed.
   4. Verify that wiring is properly labeled with unique identification, correct type and size and is securely attached to proper terminals.
   5. Inspect instrument tag against approved submittal.
   6. For instruments with tubing connections, verify that tubing attachment is secure and isolation valves have been provided.
   7. For flow instruments, verify that recommended upstream and downstream distances have been maintained.
   8. For temperature instruments:
      a. Verify sensing element type and proper material.
      b. Verify length and insertion.

3.11 DDC SYSTEM I/O ADJUSTMENT, CALIBRATION AND TESTING:

A. Calibrate each instrument installed that is not factory calibrated and provided with calibration documentation.

B. Equipment and procedures used for calibration shall comply with instrument manufacturer's written instructions.

C. Provide diagnostic and test equipment for calibration and adjustment.

D. Field instruments and equipment used to test and calibrate installed instruments shall have accuracy at least twice the instrument accuracy being calibrated. An installed instrument with an accuracy of 1 percent shall be checked by an instrument with an accuracy of 0.5 percent.

E. Calibrate each instrument according to instrument instruction manual supplied by manufacturer.

F. If after calibration indicated performance cannot be achieved, replace out-of-tolerance instruments.

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G. Comply with field testing requirements and procedures indicated by ASHRAE's Guideline 11, "Field Testing of HVAC Control Components," in the absence of specific requirements, and to supplement requirements indicated.

H. Analog Signals:
1. Check analog voltage signals using a precision voltage meter at zero, 50, and 100 percent.
2. Check analog current signals using a precision current meter at zero, 50, and 100 percent.
3. Check resistance signals for temperature sensors at zero, 50, and 100 percent of operating span using a precision-resistant source.

I. Digital Signals:
1. Check digital signals using a jumper wire.
2. Check digital signals using an ohmmeter to test for contact making or breaking.

J. Meters: Check sensors at zero, 50, and 100 percent of Project design values.

K. Sensors: Check sensors at zero, 50, and 100 percent of Project design values.

L. Switches: Calibrate switches to make or break contact at set points indicated.

M. Transmitters:
1. Check and calibrate transmitters at zero, 50, and 100 percent of Project design values.
2. Calibrate resistance temperature transmitters at zero, 50, and 100 percent of span using a precision-resistant source.

3.12 DDC SYSTEM CONTROLLER CHECKOUT

A. Verify power supply.
1. Verify voltage, phase and hertz.

B. Verify that wire and cabling is properly secured to terminals and labeled with unique identification.

C. Verify that spare I/O capacity is provided.

3.13 DDC CONTROLLER I/O CONTROL LOOP TESTS

A. Testing:
1. Test every I/O point connected to DDC controller to verify that safety and operating control set points are as indicated and as required to operate controlled system safely and at optimum performance.
2. Test every I/O point throughout its full operating range.
3. Test every control loop to verify operation is stable and accurate.
4. Adjust control loop proportional, integral and derivative settings to achieve optimum performance while complying with performance requirements indicated. Document testing of each control loop's precision and stability via trend logs.
5. Test and adjust every control loop for proper operation according to sequence of operation.
6. Test software and hardware interlocks for proper operation. Correct deficiencies.
7. Operate each analog point at the following:
   a. Upper quarter of range.
   b. Lower quarter of range.
   c. At midpoint of range.
8. Exercise each binary point.

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3.14 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain DDC system.

B. END OF SECTION 230923

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SECTION 232600 - CONDENSATE DRAIN PIPING

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 pipe and fitting materials and joining methods for the following:
   1. Condensate-drain piping.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Condensate drain piping components and installation shall be capable of withstanding the following minimum working pressure and temperature unless otherwise indicated:
   1. Condensate-Drain Piping: 150 deg F.

B. Thermal Movements: Allow for thermal movements in piping and supports from ambient and surface temperature changes.
   1. Temperature Change: 120 deg F, ambient; 180 deg F.

2.2 PLASTIC PIPE AND FITTINGS

A. PVC Plastic Pipe: ASTM D 1785, with wall thickness as indicated in "Piping Applications" Article.
   1. PVC Plastic Pipe Fittings: Socket-type pipe fittings, ASTM D 2466 for Schedule 40 pipe; ASTM D 2467 for Schedule 80 pipe.

2.3 JOINING MATERIALS

A. Solvent Cements for Joining Plastic Piping:
   1. PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.
      a. PVC solvent cement shall have a VOC content of 510 g/L or less.
      b. Adhesive primer shall have a VOC content of 550 g/L or less.

B. Gasket Material: Thickness, material, and type suitable for fluid to be handled and working temperatures and pressures.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS

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A. Condensate-Drain Piping: Schedule 40 PVC plastic pipe and fittings and solvent-welded joints.

3.2 PIPING INSTALLATIONS

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Install piping as indicated unless deviations to layout are approved by the Engineer.

B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

E. Install piping at indicated slopes.

F. Install piping free of sags and bends.

G. Install fittings for changes in direction and branch connections.

H. Install piping to allow application of insulation.

I. Install groups of pipes parallel to each other, spaced to permit applying insulation and servicing of valves.

J. Install piping at a uniform grade of 0.2 percent downward in direction of flow.

K. Do not reduce condensate drain piping size in the direction of flow.

L. Comply with condensate drain piping sizes prescribed in the International Mechanical Code, including local amendments.

M. Install branch connections to mains using tee fittings in main pipe, with the branch connected to the side at the centerline of the main pipe. For risers which flow downward from above, connect the branch to the top of the main pipe.

N. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."

O. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."

P. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 230518 "Escutcheons for HVAC Piping."

3.3 HANGERS AND SUPPORTS

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

A. Comply with requirements in Section 230529 "Hangers and Supports for HVAC Piping and Equipment" for hanger, support, and anchor devices. Comply with the following requirements for maximum spacing of supports.

B. Comply with requirements in Section 230548 "Vibration and Seismic Controls for HVAC" for seismic restraints.

C. Install the following pipe attachments:
   1. Adjustable steel clevis hangers for individual horizontal piping less than 20 feet long.
   2. Adjustable roller hangers and spring hangers for individual horizontal piping 20 feet or longer.
   3. Pipe Roller: MSS SP-58, Type 44 for multiple horizontal piping 20 feet or longer, supported on a trapeze.
   4. Spring hangers to support vertical runs.
   5. Provide copper-clad hangers and supports for hangers and supports in direct contact with copper pipe.
   6. On plastic pipe, install pads or cushions on bearing surfaces to prevent hanger from scratching pipe.

D. Plastic Piping Hanger Spacing: Space hangers according to pipe manufacturer's written instructions for service conditions. Avoid point loading. Space and install hangers with the fewest practical rigid anchor points.

E. Support vertical runs at roof, at each floor, and at 10-foot intervals between floors.

3.4 PIPE JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Plastic Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
   1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
   2. PVC Nonpressure Piping: Join according to ASTM D 2855.

3.5 FIELD QUALITY CONTROL

A. Prepare non-pressure condensate drain piping according to ASME B31.9 and as follows:
   1. Leave joints, including welds, uninsulated and exposed for examination during test.
   2. Flush condensate drain piping systems with clean water.
   3. Install safety valve, set at a pressure no more than one-third higher than test pressure, to protect against damage by expanding liquid or other source of overpressure during test.

B. Perform the following tests on condensate drain piping:
   1. Use ambient temperature water as a testing medium unless there is risk of damage due to freezing. Another liquid that is safe for workers and compatible with piping may be used.

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2. Flush each branch of condensate drain piping system with a continuous flow of clean water or other testing medium selected. Inspect all piping and piping joints for leaks. Ensure that water drains freely at discharge point and no airlocking of piping occurs.
3. Test operation of condensate drain piping traps by filling trap and energizing fans of connected equipment to run at design speed. Ensure that trap maintains air seal and permits drainage of condensate while fan is operating.
4. Prepare written report of testing.

END OF SECTION 232600

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 233113 - METAL DUCTS

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. Single-wall rectangular ducts and fittings.
2. Sheet metal materials.
3. Duct liner.
4. Sealants and gaskets.
5. Hangers and supports.

B. Related Sections:
1. Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing requirements for metal ducts.
2. Section 233300 "Air Duct Accessories" for dampers, duct-mounting access doors and panels, and turning vanes.
3. Section 233346 “Flexible Ducts”.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Duct hangers and supports shall withstand the effects of gravity loads and stresses within limits and under conditions described in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"

1.4 ACTION SUBMITTALS

A. Product Data: For each type of the following products:
1. Liners and adhesives.
2. Sealants and gaskets.

1.5 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to the following:
1. AWS D1.1/D1.1M, "Structural Welding Code - Steel," for hangers and supports.
2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum," for aluminum supports.
3. AWS D9.1M/D9.1, "Sheet Metal Welding Code," for duct joint and seam welding.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

PART 2 - PRODUCTS

2.1 SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS

A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on indicated static-pressure class unless otherwise indicated.

B. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-1, "Rectangular Duct/Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

C. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-2, "Rectangular Duct/Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

D. Elbows, Transitions, Offsets, Branch Connections, and Other Duct Construction: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 4, "Fittings and Other Construction," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.2 SINGLE-WALL ROUND DUCTS AND FITTINGS

A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 3, "Round, Oval, and Flexible Duct," based on indicated static-pressure class unless otherwise indicated.

B. Flat-Oval Ducts: Indicated dimensions are the duct width (major dimension) and diameter of the round sides connecting the flat portions of the duct (minor dimension).

C. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-1, "Round Duct Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
   1. Transverse Joints in Ducts Larger Than 60 Inches in Diameter: Flanged.

D. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-2, "Round Duct Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
   1. Fabricate round ducts larger than 90 inches in diameter with butt-welded longitudinal seams.
   2. Fabricate flat-oval ducts larger than 72 inches in width (major dimension) with butt-welded longitudinal seams.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

E. Tees and Laterals: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.3 SHEET METAL MATERIALS

A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

B. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
   1. Galvanized Coating Designation: G60 for indoor ducts and G90 for outdoor dutcs.
   2. Finishes for Surfaces Exposed to View: Mill phosphatized.

C. Reinforcement Shapes and Plates: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
   1. Where black- and galvanized-steel shapes and plates are used to reinforce aluminum ducts, isolate the different metals with butyl rubber, neoprene, or EPDM gasket materials.

D. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for lengths 36 inches or less; 3/8-inch minimum diameter for lengths longer than 36 inches.

2.4 DUCT LINER

A. Fibrous-Glass Duct Liner: Comply with ASTM C 1071, NFPA 90A, or NFPA 90B; and with NAIMA AH124, "Fibrous Glass Duct Liner Standard."
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. CertainTeed Corporation.
      b. Johns Manville; a Berkshire Hathaway company.
      c. Knauf Insulation.
      d. Owens Corning.
         1) Type I, Flexible: 0.27 Btu x in./h x sq. ft. x deg F at 75 deg F mean temperature.
         2) Type II, Rigid: 0.23 Btu x in./h x sq. ft. x deg F at 75 deg F mean temperature.
   2. Antimicrobial Erosion-Resistant Coating: Apply to the surface of the liner that will form the interior surface of the duct to act as a moisture repellent and erosion-resistant coating. Antimicrobial compound shall be tested for efficacy by an NRTL and registered by the EPA for use in HVAC systems.
   3. Water-Based Liner Adhesive: Comply with NFPA 90A or NFPA 90B and with ASTM C 916.
      a. Adhesive shall have a VOC content of 80 g/L or less.

B. Insulation Pins and Washers:
   1. Cupped-Head, Capacitor-Discharge-Weld Pins: Copper- or zinc-coated steel pin, fully annealed for capacitor-discharge welding, 0.135-inch- diameter shank, length to suit depth of insulation indicated with integral 1-1/2-inch galvanized carbon-steel washer.

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2. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch- thick galvanized steel; with beveled edge sized as required to hold insulation securely in place but not less than 1-1/2 inches in diameter.

C. Shop Application of Duct Liner: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 7-11, "Flexible Duct Liner Installation."
1. Adhere a single layer of indicated thickness of duct liner with at least 90 percent adhesive coverage at liner contact surface area. Attaining indicated thickness with multiple layers of duct liner is prohibited.
2. Apply adhesive to transverse edges of liner facing upstream that do not receive metal nosing.
3. Butt transverse joints without gaps, and coat joint with adhesive.
4. Fold and compress liner in corners of rectangular ducts or cut and fit to ensure butted-edge overlapping.
5. Do not apply liner in rectangular ducts with longitudinal joints, except at corners of ducts, unless duct size and dimensions of standard liner make longitudinal joints necessary.
6. Apply adhesive coating on longitudinal seams in ducts with air velocity of 2500 fpm.
7. Secure liner with mechanical fasteners 4 inches from corners and at intervals not exceeding 12 inches transversely; at 3 inches from transverse joints and at intervals not exceeding 18 inches longitudinally.
8. Secure transversely oriented liner edges facing the airstream with metal nosings that have either channel or "Z" profiles or are integrally formed from duct wall. Fabricate edge facings at the following locations:
   a. Fan discharges.
   b. Intervals of lined duct preceding unlined duct.
   c. Upstream edges of transverse joints in ducts where air velocities are higher than 2500 fpm or where indicated.
9. Secure insulation between perforated sheet metal inner duct of same thickness as specified for outer shell. Use mechanical fasteners that maintain inner duct at uniform distance from outer shell without compressing insulation.
   a. Sheet Metal Inner Duct Perforations: 3/32-inch diameter, with an overall open area of 23 percent.
10. Terminate inner ducts with buildouts attached to fire-damper sleeves, dampers, turning vane assemblies, or other devices. Fabricated buildouts (metal hat sections) or other buildout means are optional; when used, secure buildouts to duct walls with bolts, screws, rivets, or welds.

2.5 SEALANT AND GASKETS

A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets shall be a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.

B. Two-Part Tape Sealing System:
1. Tape: Woven cotton fiber impregnated with mineral gypsum and modified acrylic/silicone activator to react exothermically with tape to form hard, durable, airtight seal.
2. Tape Width: 4 inches.
3. Sealant: Modified styrene acrylic.
4. Water resistant.
5. Mold and mildew resistant.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

6. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
7. Service: Indoor and outdoor.
8. Service Temperature: Minus 40 to plus 200 deg F.
9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum.
10. Sealant shall have a VOC content of 420 g/L or less.

C. Water-Based Joint and Seam Sealant:
1. Application Method: Brush on.
2. Solids Content: Minimum 65 percent.
3. Shore A Hardness: Minimum 20.
4. Water resistant.
5. Mold and mildew resistant.
6. VOC: Maximum 75 g/L (less water).
7. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
8. Service: Indoor or outdoor.
9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.

D. Flanged Joint Sealant: Comply with ASTM C 920.
1. General: Single-component, acid-curing, silicone, elastomeric.
2. Type: S.
3. Grade: NS.
4. Class: 25.
5. Use: O.
6. Sealant shall have a VOC content of 420 g/L or less.

E. Flange Gaskets: Butyl rubber, neoprene, or EPDM polymer with polyisobutylene plasticizer.

F. Round Duct Joint O-Ring Seals:
1. Seal shall provide maximum leakage class of 3 cfm/100 sq. ft. at 1-inch wg and shall be rated for10-inch wg static-pressure class, positive or negative.
2. EPDM O-ring to seal in concave bead in coupling or fitting spigot.

2.6 HANGERS AND SUPPORTS

A. Hanger Rods for Noncorrosive Environments: Cadmium-plated steel rods and nuts.

B. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct."

C. Steel Cables for Galvanized-Steel Ducts: Galvanized steel complying with ASTM A 603.

D. Steel Cable End Connections: Cadmium-plated steel assemblies with brackets, swivel, and bolts designed for duct hanger service; with an automatic-locking and clamping device.

E. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.

F. Trapeze and Riser Supports:

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.
2. Supports for Stainless-Steel Ducts: Stainless-steel shapes and plates.
3. Supports for Aluminum Ducts: Aluminum or galvanized steel coated with zinc chromate.

PART 3 - EXECUTION

3.1 DUCT INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and Coordination Drawings.

B. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.

C. Install ducts in maximum practical lengths.

D. Install ducts with fewest possible joints.

E. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.

F. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.

G. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.

H. Install ducts with a clearance of 1 inch, plus allowance for insulation thickness.

I. Route ducts to avoid passing through transformer vaults and electrical equipment rooms and enclosures.

J. Where ducts pass through non-fire-rated interior partitions and exterior walls and are exposed to view, cover the opening between the partition and duct or duct insulation with sheet metal flanges of same metal thickness as the duct. Overlap openings on four sides by at least 1-1/2 inches.

K. Protect duct interiors from moisture, construction debris and dust, and other foreign materials. Comply with SMACNA's "IAQ Guidelines for Occupied Buildings Under Construction," Appendix G, "Duct Cleanliness for New Construction Guidelines."

3.2 DUCT SEALING

A. Seal ducts for duct static-pressure, seal classes, and leakage classes specified in "Duct Schedule" Article according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

3.3 HANGER AND SUPPORT INSTALLATION

A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."

B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
   1. Where practical, install concrete inserts before placing concrete.
   2. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
   3. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches thick.
   4. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches thick.
   5. Do not use powder-actuated concrete fasteners for seismic restraints.

C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches of each elbow and within 48 inches of each branch intersection.

D. Hangers Exposed to View: Threaded rod and angle or channel supports.

E. Support vertical ducts with steel angles or channel secured to the sides of the duct with welds, bolts, sheet metal screws, or blind rivets; support at each floor and at maximum intervals of 16 feet.

F. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.4 CONNECTIONS

A. Make connections to equipment with flexible connectors complying with Section 233300 "Air Duct Accessories."

B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.5 PAINTING

A. Paint interior of metal ducts that are visible through registers and grilles and that do not have duct liner. Apply one coat of flat, black, latex paint over a compatible galvanized-steel primer.

3.6 START UP

A. Air Balance: Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC."

3.7 DUCT SCHEDULE

A. Fabricate ducts with galvanized sheet steel.

B. Supply Ducts:

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Ducts Connected to Air-Handling Units:
    a. Pressure Class: Positive 2-inch wg.
    b. Minimum SMACNA Seal Class: A.

C. Return Ducts:
1. Ducts Connected to Air-Handling Units:
    a. Pressure Class: Positive or negative 2-inch wg.
    b. Minimum SMACNA Seal Class: A.

D. Intermediate Reinforcement:
1. Galvanized-Steel Ducts: Galvanized steel or carbon steel coated with zinc-chromate primer.

E. Liner:
1. Install liner in ducts indicated on Drawings. Where duct liner is indicated, install per sub paragraphs in this section.
2. Supply Air Ducts: Fibrous glass, Type I, 1 inch thick.
3. Return Air Ducts: No liner.

F. Elbow Configuration:
1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."
    a. Velocity 1000 fpm or Lower:
        1) Radius Type RE 1 with minimum 0.5 radius-to-diameter ratio.
        2) Mitered Type RE 4 without vanes.
    b. Velocity 1000 to 1500 fpm:
        1) Radius Type RE 1 with minimum 1.0 radius-to-diameter ratio.
        2) Radius Type RE 3 with minimum 0.5 radius-to-diameter ratio and two vanes.
        3) Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
    c. Velocity 1500 fpm or Higher:
        1) Radius Type RE 1 with minimum 1.5 radius-to-diameter ratio.
        2) Radius Type RE 3 with minimum 1.0 radius-to-diameter ratio and two vanes.
        3) Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
2. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."
    a. Radius Type RE 1 with minimum 1.5 radius-to-diameter ratio.
    b. Radius Type RE 3 with minimum 1.0 radius-to-diameter ratio and two vanes.
    c. Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
3. Round Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-4, "Round Duct Elbows."
    a. Minimum Radius-to-Diameter Ratio and Elbow Segments: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 3-

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1, "Mitered Elbows." Elbows with less than 90-degree change of direction have proportionately fewer segments.

1) Radius-to Diameter Ratio: 1.5.

b. Round Elbows, 12 Inches and Smaller in Diameter: Stamped or pleated.

c. Round Elbows, 14 Inches and Larger in Diameter: Standing seam.

G. Branch Configuration:

1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-6, "Branch Connection."
   a. Rectangular Main to Rectangular Branch: 45-degree entry.
   b. Rectangular Main to Round Branch: Spin in.
2. Round and Flat Oval: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees." Saddle taps are permitted in existing duct.
   a. Velocity 1000 fpm or Lower: 90-degree tap.
   b. Velocity 1000 to 1500 fpm: Conical tap.
   c. Velocity 1500 fpm or Higher: 45-degree lateral.

END OF SECTION 233113

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 233300 - AIR DUCT ACCESSORIES

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. Manual volume dampers.
   2. Flange connectors.
   3. Turning vanes.
   4. Duct-mounted access doors.
   5. Flexible connectors.
   6. Duct accessory hardware.

B. Related Requirements:
   1. Section 233346 "Flexible Ducts" for insulated and non-insulated flexible ducts.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air duct accessories to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTION

A. Comply with requirements of the International Mechanical Code, with Washington state amendments**.**

B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

2.2 MATERIALS

A. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
   1. Galvanized Coating Designation: G60 for indoor items and G90 for outdoor items exposed to weather.

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2. Exposed-Surface Finish: Mill phosphatized.

B. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless-steel ducts.

C. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for lengths 36 inches or less; 3/8-inch minimum diameter for lengths longer than 36 inches.

2.3 MANUAL VOLUME DAMPERS

A. Standard, Steel, Manual Volume Dampers:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Flexmaster U.S.A., Inc.
   b. Greenheck Fan Corporation.
   c. McGill AirFlow LLC.
   d. Nailor Industries Inc.
   e. Pottorff.
   f. Ruskin Company.
   g. Vent Products Co., Inc.
2. Standard leakage rating, with linkage outside airstream.
3. Suitable for horizontal or vertical applications.
4. Frames:
   a. Frame: Hat-shaped, 0.094-inch-thick, galvanized sheet steel.
   b. Mitered and welded corners.
   c. Flanges for attaching to walls and flangeless frames for installing in ducts.
5. Blades:
   a. Multiple or single blade.
   b. Parallel- or opposed-blade design.
   c. Stiffen damper blades for stability.
   d. Galvanized-steel, 0.064 inch thick.
6. Blade Axles: Galvanized steel.
7. Bearings:
   a. Molded synthetic.
   b. Dampers in ducts with pressure classes of 3-inch wg or less shall have axles full length of damper blades and bearings at both ends of operating shaft.
8. Tie Bars and Brackets: Galvanized steel.

B. Low-Leakage, Steel, Manual Volume Dampers:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Flexmaster U.S.A., Inc.
   b. Greenheck Fan Corporation.
   c. McGill AirFlow LLC.
   d. Nailor Industries Inc.
   e. Pottorff.
   f. Ruskin Company.
   g. Vent Products Co., Inc.
2. Comply with AMCA 500-D testing for damper rating.
3. Low-leakage rating, with linkage outside airstream, and bearing AMCA's Certified Ratings Seal for both air performance and air leakage.

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4. Suitable for horizontal or vertical applications.
5. Frames:
    a. Hat shaped.
    b. 0.094-inch-thick, galvanized sheet steel.
    c. Mitered and welded corners.
    d. Flanges for attaching to walls and flangeless frames for installing in ducts.
6. Blades:
    a. Multiple or single blade.
    b. Parallel- or opposed-blade design.
    c. Stiffen damper blades for stability.
    d. Galvanized, roll-formed steel, 0.064 inch thick.
7. Blade Axles: Galvanized steel.
8. Bearings:
    a. Molded synthetic.
    b. Dampers in ducts with pressure classes of 3-inch wg or less shall have axles full length of damper blades and bearings at both ends of operating shaft.
9. Blade Seals: Neoprene.
10. Jamb Seals: Cambered aluminum.
11. Tie Bars and Brackets: Galvanized steel.
12. Accessories:
    a. Include locking device to hold single-blade dampers in a fixed position without vibration.

C. Damper Hardware:
1. Zinc-plated, die-cast core with dial and handle made of 3/32-inch-thick zinc-plated steel, and a 3/4-inch hexagon locking nut.
2. Include center hole to suit damper operating-rod size.
3. Include elevated platform for insulated duct mounting.

2.4 FLANGE CONNECTORS

A. Description: Add-on or roll-formed, factory-fabricated, slide-on transverse flange connectors, gaskets, and components.

B. Material: Galvanized steel.

C. Gage and Shape: Match connecting ductwork.

2.5 TURNING VANES

A. Manufactured Turning Vanes for Metal Ducts: Curved blades of galvanized sheet steel; support with bars perpendicular to blades set; set into vane runners suitable for duct mounting.
1. Acoustic Turning Vanes: Fabricate airfoil-shaped aluminum extrusions with perforated faces and fibrous-glass fill.

B. General Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"; Figures 4-3, "Vanes and Vane Runners," and 4-4, "Vane Support in Elbows."

C. Vane Construction: Single wall for ducts up to 48 inches wide and double wall for larger dimensions.

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2.6 DUCT-MOUNTED ACCESS DOORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. CL WARD & Family Inc.
   2. Ductmate Industries, Inc.
   3. Flexmaster U.S.A., Inc.
   4. Greenheck Fan Corporation.
   5. McGill AirFlow LLC.
   6. Nailor Industries Inc.
   7. Pottorff.
   8. Ward Industries; a brand of Hart & Cooley, Inc.

B. Duct-Mounted Access Doors: Fabricate access panels according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"; Figures 7-2, "Duct Access Doors and Panels," and 7-3, "Access Doors - Round Duct."
   1. Door:
      a. Double wall, rectangular.
      b. Galvanized sheet metal with insulation fill and thickness as indicated for duct pressure class.
      c. Vision panel.
      d. Hinges and Latches: 1-by-1-inchbutt or piano hinge and cam latches.
      e. Fabricate doors airtight and suitable for duct pressure class.
   2. Frame: Galvanized sheet steel, with bend-over tabs and foam gaskets.
   3. Number of Hinges and Locks:
      a. Access Doors Less Than 12 Inches Square: No hinges and two sash locks.
      b. Access Doors up to 18 Inches Square: Two hinges and two sash locks.
      c. Access Doors up to 24 by 48 Inches: Three hinges and two compression latches with outside and inside handles.
      d. Access Doors Larger Than 24 by 48 Inches: Continuous and two compression latches with outside and inside handles.

2.7 FLEXIBLE CONNECTORS

A. Materials: Flame-retardant or noncombustible fabrics.

B. Coatings and Adhesives: Comply with UL 181, Class 1.

C. Metal-Edged Connectors: Factory fabricated with a fabric strip 3-1/2 inches wide attached to two strips of 2-3/4-inch-wide, 0.028-inch-thick, galvanized sheet steel or 0.032-inch-thick aluminum sheets. Provide metal compatible with connected ducts.

D. Indoor System, Flexible Connector Fabric: Glass fabric double coated with neoprene.
   1. Minimum Weight: 26 oz./sq. yd.
   2. Tensile Strength: 480 lbf/inch in the warp and 360 lbf/inch in the filling.
   3. Service Temperature: Minus 40 to plus 200 deg F.

E. Outdoor System, Flexible Connector Fabric: Glass fabric double coated with weatherproof, synthetic rubber resistant to UV rays and ozone.
   1. Minimum Weight: 24 oz./sq. yd.

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2. Tensile Strength: 530 lbf/inch in the warp and 440 lbf/inch in the filling.
3. Service Temperature: Minus 50 to plus 250 deg F.

2.8 DUCT ACCESSORY HARDWARE

A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments and of length to suit duct-insulation thickness.

B. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline and grease.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts.

B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel ducts.

C. Install volume dampers at points on supply, return, and exhaust systems where branches extend from larger ducts except where all air terminals are equipped with integral dampers. Where dampers are installed in ducts having duct liner, install dampers with hat channels of same depth as liner, and terminate liner with nosing at hat channel.
1. Install steel volume dampers in steel ducts.

D. Set dampers to fully open position before testing, adjusting, and balancing.

E. Install test holes at fan inlets and outlets and elsewhere as indicated.

F. Install duct access doors on sides of ducts to allow for inspecting, adjusting, and maintaining accessories and equipment at the following locations:
1. Downstream from manual volume dampers.
2. At each change in direction and at maximum 50-foot spacing.
3. Upstream and downstream from turning vanes.
4. Control devices requiring inspection.
5. Elsewhere as indicated.

G. Install access doors with swing against duct static pressure.

H. Access Door Sizes:
1. One-Hand or Inspection Access: 8 by 5 inches.
2. Two-Hand Access: 12 by 6 inches.
3. Head and Hand Access: 18 by 10 inches.
4. Head and Shoulders Access: 21 by 14 inches.
5. Body Access: 25 by 14 inches.
6. Body plus Ladder Access: 25 by 17 inches.

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I. Label access doors as indicated below and as required to indicate the purpose of access door.
   1. Labels for maintenance of components are not required if purpose of door is obvious.
   2. Labels are not required for access doors installed for general access to duct systems.

J. Install flexible connectors to connect ducts to equipment.

K. Install duct test holes where required for testing and balancing purposes.

3.2 FIELD QUALITY CONTROL

A. Tests and Inspections:
   1. Operate dampers to verify full range of movement.
   2. Inspect locations of access doors and verify that purpose of access door can be performed.
   3. Inspect turning vanes for proper and secure installation.
   4. Operate remote damper operators to verify full range of movement of operator and damper.

END OF SECTION 233300

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SECTION 233346 - FLEXIBLE DUCTS

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. Insulated flexible ducts.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTION

A. Comply with 2018 Washington State Energy Code and 2018 International Mechanical Code, with Washington state amendments**.**

B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

C. Comply with ASTM E 96/E 96M, "Test Methods for Water Vapor Transmission of Materials."

2.2 INSULATED FLEXIBLE DUCTS

A. Insulated, Flexible Duct: UL 181, Class 1, two-ply vinyl film supported by helically wound, spring-steel wire; fibrous-glass insulation; polyethylene vapor-barrier film.
   1. Pressure Rating: 10-inch wg positive and 5.0-inch wg negative.
   2. Maximum Air Velocity: 4000 fpm.
   3. Temperature Range: Minus 10 to plus 160 deg F.
   4. Insulation R-Value: Minimum R4.2. Comply with Washington State Energy Code.

2.3 FLEXIBLE DUCT CONNECTORS

A. Clamps: Stainless-steel band with cadmium-plated hex screw to tighten band with a worm-gear action in sizes 3 through 18 inches, to suit duct size.

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PART 3 - EXECUTION

3.1 INSTALLATION

A. Install flexible ducts according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAIMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts.

B. Install in indoor applications only. Flexible ductwork should not be exposed to UV lighting.

C. Connect diffusers or grilles to ducts directly or with maximum 60-inch lengths of flexible duct clamped or strapped in place.

D. Connect flexible ducts to metal ducts with draw bands.

E. Installation:
   1. Install ducts fully extended.
   2. Do not bend ducts across sharp corners.
   3. Bends of flexible ducting shall not exceed a minimum of one duct diameter.
   4. Avoid contact with metal fixtures, water lines, pipes, or conduits.
   5. Install flexible ducts in a direct line, without sags, twists, or turns.

F. Supporting Flexible Ducts:
   1. Suspend flexible ducts with bands 1-1/2 inches wide or wider and spaced a maximum of 48 inches apart. Maximum centerline sag between supports shall not exceed 1/2 inch per 12 inches.
   2. Install extra supports at bends placed approximately one duct diameter from center line of the bend.
   3. Ducts may rest on ceiling joists or truss supports. Spacing between supports shall not exceed the maximum spacing per manufacturer's written installation instructions.
   4. Vertically installed ducts shall be stabilized by support straps at a maximum of 72 inches o.c.

END OF SECTION 233346

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SECTION 233713.13 - AIR DIFFUSERS

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. High-capacity, modular-core supply grille diffusers.

B. Related Requirements:
   1. Section 233300 "Air Duct Accessories" for volume-control dampers not integral to diffusers.
   2. Section 233713.23 "Air Registers and Grilles" for adjustable-bar register and grilles, fixed-face registers and grilles, and linear bar grilles.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
   2. Diffuser Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.

PART 2 - PRODUCTS

2.1 HIGH-CAPACITY, MODULAR-CORE SUPPLY GRILLE DIFFUSERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
   1. Hart & Cooley Inc.
   2. Krueger.
   3. Nailor Industries Inc.
   4. Titus.
   5. Tuttle & Bailey.

B. Throw: Low-distance throw attenuated by perforated face.

C. Material: Steel.

D. Face Arrangement: Perforated, with modular grilles above face surface in duct opening at unit backpan.

E. Grilles per Unit: Four.

F. Finish: White baked acrylic.

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G. Border: 1-1/2-inch width with countersunk screw holes.

H. Modules: Removable; rotatable.

I. Mounting: Surface.

J. Accessory: Opposed-blade steel damper.

2.2 SOURCE QUALITY CONTROL

A. Verification of Performance: Rate diffusers according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas where diffusers are installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install diffusers level and plumb.

B. Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practical. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.

C. Install diffusers with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and other accessories.

3.3 ADJUSTING

A. After installation, adjust diffusers to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION 233713.13

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 233713.23 - REGISTERS AND GRILLES

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. Fixed face registers and grilles.

B. Related Requirements:
   1. Section 233300 "Air Duct Accessories" for volume-control dampers not integral to registers and grilles.
   2. Section 233713.13 "Air Diffusers" for various types of air diffusers.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
   2. Register and Grille Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.

PART 2 - PRODUCTS

2.1 REGISTERS

A. Fixed Face Register B:
   1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
      a. Hart & Cooley Inc.
      b. Krueger.
      c. Nailor Industries Inc.
      d. Titus.
      e. Tuttle & Bailey.
   2. Material: Aluminum.
   3. Finish: Baked enamel, white.
   4. Face Arrangement: 1/2 inch eggcrate.
   5. Core Construction: Integral.
   6. Frame: 1-1/4 inches wide.
   7. Mounting: Countersunk screw.
   8. Damper Type: Adjustable opposed blade.

2.2 GRILLES

A. Fixed Face Grille C:

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
   a. Hart & Cooley Inc.
   b. Krueger.
   c. Nailor Industries Inc.
   d. Titus.
   e. Tuttle & Bailey.
2. Material: Steel.
3. Finish: Baked enamel, white.
4. Face Blade Arrangement: Horizontal; spaced 1/2 inch apart.
5. Face Arrangement: 38 deg deflection blades, parallel to short dimension.
6. Core Construction: Integral.
7. Frame: 1-1/4 inches wide.
8. Mounting: Countersunk screw.

2.3 SOURCE QUALITY CONTROL

A. Verification of Performance: Rate registers and grilles according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas where registers and grilles are installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install registers and grilles level and plumb.

B. Outlets and Inlets Locations: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practical. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.

C. Install registers and grilles with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and other accessories.

3.3 ADJUSTING

A. After installation, adjust registers and grilles to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION 233713.23

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

SECTION 237433 - DEDICATED OUTDOOR-AIR UNITS

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 factory-assembled, dedicated outdoor air-handling units, including multiple components, capable of heating and cooling 100 percent outdoor air, with the following components:
   1. Unit casings.
   2. Fans, drives, and motors.
   3. Fixed-plate heat exchanger.
   4. Coils.
   5. Refrigerant circuit components.
   6. Air filtration.
   7. Dampers.
   8. Electrical power connections.
   9. Controls.
   10. Roof curbs.
   11. Accessories.

1.3 DEFINITIONS:

A. ECM: Electronically commutated motor.

B. ISCOP: Integrated Seasonal Coefficient of Performance.

C. ISMRE: Integrated Seasonal Moisture Removal Efficiency.

D. MRC: Moisture Removal Capacity.

E. RTU: Rooftop unit. As used in this Section, this abbreviation means roof mounted dedicated outdoor-air units that are also used to heat and cool spaces similar to a packaged rooftop air-conditioning unit.

1.4 ACTION SUBMITTALS

A. Product Data: For each dedicated outdoor-air unit.

   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

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2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
3. Include unit dimensions and weight.
4. Include cabinet material, finishes, insulation, and accessories.
5. Fans:

    a. Certified fan-performance curves with system operating conditions indicated.
    b. Certified fan-sound power ratings.
    c. Fan construction and accessories.
    d. Motor ratings, electrical characteristics, and motor accessories.

6. Include coil-performance ratings with system operating conditions indicated.
7. Include filters with performance characteristics.
8. Include heat exchangers with performance characteristics.
9. Include dampers, including housings, linkages, and operators.

B. Delegated Design Submittal: For dedicated outdoor-air-unit supports indicated to comply with performance and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Include design calculations for selecting seismic restraints and wind restraints, and for designing vibration isolation bases.
2. Wind- and Seismic-Restraint Details: Detail fabrication and attachment of wind and seismic restraints and snubbers. Show anchorage details and indicate quantity, diameter, and depth of penetration of anchors.
3. Detail mounting, securing, and flashing of roof curb to roof structure. Indicate coordinating requirements with roof membrane system. Include information from existing Firestone roofing manufacturer to re-certify and maintain existing roof warranty.

1.5 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For manufacturer's warranty.

B. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For dedicated outdoor-air units to include in emergency, operation, and maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Fan Belts: One set**(s)** for each belt-driven fan.
2. Filters: One set**(s)** for each unit.

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1.8 COORDINATION

A. Coordinate sizes and locations of building openings and duct connections with actual equipment provided.

1.9 WARRANTY

A. Warranty: Manufacturer agrees to replace components of dedicated outdoor-air units that fail in materials or workmanship within specified warranty period.

1. Warranty Period for Dedicated Outdoor-Air-Handling Units: Two years from date of Substantial Completion.
2. Warranty Period for Compressors: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an "NRTL" (nationally recognized testing laboratory), and marked for intended location and application.

B. NFPA Compliance: Comply with NFPA 90A for design, fabrication, and installation of units and components.

C. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

D. ASHRAE 15 and ASHRAE 34 Compliance: For refrigeration system safety.

E. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

F. ASHRAE 84 and AHRI 1060 Compliance: Comply with capacity ratings for fixed plate energy-recovery equipment.

G. UL Compliance:

1. Units with heat-recovery devices shall comply with requirements in UL 1812.

2. Electric Coils: Comply with requirements in UL 1995.

H. Delegated Design: Engage a qualified professional engineer, to design seismic restraints and wind restraints.

I. Seismic Performance: Units shall withstand the effects of earthquake motions determined in accordance with ASCE/SEI 7. See Section 230548 "Vibration and Seismic Controls for HVAC."

DocuSign Envelope ID: 0DF4D827-7168-433C-A971-CEC892AFF6DF

1. The term "withstand" means "the unit will remain in place without separation of any parts when subjected to the seismic forces specified."
2. Component Importance Factor: 1.0.
3. .

J. Wind-Restraint Performance:

1. See Section 230548 "Vibration and Seismic Controls for HVAC for requirements.

2.2 CAPACITIES AND CHARACTERISTICS

A. As indicated on Drawings.

2.3 MANUFACTURERS

A. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide product indicated on Drawings or a comparable by one of the following:
1. Carrier.
2. Greenheck Fan Corporation.
3. Renewaire.
4. Trane.
5. Valent.

B. Source Limitations: Obtain dedicated outdoor-air units from single manufacturer.

2.4 UNIT CASING

A. General Fabrication Requirements for Casings: Formed and reinforced double-wall insulated panels, fabricated to allow removal for access to internal parts and components, with joints between sections sealed.

B. Configuration: Horizontal unit with bottom discharge for roof-mounting installation.

C. Double-Wall Configuration:

1. Outside Casing Wall: Galvanized steel, minimum 18 gauge thick with manufacturer's standard finish, with pitched roof panels and knockouts with grommet seals for electrical and piping connections and lifting lugs.
2. Inside Casing Wall:
   a. Inside Casing: Galvanized steel, 24 gauge minimum thickness, except for motor supports which shall be 14 gauge minimum.
3. Roof: Standing seam or membrane; sloped to drain water.
4. Casing Insulation:

   a. Materials: Polyurethane foam insulation.
   b. Casing Panel R-Value: Minimum R-13.
   c. Insulation Thickness: 2 inches.
   d. Thermal Break: Provide continuity of insulation with no through-casing metal in casing walls, floors, or roofs of air-handling unit.

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e. Shall meet UL94HF-1 flame requirements.
f.

5. Interior Divider Panel Insulation Between Outdoor Air and Return/Exhaust Air Streams:
   a. Materials: Fiberglass.
   b. Insulation Thickness: 2 inches.
   c. R-Value: Minimum R-8.
   d. Fire Hazard Classification: Maximum flame spread of 25 and smoke developed of 50, when tested in accordance with ASTM C 411.
6. Roof Insulation: 2 inch fiberglass located above the 1 inch foam panel.

D. Airstream Surfaces: Surfaces in contact with airstream shall comply with requirements in ASHRAE 62.1.

E. Panels and Doors:

1. Panels:

   a. Fabrication: Formed and reinforced double-wall and insulated panels of same materials and thicknesses as casing.
   b. Fasteners: Two or more camlock-type fasteners for panel lift-out operation. Arrangement shall allow panels to be opened against airflow
   c. Gasket: Neoprene, applied around entire perimeters of panel frames.
   d. Size: Large enough to allow unobstructed access for inspection and maintenance of unit's internal components

2. Doors:

   a. Fabrication: Formed and reinforced double-wall and insulated panels of same materials and thicknesses as casing.
   b. Hinges: A minimum of two ball-bearing hinges or stainless steel piano hinge and two wedge-lever latches, operable from inside and outside. Arrange doors to be opened against airflow. Provide safety latch retainers on doors so that doors do not open uncontrollably.
   c. Gasket: Neoprene, applied around entire perimeters of panel frames.
   d. Size: Large enough to allow for unobstructed access for inspection and maintenance of air-handling unit's internal components.

F. Condensate Drain Pans:

1. Location: Each refrigerant coil.
2. Construction:

   a. Single-wall, stainless steel sheet.

3. Size: Large enough to collect condensate from cooling coils, including coil piping connections, coil headers, and return bends.
4. Drain Connection:

   a. Located on one end of pan, at lowest point of pan.
   b. Terminated with threaded nipple.

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5. Slope: Minimum 0.125-inch/ft. slope, to comply with ASHRAE 62.1, in at least two planes to collect condensate from cooling coils (including coil piping connections, coil headers, and return bends) and from humidifiers and to direct water toward drain connection.
6. Length: Extend drain pan downstream from leaving face for distance to comply with ASHRAE 62.1.
7. Width: Entire width of water-producing device.
8. Provide units having stacked coils with intermediate drain pan to collect condensate from top coil.

2.5 FANS, DRIVES, AND MOTORS

A. Fan and Drive Assemblies: Statically and dynamically balanced and designed for continuous operation at maximum-rated fan speed and motor horsepower.

B. Supply-Air Fans and Return-Air Fans: Centrifugal; galvanized or painted steel; mounted on solid-steel shaft.

1. Shafts: With field-adjustable alignment.

    a. Turned, ground, and polished hot-rolled steel with keyway.

2. Shaft Bearings:

    a. Heavy-duty, self-aligning, pillow-block type with an L-50 rated life of minimum 100,000 hours in accordance with ABMA 9.

3. Housings, Plenum Fans: Steel frame and panel; fabricated without fan scroll and volute housing. Provide inlet screens for Type SWSI fans.
4. Airfoil, Centrifugal Fan Wheels (Plenum Fan Wheels): Smooth-curved inlet flange, backplate, and hollow die-formed airfoil-shaped blades continuously welded at tip flange and backplate; steel hub riveted to backplate and fastened to shaft with setscrews.
5. Mounting: For internal vibration isolation. Factory mount fans with manufacturer's standard vibration isolation mounting devices having a minimum static deflection of 1 inch.

C. Drive, Direct: Factory-mounted direct drive.

D. Condenser-Coil Fans:
1. Lead Fan: Variable-speed propeller, mounted on shaft of permanently lubricated electronically commutated motor.
2. All Other Fans: Single-speed propeller, mounted on shaft of permanently lubricated motors.

E. Motors:
1. Manufacturer’s standard types for supply-air and return-air fans.

F. Variable-Frequency Motor Controller: Manufacturer’s standard unit, serving each fan individually. Factory programmed for actual unit operation characteristics with field-adjustable

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setpoint ranges and options in unit's central microprocessor controller as appropriate to application.

2.6 COILS

A. General Requirements for Coils:

1. Comply with AHRI 410.
2. Fabricate coils section to allow removal and replacement of coil for maintenance and to allow in-place access for service and maintenance of coil(s).
3. Coils are not to act as structural component of unit.

B. Supply-Air Refrigerant Coils:

1. Tubes: Copper or other manufacturer standard material.
2. Fins:

    a. Material: Aluminum or other manufacturer standard material..

3. Fin and Tube Joints: Mechanical bond for tube-and-fin coils or brazed for microchannel coils.
4. Headers: Seamless-copper headers with brazed connections.
5. Frames: Galvanized steel.
6. Coatings: None.
7. Ratings: Designed, tested, and rated in accordance with ASHRAE 33 and AHRI 410.

    a. Working Pressure: Minimum 300 psig.

C. Electric-Resistance Heating Coils: Comply with UL 1995.

1. Open Heating Elements: Resistance wire of 80 percent nickel and 20 percent chromium supported and insulated by floating ceramic bushings recessed into casing openings, fastened to supporting brackets, and mounted in galvanized-steel frame.
2. Overtemperature Protection: Disk-type, automatically resetting, thermal-cutout, safety device; serviceable through terminal box without removing heater from coil section.
3. Secondary Protection: Load-carrying, manually resetting or manually replaceable, thermal cutouts; factory wired in series with each heater stage.
4. Control Panel: Unit mounted with disconnecting means and overcurrent protection.

    a. Magnetic contactor.
    b. SCR controller.
    c. Airflow proving switch.

D. Condenser Refrigerant coils:

1. Tube Material: Copper or other manufacturer standard material.
2. Fin Material: Aluminumor other manufacturer standard material.
3. Fin and Tube Joint: Mechanical bond for tube-and-fin coils brazed for microchannel coils.
4. Coating: None.

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2.7 REFRIGERATION CIRCUIT COMPONENTS

A. Compressors: Hermetic, variable-speed scroll compressors, mounted on integral vibration isolators; with internal overcurrent and high-temperature protection, internal pressure relief, and crankcase heater.

B. Refrigerant: R-410A.

C. Refrigeration Specialties:

1. Expansion valve.
2. Refrigerant filter/dryer.
3. Manual-reset high-pressure safety switch.
4. Automatic-reset low-pressure safety switch.
5. Minimum off-time logic.
6. Automatic-reset compressor motor thermal overload.
7. Thermostat for coil freeze-up protection during low-ambient-temperature operation or loss of air.
8. Brass service valves installed in discharge and liquid lines.
9. Low-ambient kit high-pressure sensor.
10. Single compressor with evaporator and condenser coil within the refrigerant section to provide cooling.
11. Four-way reversing valve with a replaceable magnetic coil, thermostatic expansion valves with bypass check valves, and a suction line accumulator.

2.8 AIR FILTRATION

A. Panel Filters:

1. Description: Pleated factory-fabricated, self-supported disposable air filters with holding frames.
2. Filter Unit Class: UL 900.
3. Media: Interlaced glass, synthetic, or cotton fibers coated with nonflammable adhesive and antimicrobial coating.
4. Filter-Media Frame: Beverage board with perforated metal retainer, or metal grid, on outlet side.
5. MERV Rating: 8 minimum when rated in accordance with ASHRAE 52.2.

B. Mounting Frames:

1. Panel filters arranged for flat or angular orientation, with access door.

2.9 FIXED-PLATE HEAT EXCHANGER

A. Type: Fixed-Plate, Total-Enthalpy Heat Exchanger

B. Casing:

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1. Galvanized steel, stainless steel, or aluminum with manufacturer's standard factory-painted finish.
2. Casing seals on periphery of heat exchanger core and on duct divider section.

C. Drain Pan: Same material as casing, with drain connection.
1. Comply with requirements in ASHRAE 62.1.

D. Plates: Evenly spaced, sealed, and arranged for cross-flow.
1. Plate Material: Polymer with nonmigrating, water-selective, molecular-sieve desiccant coating.
2. Plate materials and coatings shall not promote mold or bacteria growth.

E. Bypass Damper: To facilitate air economizer operation.

F. Electric Pre-Heat Coil: For frost control. Include outdoor air temperature sensor to initiate frost control sequence. Preheater shall comply with UL 1995.

G. Controls:
1. Unit mounted microprocessor control allowing monitoring, fault detection and diagnostics, and setpoint and sequence modification for unit.
2. Control energy recovery to permit air economizer operation.

a. Bypass dampers to assist energy recovery control.
3. Heat exchanger defrost (pre-heater) cycle.
4. Refrigeration system defrost cycle.
5. Interface to remote room pressurization control as indicated on Drawings.
6. Control heating and cooling to maintain space temperature setpoint.
7. Interface to existing Owner’s campus automation system over BACnet IP/Ethernet connection to building’s local area network for monitoring of unit and limited control including temperature setpoints, room pressurization setpoints, and scheduling. See Drawings and sequence of operation.

2.10 DAMPERS

A. Outdoor- and Exhaust-Air Dampers: Low-leakage, double-skin, airfoil-blade, galvanized-steel dampers with compressible jamb seals and extruded-vinyl blade edge seals in opposed-blade arrangement withsteel operating rods rotating in bearings mounted in a single galvanized-steel frame, and with operating rods connected with a common linkage. Leakage rate shall not exceed 4 cfm/sq. ft. at 1 inch wg and 8 cfm/sq. ft. at 4 inches wg. Factory provided electronic actuators with end switches, to ensure that dampers are open prior to unit fans starting.

2.11 ELECTRICAL POWER CONNECTIONS

A. Single-Point Power Connection: Factory-installed and -wired switches, motor controllers, transformers, and other necessary electrical devices shall provide a single-point field power connection to unit except for convenience outlets, which are to be powered separately.

B. Enclosure: NEMA 250, Type 3R, mounted in unit with hinged access door in unit cabinet.

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C. Wiring: Numbered and color-coded to match wiring diagram.

D. Wiring Location: Install factory wiring outside an enclosure in a raceway.

E. Power Interface: Field power interface to be NEMA KS 1, heavy-duty, nonfused disconnect switch.

F. Factory Wiring: Branch power circuit to each motor and to controls with overcurrent protection.

G. Factory-Mounted, Overcurrent-Protection Service: For each motor.

H. Transformer: Factory mounted with primary and secondary fuses and sized with enough capacity to operate electrical load plus spare capacity.

I. Controls: Factory wire unit-mounted controls where indicated.

1. Convenience Outlets: One 20 A duplex GFCI receptacle per location with junction box located on outside casing wall.

2.12 CONTROLS

A. Comply with requirements in Section 230923 "Direct Digital Control (DDC) System for HVAC" and sequence of operation indicated on Drawings for control equipment and sequence of operation.

B. Control Wiring: Factory wire connection for controls' power supply.

C. Control Devices: Sensors, transmitters, relays, switches, detectors, operators, actuators, and valves shall be manufacturer's standard items to accomplish indicated control functions.

D. Wall-mounted temperature control sensor and adjustment device.

E. Interface with wall-mounted pressurization control device. See Section 230923 “Direct Digital Control (DDC) System for HVAC.”

F. Remote-Mounted Status Panel:

1. Cooling/Off/Heating Controls: Control operational mode.
2. Damper Position: Indicate position of outdoor-air and exhaust-air dampers.
3. Status Lights:

    a. Filter dirty.
    b. Fan operating.
    c. Cooling operating.
    d. Heating operating.
    e. General alarm.

4. Digital Numeric Display:

    a. Outdoor airflow.
    b. Supply airflow.

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c. Outdoor dry-bulb temperature.
d. Outdoor dew point temperature.
e. Space temperature.
f. Supply temperature.
g. Space relative humidity.

G. Frost Control: Electric preheat.

H. Economizer Control: Fixed-plate airflow bypass. See Section 230923 "Direct Digital Control (DDC) System for HVAC" for control sequence.

I. Dirty filter switch for each filter bank.

J. Supply air and exhaust air flow monitors.

K. Temperature sensors located in the following positions:
1. Outdoor Air Intake (upstream of pre-heater).
2. Return Air Intake.
3. Outside Air After Heat Exchanger.
4. Supply Air Discharge (before and after refrigerant coil, after auxiliary electric heat coil).
5. Exhaust Air After Heat Exchanger.

L. Phase loss, reversal, and brownout protection.

M. Fixed-Plate Heat-Exchanger Control:

1. Sequence with refrigeration system controls and heating controls.
2. For operation of fixed-plate heat exchanger itself, see "Fixed-Plate Heat Exchanger" Article.

N. Electric-Resistance Heat Controls:

1. Factory-mounted sensor in unit discharge with sensor adjustment located in control panel to control electric coil to maintain temperature.
2. Capacity Controls: Modulating SCR.

2.13 ROOF CURBS

A. Materials: Galvanized steel with corrosion-resistant coating, watertight gaskets, and factory-installed wood nailer; complying with National Roofing Contractors Association manuals for the specific type of roofing applicable to the Project.

1. Curb Insulation and Adhesive: Comply with NFPA 90A or NFPA 90B.

a. Materials: ASTM C1071, Type I or II.
b. Thickness: 1 inch.

2. Application: Factory applied with adhesive and mechanical fasteners to the internal surface of curb.

a. Liner Adhesive: Comply with ASTM C916, Type I.

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b. Mechanical Fasteners: Galvanized steel, suitable for adhesive attachment, mechanical attachment, or welding attachment to duct without damaging liner when applied as recommended by manufacturer and without causing leakage in cabinet.
c. Liner materials applied in this location shall have airstream surface coated with a temperature-resistant coating or faced with a plain or coated fibrous mat or fabric, depending on service air velocity.

B. Curb Dimensions: Height of 14 inches.

C. Wind and Seismic Restraints: Metal brackets compatible with the curb and casing, painted to match unit, used to anchor unit to the curb, and designed for loads at Project site. Comply with requirements in Section 230548 "Vibration and Seismic Controls for HVAC" for wind-load requirements.

2.14 INTAKE AND RELIEF OPENINGS

A. Type: Manufacturer's standard hood or louver, including moisture eliminator, at all unit intake and relief openings.

B. Materials: Match material and finish of casing exterior.

C. Bird Screen: Comply with requirements in ASHRAE 62.1.

D. Configuration: Designed to inhibit wind-driven rain and snow from entering unit.

2.15 MATERIALS

A. Steel:

1. ASTM A36/A36M for carbon structural steel.
2. ASTM A568/A568M for steel sheet.

B. Stainless Steel:

1. Manufacturer's standard grade for casing.
2. Manufacturer's standard type, ASTM A240/A240M for bare steel exposed to airstream or moisture.

C. Galvanized Steel: ASTM A653/A653M.

D. Aluminum: ASTM B209.

2.16 SOURCE QUALITY CONTROL

A. AHRI 920: Manufacturer to certify that performance ratings are in accordance with AHRI 920 if AHRI 920 certification program is not in place. Provide AHRI 920 certification if AHRI 920 certification program is in place.

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B. AHRI 260 or AMCA 311 Sound Performance Rating Certification: Test, rate, and label unit fan sound ratings in accordance with AHRI 260 or AMCA 311.

C. Fan Aerodynamic Performance Rating: Test and rate fan performance for airflow, pressure, power, air density, rotation speed, and efficiency.

1. Fan Aerodynamic Performance Rating: Test and rate fan performance in accordance with AMCA 210.
2. AMCA Fan Aerodynamic Certification Rating: Test, rate, and label, in accordance with AMCA 211.

D. Fan Operating Limits: Classify fans in accordance with AMCA 99, Section 14.

E. Damper Leakage and Air Performance:

1. Damper Rating: Test and rate dampers for leakage and air performance in accordance with AMCA 510.
2. AMCA Damper Certification: Test, rate, and label in accordance with AMCA 511.

F. Refrigerant Coils: Factory tested to minimum 450 psig internal pressure and to minimum 300 psig internal pressure while under water, in accordance with AHRI 410 and ASHRAE 33.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine casing insulation materials and filter media before packaged, outdoor, fixed-plate, energy-recovery unit installation. Replace insulation materials and filter media that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for piping, ducts, and electrical systems to verify actual locations of connections before equipment installation.

D. Examine roof curbs and equipment supports for suitable conditions where units will be installed.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Roof Curb: Install on roof structure or concrete base, level and secure, in accordance with AHRI Guideline B. Install units on curbs and coordinate roof penetrations and flashing with roof construction.Secure units to upper curb rail, and secure curb base to roof framing or concrete base with anchor bolts. Coordinate sizes and locations of roof curbs with actual equipment provided.

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1. Roof penetrations and membrane shall be re-sealed in accordance with instructions from existing Firestone roofing manufacturer and contractor shall coordinate with roofing manufacturer to re-certify and maintain existing roof warranty.

B. Do not operate fan system until filters (temporary or permanent) are in place. Replace temporary filters used during construction and testing with new, clean filters.

C. Connect duct to air-handling units with flexible connections. Comply with requirements in Section 233300 "Air Duct Accessories."

D. Install wall- and duct-mounted sensors furnished by manufacturer for field installation. Install control wiring and make final connections to control devices and unit control panel.

E. Install separate devices furnished by manufacturer and not factory installed.

F. Install new filters at completion of equipment installation and before testing, adjusting, and balancing.

3.3 PIPING CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to units, allow space for service and maintenance.

C. Condensate Drain Piping: See Section 232600 "Condensate Drain Piping" for pipe type. Install condensate drain piping from drain pans to appropriate place of disposal, same size as condensate drain connection.
1. Construct deep trap at connection to drain pan, and install cleanouts at changes in direction.

3.4 DUCT CONNECTIONS:

A. Comply with duct installation requirements specified in other HVAC Sections. Drawings indicate general arrangement of ducts. The following are specific connection requirements:
1. Install ducts to termination at top of roof curb.
2. Remove roof decking only as required for passage of ducts. Do not cut out decking under entire roof curb.
3. Connect supply ducts to RTUs with flexible duct connectors specified in Section 233300 "Air Duct Accessories."
4. Install return-air duct continuously through roof structure.

B. Connect ducts to units with flexible duct connectors. Comply with requirements for flexible duct connectors in Section 233300 "Air Duct Accessories."

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3.5 ELECTRICAL CONNECTIONS

A. Connect wiring in accordance with local electrical code.

B. Ground equipment in accordance with local electrical code.

C. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.

D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.
   1. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch high.

3.6 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring in accordance with local electrical code.

C. Connect local area network to unit BACnet controller. Owner shall provide network connection. Coordinate interface over IP/ethernet with existing campus control system.

3.7 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

   1. Complete installation and startup checks in accordance with manufacturer's written instructions.
   2. Verify lubrication on fan and motor bearings.
   3. Inspect fan-wheel rotation for movement in correct direction without vibration and binding.
   4. Adjust fan belts to proper alignment and tension.
   5. Start refrigeration system when outdoor-air temperature is within normal operating limits. and measure and record the following:

      a. Cooling coil leaving-air, dry- and wet-bulb temperatures.
      b. Cooling coil entering-air, dry- and wet-bulb temperatures.
      c. Condenser coil entering-air dry-bulb temperature.
      d. Condenser coil leaving-air dry-bulb temperature.
      e. Record the above items in both cooling and heating mode when possible.

   6. Simulate maximum cooling demand and inspect the following:

      a. Compressor refrigerant suction and hot-gas pressures.
      b. Short-circuiting of air through outside coil or from outside coil to outdoor-air intake.

   7. Inspect casing insulation for integrity, moisture content, and adhesion.
   8. Verify that clearances have been provided for servicing.

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9. Verify that controls are connected and operable.
10. Verify that filters are installed.
11. Clean coils and inspect for construction debris.
12. Inspect and adjust vibration isolators and seismic restraints.
13. Verify bearing lubrication.
14. Clean fans and inspect fan-wheel rotation for movement in correct direction without vibration and binding.
15. Adjust fan belts to proper alignment and tension.
16. Start unit.
17. Inspect and record performance of interlocks and protective devices, including response to smoke detectors by fan controls and fire alarm.
18. Operate unit for run-in period.
19. Calibrate controls.
20. Adjust and inspect high-temperature limits.
21. Adjust room pressurization controls.
22. Inspect outdoor-air and exhaust-air dampers for proper stroke and interlock with fan starting sequence.
23. Verify operational sequence of controls.
24. Measure and record the following airflows.

    a. Supply-air volume.

    b. Exhaust-air volume.

B. After startup, change filters, verify bearing lubrication, and adjust belt tension.

C. Remove and replace components that do not properly operate, and repeat startup procedures as specified above.

D. Prepare written report of the results of startup services.

3.8 ADJUSTING

A. Adjust moving parts to function smoothly, and lubricate as recommended by manufacturer.

B. Adjust initial temperature and humidity set points.

C. Set field-adjustable switches and circuit-breaker trip ranges as indicated.

D. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.9 CLEANING

A. After completing system installation; testing, adjusting, and balancing dedicated outdoor-air unit and air-distribution systems; and completing startup service, clean air-handling units internally to remove foreign material and construction dirt and dust. Clean fan wheels, casings, dampers, coils, and filter housings, and install new, clean filters.

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3.10 FIELD QUALITY CONTROL

A. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
   1. Charge refrigerant coils with refrigerant and test for leaks. If system is charged from the factory, use refrigerant detector throughout system and confirm any potential leaks found with soap bubbles.
   2. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
   3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. Dedicated Outdoor-Air Units will be considered defective if they do not pass tests and inspections.

3.11 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain units.

END OF SECTION 237433

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ARCHITECTURE • ENGINEERING
Celebrating 40 years of Service

December 8, 2022

Robert Blain
Benton County
620 Market Street
Prosser, WA 99350

RE: BENTON COUNTY CORONER AUTOPSY SUITE VENTILATION UPGRADE

Dear Mr. Blain:

I have reviewed the structural design loads shown on A2.00 (Hummel dated December 2003) and the roof framing shown on A2.02 (Hummel dated December 2003), along with the new RTU2 shown on Meier Architecture • Engineering (Meier) Drawings M101 and M102. The existing roof framing has the required capacity to support the new unit.

If you have any questions, please feel free to contact me directly at 509.737.6964 or jtshuttleworth@meierinc.com.

Sincerely,

JILL T. SHUTTLEWORTH
STATE OF WASHINGTON
25811
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

2022.12.08
10:26:12-08'00'

Jill T. Shuttleworth, PE, SE

JTS:ram

Project No. 22-9051
Letter No. 22-0105

12 W. Kennewick Ave. | Kennewick, WA 99336 | M 509.735.1589 | F 509.783.5075 | www.meierinc.com

MECHANICAL COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

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Project & Applicant Information	**Project Title**	Benton County Coroner's Office HVAC Upgrades - 2018 WSEC	For Building Department Use:	**Date: Dec 09, 2022**
	Project Address	7122 W. Okanogan Place Building C Kennewick, WA 99336		
	Applicant Name	Derek Archer		
	Applicant Phone	509-735-1589		
	Applicant Email	dlarcher@meierinc.com		

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Commercial		**General Building Use Type**	Office, Medical		**Building Cond. Floor Area**	4,045
General Project Types	Alteration	**New Building or Addition Mechanical Scope**		**Alteration Mechanical Scope**	Single Zone Systems & Equipment	**Project Cond. Floor Area**	714
						Floors Above Grade	1
						Compliance Method	Compliance Method 1 - General
Mechanical Project Description	Replacement of existing equipment serving autopsy spaces for better pressurization control and comfort. Existing system is a packaged RTU heat pump with a standalone interlocked exhaust fan in the autopsy room and a standalone exhaust fan in a restroom connected to the autopsy room. New system is a 100% outdoor air energy recovery unit that includes cooling and heating via heat pump, and electric auxiliary heat. Exhaust fan is controllable to maintain negative pressurization in the space compared to other adjacent spaces not served by this system. Due to requirements in ASHRAE Standard 170 for autopsy rooms preventing recirculation of air to other spaces, a variance was granted by the City of Kennewick via email on 10-07-2022 to use a 100% outdoor air system, as it would otherwise be in violation of WSEC section C403.2.2 limiting ventilation to 150% of the code-required amount. Energy recovery is used in this system to facilitate improved air quality and occupant comfort in the space and adjacent spaces in the building.						

Mechanical Compliance Scope and Method	**Project Type**	**Mechanical Scope**	**Economizer Exception(s) Applied?**	**DOAS Ventilation Provided?**	**Higher Equipment Efficiency Option Applied?**	**Equipment Efficiency Compliance Verification**
	Alteration	Single Zone Systems & Equipment	Yes	Yes	NA	**COMPLIES**
Additional Efficiency Credits Included (AEC)						
Does building include occupancy classifications requiring DOAS?	Yes		**Does project include DOAS equipment?**			Yes
Based on project scope do TSPR requirements apply?	No		**Do all systems comply with Appendix D standard reference design or qualify for an exception to TSPR?**			No

Scope & Space Conditioning	**ALTERATION - SINGLE ZONE SYSTEMS & EQUIPMENT**	**Compliance Verification**	**COMPLIES**

Single Zone Air Systems Category - Dedicated outside air system (DOAS)

Air Systems Summary Information

System/Equip ID	Paired with other Systems/Equip	Ventilation Airflow Control	Ventilation Standard	Ventilation CFM	Ventilation energy recovery	Energy Recovery Efficiency (%)
RTU-2		Constant volume	ASHRAE Standard 62.1	1,255	Yes per C403.3.5.1 DOAS ER	66

Air Systems & Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity per item (Btu/h)	AEC Efficiency Multiplier	Econo Exception Multiplier (FL & PL)	Combined Efficiency Multiplier (AEC & Econo)	Proposed Cooling Efficiency	CE Units	Proposed Part Load Efficiency	PL Units	Efficiency Compliance Verification
RTU-2	DX-DOAS heat pump, air cooled	With energy recovery	61,500	1	0	1	9.9	ISMRE			COMPLIES

Air Systems & Equipment - Heating

System /Equip ID	Heating System/Equip Type	Specific Type	Heat Pump Heating Capacity (Btu/h)	Cooling Capacity (Btu/h)	AEC Efficiency Multiplier	Proposed Heat Pump Heating Efficiency	HPH Units	Proposed Low OSA Temp Efficiency	LTH Units	Efficiency Compliance Verification

RTU-2	DX-DOAS heat pump, air cooled, heating	With energy recovery	28,100	61,500	1	7.1	ISCOP			COMPLIES

Air Systems & Equipment Details			
System/Equip ID	**Area(s) Served**	**Location In Project Documents - Plan/Detail #**	
RTU-2	Autopsy Suite	ALL	
	DOAS paired with heating & cooling systems/equip: Stand alone DOAS (not paired w/ other systems/equip)		
	Economizer Compliance Method: Air-side economizer provided		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(11&12) DX-DOAS Units
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(11&12) DX-DOAS Units		

2018 WSEC Requirements for Commercial Buildings including Group R2, R3 & R4 over 3 stories & all R1 -- Administered by ©2022 NEEA, All rights reserved
The following information is necessary to check a mechanical permit application for compliance with the mechanical systems and equipment requirements in the Washington State Energy Code, Commercial Provisions.
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

Project:
Benton County Coroner's Office HVAC Upgrades - 2018 WSEC
7122 W. Okanogan Place
Building C
Kennewick, WA 99336

Date: 2022-12-08

Applies	Code Section	Code Provision	Compliance Information Required In Permit Documentation	Location in Documents	Building Department Notes
SCOPE					
	C103.1	Construction documents - General	For a shell & core or tenant space (first build-out) project, indicate if there is no mechanical scope included in the project.		
NA	C103.1	Construction documents - General	For an alteration project, indicate if there is no mechanical scope included in the project.		
PERFORMANCE CRITERIA & SYSTEM DESIGN					
NA	C403.1	Exempt process equipment	Identify equipment used by manufacturing, industrial or commercial processes that are not for space conditioning or maintaining comfort and amentities for occupants; identify provisions applicable to this equipment per C403.1 exception		
	C403.1.1	HVAC total system performance ratio (TSPR)	For systems serving office, retail, library or education occupancies, provide a TSPR report that demonstrates the proposed design ratio is equal to or greater than the standard reference design ratio, or exception applied		
YES	C403.1.2	Calculation of heating and cooling loads	Provide load calculations performed per ASHRAE Std 183 or equivalent, using design parameters per C302 and Appendix C; include load adjustments to account for energy recovery	M002	
NA	C403.1.3	Data centers	Provide documentation that demonstrates that data center systems comply with the maximum allowed Design MLC and Annualized MLC per ASHRAE 90.4 with 2018 WSEC adjustments per climate zone		
NA	C403.2.1 C403.4.2.2	Zone isolation	If there are HVAC zones that are intended to be occupied non-simultaneously, identify isolation zone areas on plans; if multiple zones intended to be occupied simultanteously will be combined into a single isolation zone, include on plans that the combined zone area does not exceed 25,000 sf and does not include more than one floor; or exception applied		
NA			Indicate locations of associated zone isolation dampers in HVAC distribution system		
NA			Refer to HVAC Controls section in Requirements List for applicable automatic setback and shutdown controls requirements		
EQUIPMENT SELECTION & PERFORMANCE					

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YES	C403.3.1	Equipment and system sizing	Indicate that output capacities of heating and cooling equipment and systems are no greater than the smallest available equipment size that exceeds the calculated loads; note exceptions applied	M002	
YES	C403.3.2 C403.9.1	HVAC equipment performance requirements (efficiency)	Provide equipment schedules on plans and in WSEC mechanical equipment compliance reports; indicate equipment type, calculated loads, capacity, rated and WSEC minimum efficiencies for all heating and cooling equipment; include supply and ventilation air cfms and operating hours for all air systems; identify heating and cooling equipment that does not have a corresponding WSEC minimum efficiency (manufacturer rated)	WSEC Compliance Reports, M601.	
NA	C405.8	Electric motor efficiency	List all motors ≥ 1/12 hp (that are not integral to a rated piece of equipment) in the mechanical or electrical equipment schedules on plans; indicate motor type and applicable efficiency table, hp, rpm, number of poles and rated efficiency, or exception applied		
NA	C403.3.2	Gas and oil-fired forced air furnace and unit heaters	For forced air furnaces with capacity ≥ 225,000 Btu/h and all unit heaters, indicate in equipment schedule intermittent ignition or IID, flue or draft damper, and rated jacket loss		
YES	C403.3.2.4	Packaged electric heating / cooling equipment	Verify all packaged electric equipment with > 6,000 Btu/h cooling capacity and any amount of heating is a heat pump; include in equipment schedules		
NA	C403.3.3	Hot gas bypass limitation for DX cooling equipment	For cooling equipment with hot gas bypass, provide either multiple step unloading or continuous capacity modulation; indicate bypass capacity per Table C403.3.3		
NA	C403.3.2.5	Humidification	For cooling systems with humidification equipment that are also required to have air economizer, indicate humidifier is adiabatic (direct evaporative or fog atomization), or exception applied		
	C403.3.2	Hydronic equipment	Refer to Requirements List section Hydronic Systems - Equipment Selection & Performance for selection criteria specific to chillers and boilers		
NA	C403.9	Heat rejection equipment	Refer to Requirements List section Heat Rejection Systems - Equipment Selection & Performance for selection criteria specific to cooling towers, dry coolers and condensers (air-cooled and evaporative)		

EQUIPMENT SELECTION & PERFORMANCE - DEDICATED OUTSIDE AIR SYSTEMS (DOAS)

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NO	C403.3.5 C403.3.5.4	Dedicated outdoor air systems	For buildings with occupancies required to comply with the DOAS provisions per Table C403.3.5, identify on plans all occupancies in the building and indicate which occupied spaces are required to have ventilation air delivered by a DOAS; or exception applied	Special case. 100% outside air system for autopsy suite per ASHRAE 170. B occupancy.	
NA			If natural ventilation exception is applied, identify these spaces on plans; indicate operable window area complies with IMC Section 402; provide documentation describing how required ventilation will be provided during all occupied hours, including during inclement weather		
NA			If high efficiency VAV exception is applied, identify these spaces on plans; refer to Single Zone VAV section for Groups A-1, A-2 and A-3 occupancy classifications, or Multiple Zone VAV for other than Groups A-1, A-2 and A-3 (per Table C403.3.5)		
NA			If compliance with the DOAS provisions is deemed to be impractical, provide documentation that demonstrates the alternate design strategy applied that achieves a comparable level of energy efficiency, as pre-approved by the AHJ		
NA			Refer to Requirements List section after Multiple-Zone Air Systems for High Efficiency Multiple-Zone VAV Systems exception to C403.3.5 DOAS		
NA			Refer to Requirements List section after High Efficiency Multiple-Zone Air Systems for High Efficiency Single-Zone VAV Systems exception to C403.3.5 DOAS		
YES	C403.3.5.1	DOAS energy recovery method and effectiveness	For all DOAS systems, indicate exhaust air ER method and basis of rated effectiveness (sensible or latent); indicate ≥ 60% sensible or ≥ 50% enthalpy ER effectiveness based on delta between outdoor air and return air enthalpies at design conditions; or exception applied	M601	
NA			If applying exception for DCV, identify occupant load in space and airflow control configured to reduce ventilation rate by ≥ 50% when occupancy is less than design occupancy		
YES	C403.3.5.1	DOAS fan power	For DOAS with total system fan hp < 5 hp, indicate total system fan power does not exceed 1 watt per cfm	M601	
NA			For DOAS with total system fan hp ≥ 5 hp, indicate total system fan power complies with fan power limitation per Section C403.8.1		

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NA	C403.3.5.2	Heating / cooling system controls with DOAS	Indicate systems and equipment associated with the delivery of zone level heating and cooling (fans, hydronic pumps, primary air dampers, etc) are configured to shut off, and central eqiupment is configured to turn down, when there is no call for heating or cooling in the zone they serve		
NA			If applying Exception to heating / cooling fans used for air mixing in the space during deadband periods, include fan watts per cfm in equipment schedule		
NA	C403.3.5.3	Decoupled DOAS supply air	Indicate method of delivery of DOAS supply air to the occupied space (directly into space, downstream of terminal heating / cooling coils); or exception applied		
NA	C403.6.1	Multiple zone DOAS	For DOAS serving multiple zones, indicate controls configured to reduce the volume of outdoor air in each zone independently when the zone is unoccupied; or exception applied		
ADDITIONAL EFFICIENCY CREDITS - DEDICATED OUTSIDE AIR SYSTEMS (DOAS)					
	C406.6	DOAS	For building occupancies not subject to the requirements of Section C403.3.5, to comply with this additional efficiency credit, provide calculations that demonstrate 90% or more of the total floor area of all occupied, conditioned spaces are served by a DOAS per C403.3.5		
	C406.7	High performance DOAS - Energy recovery effectiveness and fan power	For all building occupancies, to comply with this additional efficiency credit, demonstrate compliance with C406.6		
			Indicate energy recovery sensible effectiveness of all DOAS is ≥ 80%		
			For each system, indicate that total system fan power does not exceed 0.5 watts per cfm		
FANS AND FAN CONTROLS					
NA	C403.8.1	Fan power limitation	For all HVAC fan systems that provide heating and / or cooling and all DOAS, provide system total nameplate hp in equipment schedules on project plans		
NA			For all applicable HVAC systems with total fan motor nameplate hp > 5hp, verify fan system motor hp or bhp complies with fan power limits per equations in Table C403.8.1(1)		
NA			Terminal units installed in conjunction with a DOAS (hydroninc heat pumps, VRF heat pumps, chilled/hot water terminal units, variable volume terminal units) shall be treated as independent air-handling units for purposes of fan power calculations		

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NA	C403.8.2	Motor nameplate hp	For all applicable HVAC systems with total fan motor nameplate hp > 5hp, indicate fan motors specified are the smallest available motor hp size greater than fan bhp, note exceptions applied		
NA	C405.8	Fractional hp fan motors	For all fractional hp fan motors (1/12 - 1 hp), indicate that motors comply with applicable WSEC efficiency tables; if motor type is not listed in an efficiency table, indicate whether fan has an electronically commutated motor, has motor rated efficiency of at least 70%, or exception applied		
NA	C403.8.3	Fan efficiency	For individual fans > 5hp, and multiple fans combined in series or parallel that operate as the functional equivalent of a single fan with a combined total motor hp > 5hp, indicate in equipment schedule that rated FEG for all applicable fans is ≥ 67, or exception applied; indicate these fans are sized so total efficiency is within 15% of the fan maximum total efficiency		
	C403.8.4	Group R occupancy exhaust fan efficacy	For all exhaust fans ≤ 400 cfm in Group R occupancies, indicate in equipment schedule the fan flow rate and efficacy (cfm/watt), or exception applied; refer to Table C403.8.4		
NA	C403.2.3	Variable flow capacity - fans	For fan motors ≥ 7.5 hp, indicate method of variable flow control (VSD or equivalent method) in equipment schedule, or exception applied		
NA	C403.8.5.1	Fan airflow control	For DX air handling units with cooling capacity ≥ 42,000 Btu/h and evaporative and chilled water air handling units with fan ≥ 0.25 hp, indicate whether system is single zone or multiple zone and related control method (cooling capacity controlled in response to space temperature, space temperature is controlled by modulating supply airflow, or both)		
NA			For mechanical cooling systems (includes DX and chilled water coils) that control cooling capacity in response to space temperature - Provide a minimum of two stages of fan control; indicate minimum fan speed is ≤ 66% of full speed drawing ≤ 40% of full speed fan power during periods of low cooling or ventilation only		

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NA			For other mechanical cooling systems (includes DX and chilled water coils) that control space temperature by modulating airflow (in lieu of, or in addition to, controlling capacity in response to space temperature) - Provide fan controls for modulating supply airflow; indicate minimum fan speed is ≤ 50% of full speed drawing ≤ 30% of full speed fan power during periods of low cooling or ventilation only; or exception applied		
ADDITIONAL EFFICIENCY PACKAGE OPTION, MORE EFFICIENT HVAC EQUIPMENT & FAN PERFORMANCE - MUST COMPLY WITH ALL 3 PROVISIONS TO BE ELIGIBLE					
	C406.2.1	HVAC system selection	To comply with this additional efficiency credit, provide calculations that demonstrate (based on heating and cooling output capacity) that 90% or more of all HVAC equipment serving conditioned floor areas have a corresponding WSEC listed efficiency; or exception applied		
	C406.2.2	Minimum equipment efficiency	In addition to system selection requirement, indicate that all associated heating and cooling equipment have a rated efficiency for all equipment performance criteria (heating, cooling, full load, part load) that is at least 15% better than the listed WSEC efficiency; include specific equipment exceptions applied		
			For systems required to provide a TSPR report per C403.1.1, demonstrate that the proposed design ratio is at minimum 10% higher than the standard reference design ratio		
			For projects complying via weighted average efficiency exception, include calculations that demonstrate the overall average better than code efficiency of all equipment performance criteria for all equipment is ≥ 15%; indicate that all equipment has at least 5% better than code efficiency		
			For systems serving low energy and semi-heated spaces, indicate that 90% or more of installed heating output capacity is provided by electric infrared or gas-fired radiant equipment for localized heating applications only		
	C406.2.3	Minimum fan efficiency grade	In addition to system selection and efficiency requirements, indicate rated FEG of all ≥ 1 hp (750 watt) stand alone supply, return and exhaust fans is ≥ 71; indicate these fans are sized so the fan efficiency at design conditions is within 10% of the maximum total or static efficiency		
VENTILATION, EXHAUST & ENERGY RECOVERY					
NA	C403.2.2.1	Ventilation	Indicate method of ventilation air delivery (natural or mechanical) for each zone		

NO			If mechanically delivered, indicate that ventilation systems are configured to provide not more than 150% of, but at least the minimum required volume of outdoor air to each zone per IMC, ASHRAE 62.1 or other applicable code (WAC, OSHA, etc); or exception applied	ASHRAE 170 requires no recirculation for autopsy rooms. Variance granted by AHJ.	
			If delivered via natural ventilation, identify required elements per IMC including: minimum openable area to the outdoors or qualifying adjoining spaces; criteria for ensuring required ventilation is provided during all occupied hours of the year (including during inclement outdoor conditions)		
NO	C403.2.2.2	Exhaust	Indicate that exhaust systems are configured to provide not more than 150% of, but at least the minimum required volume from each zone per IMC, or other applicable code (WAC, OSHA, etc); or exception applied	ASHRAE 170 requires no recirculation for autopsy rooms. Variance granted by AHJ.	
NO	C403.4.2.4	Exhaust system off-hour controls	Refer to Requirements List section HVAC Controls for off-hour controls requirements for exhaust systems	24-hr operation.	
	C403.3.6	Balanced ventilation for Group R-2 occupancy	For Group R-2 dwelling and sleeping units, indicate that each habitable space is provided with a balanced ventilation system; indicate system is provided with energy recovery with 60% sensible recovery effectiveness		
NA	C403.7.1	Demand controlled ventilation	Identify spaces > 500 sf with occupant load ≥ 25 people/1,000 sf per IMC; for each space indicate whether it is served by an HVAC system with total design ventilation air > 3,000 cfm, and / or the system has airside economizer or automatic modulating outdoor air damper; indicate controls are configured to provide demand controlled ventilation or provide supporting documentation for applied exception		
NA	C403.7.2	Occupancy sensors	For gyms, classrooms, auditoriums, conference rooms and other spaces with occupant load ≥ 25 people/1,000 sf per IMC, that have an area > 500 sf, indicate occupancy-based ventilation air control when space is unoccupied and method (closes outdoor air damper or shuts-off equipment); or alternate means provided to automatically reduce ventilation air when space is partially occupied; or exception applied		
NA	C403.7.3	Ventilation air heating control	For ventilation air systems that operate in conjunction with heating and cooling systems, indicate that ventilation air is tempered (via heating or heat recovery) to no greater than 60F when the space conditioning system is in cooling mode		

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	C403.7.4.2	Ventilation controls for Group R-1 guestrooms	Refer to Requirements List section HVAC Controls for Group R-1 temperature setback and set-up controls		
			Indicate method of ventilation and exhaust isolation for each guest room and automatic controls that are configured to turn off ventilation and exhaust airflow when each room is unoccupied		
	C403.8.4	Group R occupancy exhaust fan efficacy	Refer to Requirements List section Fans & Fan Controls		
	C403.7.5 C403.7.5.1	Enclosed loading dock ventilation	For enclosed loading docks, indicate ventilation / exhaust system method of activation (gas detection system for CO and NO2, or occupancy sensors), and control method (staged or modulating)		
	C403.7.5 C403.7.5.2	Enclosed parking garage ventilation	For enclosed parking garages, indicate ventilation / exhaust system activated by gas detection system for CO and NO2, and control method (staged or modulating); or exception applied		
NA	C403.7.6	Ventilation / exhaust systems energy recovery	For systems with design ventilation air > 5,000 cfm, or design supply air cfm and % ventilation air exceeding the values in Tables C403.7.6(1) or (2), indicate exhaust air energy recovery method; or exception applied with supporting calculations		
NA			For rooms served by multiple systems with aggegate design ventilation air > 5,000 cfm, or aggregate design supply air cfm and % ventilation air exceeding the values in Tables C403.7.6(1) or (2), indicate exhaust air energy recovery method; or exception applied with supporting calculations		
NA			Indicate energy recovery rated effectiveness that increases outdoor air enthalpy by ≥ 50% based on delta between outdoor air and return air enthalpies at design conditions		
	C403.7.7.1.1 C403.7.7.1.2 C403.7.7.1.3	Kitchen exhaust hood system	Indicate on plans the type, duty, UL rating and exhaust airflow rate of each kitchen hood		
			Provide calculations that show a balanced accounting of total kitchen exhaust (include all hoods) with % of: supply air, transfer air from adjacent spaces, and make-up air		
			For hoods with make-up air drawn directly into the exhaust air cavity of each hood, indicate that replacement air does not exceed 10% of hood exhaust airflow rate		
			For kitchens with total hood exhaust exceeding 2,000 cfm, indicate that each hood is UL 710 rated and maximum exhaust airflow rate of each hood is per Table C403.7.7.1.2; or exception applied		

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			For kitchens with total hood exhaust exceeding 2,000 cfm, indicate energy efficiency compliance method (demand ventilation, energy recovery, or transfer air that would otherwise be exhausted); or exception applied		
	C403.7.7.2	Laboratory exhaust systems energy recovery	For buildings with total lab exhaust > 5,000 cfm, indicate method of energy recovery used to pre-condition laboratory make-up air; energy recovery effectiveness (min 25°F increase in outside air temperature); or alternative method per exception (VAV exhaust, semi-conditioned makeup, or CERM calculation)		
YES	C403.7.7.3	Transfer air	For spaces where conditioned supply air is utilized as transfer air to balance mechanical exhaust, indicate basis of transfer airflow (supply required to meet loads, health/safety requirement, air that would normally be exhausted); or exception applied	ASHRAE 170 pressurization requirements.	
YES	C403.7.8.1 C403.7.8.3	Shutoff dampers for building isolation	Indicate locations of outdoor air intake, exhaust and relief outlet dampers on plans; indicate whether dampers are Class 1 motorized, or gravity and exception applied (include leakage rating, cfm/sf)	M601	
			Indicate location of stairway and elevator hoistway shaft vent dampers on plans; verify dampers are Class 1 motorized; or exception applied		
NA	C403.7.8.2 C403.7.8.3	Shutoff dampers for return air	Indicate locations of return air dampers that are integral to airside economizer operation; verify dampers are motorized; indicate whether dampers are Class 1, or within packaged equipment eligible for leakage rating exception (include leakage rating, cfm/sf)		
NO	C403.7.8.4	Damper actuation	Indicate automatic controls configured to close outdoor air intake, exhaust and relief outlet dampers during unoccupied equipment operation; not including economizer cooling, night flush or IMC required outdoor air / exhaust	24-hr operation. M002.	
			Indicate method of activation of stairway and elevator hoistway shaft vent dampers (fire alarm or interruption of power)		
	C404.11.4	Exhaust system energy recovery for heated indoor pools and permanent spas	For buildings with pools or spas with water surface area > 200 sf, indicate exhaust air energy recovery method and use of waste heat (preheat ventilation air, pool water or service hot water); or exception applied		
			Indicate energy recovery system has the rated effectiveness and is configured to decrease the exhaust air temperature at design conditions by ≥ 36°F		

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HVAC CONTROLS					
YES	C403.4.1	Thermostatic controls (thermostats and humidistats)	Indicate locations of thermostatic and humidity control devices and the zones they serve on plans, including perimeter system zones	M101	
			Where adjacent (neighboring) zones are controlled by separate thermostats (including perimeter systems used to offset heat gain or loss), and are connected by permanent openings > 10% of either zone sf area, indicate controls configured to prevent adjacent zones from operating in conflicting modes (one in heat, other in cool); applies to adjacent perimeter zones, adjacent nonperimeter zones, and adjacent perimeter and nonperimeter zones		
			If applying Exception 2 to nonperimeter zones adjacent to perimeter zones, indicate that setpoints and deadband settings in these zones are coordinated so cooling in a nonperimeter zone does not occur until the temperature in that zone is 5°F higher than the adjacent perimeter zone temperature in heating		
NA			If applying Exception 3 for DOAS, indicate supply air temperature heating setpoint is ≤ 65°F and cooling setpoint is ≥ 72°F, or method of supply air temperature reset		
YES	C403.4.1.1	Heat pump supplementary heat	Indicate staged heating operation with compression as the first stage of heating and supplemental heating controlled with outdoor lock-out temperature set to 40°F or less	M002	
	C403.4.1.2	Deadband	Indicate zone thermostatic controls configured with 5°F minimum deadband for systems that control both heating and cooling		
	C403.4.1.3	Setpoint overlap restriction (thermostats)	If separate heating and cooling thermostatic control devices are used to serve a zone, indicate locations of both thermostatic control devices and the zone they serve on plans		
			Indicate a limit switch, mechanical stop or DDC control with programming to prevent simultaneous heating and cooling		
NA	C403.4.1.4	Heated or cooled vestibules	Indicate thermostatic controls within heating or cooled vestibules with a heating setpoint ≤ 60°F and cooling setpoint ≥ 85°F; indicate controls are configured to turn off heating when outdoor temperature is > 45°F; or note exception applied		
NA	C403.4.1.4	Heated air curtains	Indicate controls are configured to turn off air curtain heating when outdoor temperature is > 45°F		

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NA	C403.4.1.6	Door switches for HVAC system thermostatic control	Where doors open to the outdoors from a conditioned space, indicate automatic controls configured to setback the HVAC system(s) when the door is open for > 5 minutes; indicate method of HVAC system setback control (turns off the HVAC system or resets the heating setpoint to 55°F and cooling setpoint to 85°F), or exception applied		
YES	C403.4.2 C403.4.2.1 C403.4.2.2	Automatic setback and shutdown	Indicate zone thermostatic controls configured with required automatic setback and manual override functions, setback temperatures, and control method (automatic time clock or 7 day programmable controls); note exceptions applied	M002	
NO	C403.4.2.3	Automatic (optimum) start and stop	Indicate all HVAC systems are provided with automatic start and stop controls; indicate start controls are configured to adjust the equipment start time as required to bring each area served up to design temperature just prior to scheduled occupancy; indicate stop controls are configured to reduce heating setpoint and increase cooling setpoint by at least 2°F prior to scheduled unoccupied periods	24-hr operation. M002.	
NO	C403.4.2.4	Exhaust system off-hour controls	For exhaust systems serving conditioned spaces in all occupancies other than Group R, indicate method of control and that controls are configured to turn exhaust systems on and off in concert with the ventilation air systems providing their make-up air, or exception applied	24-hr operation. M002.	
NA	C403.4.2.5	Transfer and destratification fan system off-hour controls	For transfer fan or mixing fan systems serving conditioned spaces in all occupancies other than Group R, indicate method of control and that controls are configured to turn fans on and off in concert with the associated HVAC systems, or exception applied		
NA	C403.4.7	Combustion heating equipment	For combustion heating equipment other than boilers or radiant heaters with output capacity > 225,000 Btu/h, indicate modulating or staged combustion control		
NA	C403.4.7.1	Combustion decorative vented appliance, combustion fireplace and fire pit controls	Indicate controls that are configured to limit operation of combustion appliance, fireplace and fire pit to ≤ 1 hour without override, or that occupancy sensor controls are provided		

	C403.7.4.1	Temperature setpoint controls for Group R-1 guestrooms	For hotels / motels with over 50 guest rooms, indicate automatic controls for HVAC equipment serving guest rooms are configured to setback (heating) and set-up (cooling) temperature setpoint by at least 4°F when room is unoccupied, and adjust setpint to 60°F (heating) and 80°F (cooling) when room is unrented / vacated; indicate control method - activated by room entry, occupancy sensor or networked guestroom control system		
	C403.7.4.2	Ventilation controls for Group R-1 guestrooms	Refer to Requirements List section Ventilation, Exhaust & Energy Recovery		
	C403.4.9 C403.4.10	Thermostatic controls for Group R2 / R3 dwelling units and Group R2 sleeping units	For primary space conditioning systems, indicate 5-2 programmable thermostats capable of two setback periods per day; indicate each non-primary system is provided with at minimum an adjustable thermostat, or exception applied. For all thermostats indicate purpose (heating only, cooling only, or both) and required temperature range; indicate thermostats are configured for at minimum a 5°F deadband		
NA	C403.4.11.1 C403.4.11.2 C403.4.11.3	DDC system applications, controls and display	Provide central and zone level DDC controls as required based on system application, capacity or size thresholds and other qualification per Table C403.4.11.1		
NA			Identify all DDC system input / output control points in project documents		
NA			Indicate control capability includes monitoring zone and system level demand for fan pressure, pump pressure, heating and cooling; indicate capability to transfer demand information from zones to air / hydronic distribution system controllers, and to central plant systems and equipment controllers		
NA			Indicate system has the capability for trending and graphically displaying input / output points		
NA	C403.5.1	DX air handler variable cooling control(Located under Integrated Economizer Control)	For DX air handlers with cooling capacity ≥ 65,000 Btu/h, indicate number of cooling stages provided and method (multiple compressors and / or variable speed compressors); indicate minimum displacement (capacity reduction) as % of full load; indicate thermostats are configured with the same number of cooling stages and displacement		
NA			Indicate control method (cooling capacity controlled in response to space temperature, space temperature controlled by modulating supply airflow, or both)		
DUCTWORK, SHAFTS AND PLENUMS					

YES	C403.10.1.1 C403.10.2	Duct construction	Indicate on plans that all ductwork is constructed and sealed per IMC	M002, Specs.	
NA			For outdoor air ductwork, also indicate on plans that ductwork meets air leakage requirements per C402.5 and vapor retarder requirements per the IBC		
NA	C403.10.2.1 C403.10.2.2 C403.10.2.3	Duct pressure classifications	Identify location of low, medium and high pressure ductwork on plans		
NA	C403.10.2.3	High pressure duct leakage test	Indicate high pressure duct leakage testing requirements on plans; provide test results to jurisdiction when completed		
NA	C403.10.1.1 C403.10.1.2	Duct insulation	For outdoor air ductwork located within conditioned space (upstream or downstream of shutoff damper), identify climate zone and indicate ductwork insulation R-value per Table C403.10.1.1 on plans; or exception applied		
NA			For supply and return air ductwork located within unconditioned space or outdoors, identify climate zone and indicate ductwork insulation R-value per Table C403.10.1.2 on plans; or exception applied		
NA			For supply air ductwork located within conditioned space, identify on plans if design supply air temperature is < 55°F or > 105°F; indicate ductwork insulation R-value per Table C403.10.1.2 on plans; or exception applied		
NA			For return and exhaust air ductwork located within conditioned space (upstream of the shutoff damper) and downstream of an energy recovery media, indicate ductwork insulation R-value per Table C403.10.1.2; or exception applied		
NA			For exhaust and relief air ductwork located within conditioned space and downstream of the shutoff damper, indicate ductwork insulation R-value per Table C403.10.1.2; or exception applied		
NA	C403.10.1.1 C402.1.3	Shaft and plenum insulation	For outdoor air shafts and plenums, indicate on plans that the R-value of insulation on these elements complies with Table C402.1.3 for steel-framed walls		
PIPING					
	C403.10.3	Piping insulation	Indicate design temperature range of fluid conveyed in piping and thickness of insulation (in inches) on hydronic piping plans; or exception applied		
	C403.10.3.1	Protection of piping insulation	Indicate method of protection of pipe insulation from damage / degredation on hydronic piping plans		

ECONOMIZERS					
NA	C403.5	Air economizer required	Identify all cooling systems requiring air economizer controls in equipment schedules on plans and in WSEC mechanical equipment compliance reports		
NA			Indicate all systems utilizing air economizer exceptions in WSEC mechanical equipment compliance report, including those with water-side economizer in lieu of air economizer; indicate on plans and in WSEC mechanical equipment compliance reports all eligible exception(s) taken and measures to comply with exception(s)		
NA	C403.4.1 C403.5.1	Integrated economizer operation - air and water	Indicate air and water-side economizers are configured for partial cooling operation even where additional mechanical cooling is required to meet the load		
NA			For DX air handlers with single or multiple stages of mechanical cooling; indicate controls are configured with air economizer as the first stage of cooling		
NA			Refer to Requirements List section HVAC Controls for additional requirements for DX air handlers		
NA	C403.5.2	Economizer heating system impact - air and water	Verify control method of HVAC systems with economizers does not increase building heating energy usage during normal operation		
NA	C403.5.3.1	Air economizer capacity	Indicate modulating outdoor air and return air dampers are configured to provide up to 100% outdoor air for cooling		
NA	C403.5.1 C403.5.3.2	Air economizer controls and integrated operation	Indicate that economizer controls are configured to provide partial economizer cooling when additional mechanical cooling is also required to meet the cooling load		
NA			Indicate that control of economizer dampers is not based only on mixed air temperature; or exception applied for systems with cooling capacity ≤ 65,000 Btu/h		
NA	C403.5.3.3	Air economizer high limit controls	Indicate high limit shut-off control method and required high limit per Table C403.5.3.3		
NA	C403.5.3.4	Relief of excess outdoor air	Refer to Requirements List section Ventilation, Exhaust & Energy Recovery		
NA			Indicate relief air outlets are sized and configured to relieve excess building air during air economizer operation to prevent building over-pressurization		
NA			Indicate relief air outlet are located to avoid recirculation into the building		

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	C403.5.4.1	Water economizer capacity	For eligible systems where water-side economizer may be provided in lieu of air economizer, indicate system is capable of 100% design cooling capacity at 50°F db / 45°F wb outdoor air temperatures; indicate if threshold for 100% design cooling capacity via economizer must be lowered to 45°F db / 40°F wb due to dehumidification requirements		
	C403.5.4.2	Water economizer maximum pressure drop	Indicate that the pressure drop across precooling coils and heat exchangers in water economizer systems do not exceed 15 feet (4572 mm)		
NA	C403.5.5	DX equipment economizer fault detection and diagnostics	For DX air handlers with economizer and cooling capacity ≥ 54,000 Btu/h, provide a fault detection and diagnostics (FDD) system to monitor economizer system operation and report faults		
HYDRONIC SYSTEMS - EQUIPMENT SELECTION & PERFORMANCE					
	C403.3.2.1	Maximum air cooled chiller capacity	For chilled water plants and buildings with > 500 tons of cooling capacity, indicate air-cooled chiller capacity is ≤ 100 tons, or exception applied		
	C403.6.7	Large capacity cooling systems	For buildings ≥ 300 tons of cooling capacity, indicate method of multi-stage or variable capacity control (VSD, multiple staged compressors, or max capacity of any single unit		
	C403.3.2.2	Non-standard water-cooled centrifugal chillers	For water-cooled centrifugal chillers not designed for operation at standard conditions, provide calculations documenting maximum full load and part load rated equipment performance requirements		
	C403.3.3	Hot gas bypass limitation for chillers	For cooling equipment with hot gas bypass, provide either multiple step unloading or continuous capacity modulation; indicate bypass capacity per Table C403.3.3		
	C403.4.3 C403.3.4	Large capacity boiler systems	For hydronic systems with only a single boiler that has > 500,000 Btu/h input capacity, indicate multi-stage or modulating burner		
			For boiler system (single or mulltiple) with > 1,000,000 Btu/h input capacity, indicate turndown ratio per Table C403.3.4 and method (multiple single input boilers, modulating boilers, or combination)		
	C403.2.3	Variable flow capacity - pumps	For pump motors ≥ 7.5 hp, indicate method of variable flow control (VSD or equivalent method) in equipment schedule, or exception applied		
HYDRONIC SYSTEMS - CONTROLS					
	C403.4.3	Boiler sequencing	Indicate automatic controls that sequence operation of multiple boilers		

	C403.4.3.2	Two-pipe changeover systems	Indicate changeover deadband is ≥ 15°F outdoor air temperature; indicate controls are configured so that heating / cooling modes are active for at minimum 4 hours before changeover and that the delta between heating / cooling supply temperatures at changeover point is		
	C403.4.1.5	Heating water temperature setback	For boilers that provide building heating via one- or two-pipe systems, indicate controls that provide heating water temperature setback based on outdoor temperature		
	C403.4.4	Hydronic system part load controls and supply-water temperature reset	For heating and chilled water systems with ≥ 300,000 Btu/h output capacity, indicate system controls are configured to automatically reset supply water temperature based upon demand; or exception applied		
			Indicate automatic pump flow controls are configured to reduce system flow rate by ≥ 50%, or the maximum allowed by the equipment manufacturer, based upon the heating or cooling loads; or decribe why not required		
			For hydronic systems with output capacity ≥ 300,000 Btu/h that serve heating water systems, chilled water systems and water-cooled unitary air conditioners, indicate that pumps are provided with a variable speed drive if one of the following conditions apply: 1) System pump motor hp is ≥ 2 hp and pumps are designed to operate continuously or per time schedule; 2) System pump motor hp is ≥ 7.5 hp and pumps are controlled by automatic DDC configured to only operate pumps when there is a call for zone heating or cooling		
			Where variable speed drives are required, indicate system is configured so that pump motor power is ≤ 30% of design wattage at 50% of design flow rate; indicate pump flow is controlled to maintain one control valve nearly wide open, or to maintain a mimimum differential pressure; or exception applied		
	C403.4.6	Hydronic system variable pump flow control	For individual pumps required to have variable speed controls, indicate manner of pump speed control (differential pressure, static pressure setpoint, zone heating or cooling demand, or based on the relationship between variable speed controller fequency and power)		
	C403.4.5	Chiller / boiler plant pump isolation	Indicate controls are configured to automatically reduce overall plant flow and shut-off flow through individual chillers and boilers when not in use		

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	C403.4.3.3.1	Water loop heat pump - temperature deadband	Indicate method of water loop temperture control (central plant equipment controls are configured to provide ≥ 20°F water supply temperature deadband between heat rejection and heat addition modes, or controls are configured for system loop temperature optimization		
	C403.4.3.3.2	Water loop heat pump - heat rejection equipment	Indicate type of cooling tower (open- or closed-circuit) in equipment schedule; indicate whether the cooling tower is used directly in the heat pump loop or in conjunction with a separate heat exchanger; indicate method used to limit system heat loss when heat rejection is not needed		
	C403.4.3.3.3	Water loop heat pump - isolation valves	For hydronic heat pump systems with total system power > 10 hp, indicate 2-way isolation valves on each heat pump and variable flow system control		
HEAT REJECTION SYSTEMS - EQUIPMENT SELECTION & PERFORMANCE					
	C403.9.1.3	Centrifugal fan open-circuit cooling towers	For open-circuit centrifugal fan cooling towers with ≥ 1,100 gpm capacity, indicate cooling towers comply with efficiency requirements for axial fan open circuit cooling towers		
HEAT REJECTION & RECOVERY - CONTROLS					
	C403.9.1.1C 403.9.1.2	Fan speed control	For each fan powered by an individual motor or array of motors, with total connected fan power ≥ 5 hp (including motor service factor), indicate method of automatic fan speed control (adjusted based on leaving fluid temperature or condenser temperature / pressure of heat rejection device); verify fan selection provides ≤ 30% design wattage at 50% design airflow		
			For multiple-cell heat rejection equipment with VSD, indicate controls are configured to ramp all fans in unison (not staged on / off operation)		
	C403.9.1.4	Cooling tower flow turndown	For open-circuit cooling towers configured with multiple- or variable-speed condenser water pumps, indicate system is designed so all cells can be run in parallel; indicate method of condenser pump turn down control		
	C403.9.2.1	Heat recovery for service water heating	For buildings with 24-hour operation and > 1,500,000 Btu/h of heat rejection capacity and design service hot water load > 250,000 Btu/h, indicate condenser heat recovery to pre-heat service water; or exception applied. Provide calculations showing the amount of recovered heat that is utilized (60% of peak heat rejection load or pre-heat service water to 85°F).		

	C403.9.2.2	Steam condensate systems heat recovery	For buildings with on-site steam heating systems, indicate condensate water heat recovery and use of recovered heat		
			For buildings that use off-site generated steam where condensate is not returned to the source, indicate on-site condensate water heat recovery		
	C403.9.2.3	Refrigeration condenser heat recovery	For buildings with food service, meat or deli departments that have ≥ 500,000 Btu/h of remote refrigeration capacity for coolers / freezers, indicate condenser heat recovery and use of captured energy (service water heating, space heating, or dehumidification reheating)		
			For buildings with ≥ 40,000 sf conditioned floor area and ≥ 1,000,000 Btu/h of remote refrigeration capacity, indicate condenser heat recovery to pre-heat service water; indicate remaining recovered heat is applied to space heating or dehumidification reheating		
	C403.9.2.4	Heat recovery for space heating	For buildings that operate > 70 hour per week, that are not served by a DOAS with energy recovery, and have > 1,500,000 Btu/h of heat rejection capacity and ≥ 0.45 cfm per sf of design minimum supply airflow with reheat, indicate condenser heat recovery is provided for space heating that complies with Sections C403.9.2.4.1 or C403.9.2.4.2 or C403.9.2.4.4		
	C403.9.2.4.1 C403.9.2.4.4	Water to water heat recovery	Indicate that 90% or more of the total building space heating and ventilation air design loads are served by heat energy rejected from either a heat recovery chiller or the cooling loop of water to water heat pump equipment		
	C403.9.2.4.2	Exhaust heat recovery	Indicate that waste heat is recovered from least 90% of the total building exhaust airflow such that leaving exhaust air temperature while in heat recovery mode is 55 deg F dry bulb; note exhaust air systems eligible for exception to this requirement		
	C403.9.2.4.3	Process heat recovery	In spaces with 5 watts per sf year-round cooling loads from lights and equipment, indicate these spaces are served by water-cooled equipment configured for heat recovery		
			If these spaces are served by economizer (air or water), indicate automatic controls are configured to disable economizer operation while system is in heat recovery mode		

MULTIPLE ZONE AIR SYSTEMS

	C403.6.1	Air systems serving multiple zones	Identify supply air systems serving multiple zones and the zones they serve on plans; indicate whether system is VAV and method of primary air control; or provide supporting documentation for applied exception to VAV		
	C403.6.1	VAV air terminal primary supply airflow	Provide equipment schedules on plans that list all VAV air terminals and types (fan-powered series and parallel air terminals, single duct and dual duct air terminals, etc)		
			For each air terminal include: maximum primary supply airflow rates during zone peak heating and zone peak cooling; maximum terminal airflow during reheating, recooling or mixing; minimum ventilation airflow rate, and the basis for these values; if IMC or ASHRAE 62.1 multiple zone equation is the basis for minimum flow rates, provide this calculation on plans		
	C403.6.2	Single duct VAV terminal units	Indicate single duct terminal units are configured to reduce primary supply air before reheating or recooling		
	C403.6.3	Dual duct systems - terminal units	For systems with separate warm air and cool air ducts, indicate terminal units are configured to reduce the flow from one duct to minimum before mixing with air from the other duct		
	C403.6.8C403.6.9	VAV system static - pressure sensors and DDC set points	Indicate locations of duct static pressure sensors on plans; include at least one sensor per major duct branch; verify controller setpoint pressure at each sensor is ≤ 1.2 inch w.g.		
			For systems with zone level DDC, indicate controls are configured to monitor zone damper positions and reset static pressure setpoint based on the zone requiring most pressure; include control logic that automatically detects and generates an alarm if any zone excessively drives reset logic, and allows building operators to exclude zones from reset logic		
	C403.6.4	VAV system supply air reset	Indicate controls automatically reset supply air temperature in response to building loads or outdoor air temperature; or exception applied		
	C403.6.5	Multiple-zone VAV system ventilation optimization controls	For systems with zone level DDC controls, indicate controls are configured to automatically reduce outdoor airflow in response to changes in system ventilation efficiency; or exception applied		

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	C403.6.6	Parallel fan powered VAV air terminals	Indicate controls automatically activate or shut off the air terminal fan based on call for heating and / or ventilation; indicate controls are configured to activate the terminal fan as the first stage of heating prior to activating the heating coil; indicate control method of primary air during warmup or temperature setback mode		
HIGH EFFICIENCY MULTIPLE-ZONE VAV SYSTEMS - EXCEPTION TO C403.3.5 DOAS, MUST COMPLY WITH ALL 15 PROVISIONS TO BE ELIGIBLE					
	C403.6.10,Item 1	Minimum area served and zoning	Indicate that each high efficiency multiple-zone VAV systems serves an area ≥ 3,000 sf and includes ≥ 5 zones		
	C403.6.10, Item 2	Air economizer	Indicate system is configured for 100% air economizer operation and complies with all related economizer requirements per C403.5 (without economizer exceptions)		
	C403.6.10, Item 3	Direct digital controls (DDC)	Provide DDC controls for all components of system per C403.4.11 (regardless of system size); identify all DDC system input / output control points; indicate capability for trending and graphical display		
	C403.6.10, Items 4 and 5	Supply and outdoor airflow measurement and control	For systems with minimum required outdoor air > 2,500 cfm, provide an airflow monitoring station that is configured to measure outdoor air intake under all load conditions; indicate control sequence that increases or reduces outdoor air cfm based on VAV terminal feedback of ventilation efficiency (per C403.6.5 without exceptions) or and DCV (per C403.7.1)		
			Provide a suppy airflow monitoring station that is configured to measure supply air delivered to VAV terminals under all load conditions		
	C403.6.10,Item 6	Zone isolation and maximum area served	Verify maximum area served by a single VAV system is ≤ 50,000 sf, or one entire floor, whichever is greater; in addition if a system serves > 25,000 sf, that includes areas that are expected to be occupied non-simultaneously, indicate zone isolation controls per C403.2.1		
	C403.6.10, Item 7	Interior / exterior zone design supply air temperature	Verify that VAV terminals serving interior cooling driven loads are sized per a design supply air temperature that is 5°F higher than VAV terminals serving exterior zones while in cooling mode		
	C403.6.10, Item 8	Maximum air terminal inlet velocity and fan power	Identify all air terminals with minimum primary airflow setpoints > 50% of maximum setpoint in mechanical equipment schedule for these air terminals indicate inlet velocity does not exceed 900 fpm		

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	C403.6.10,Item 8	Maximum allowable system brake horsepower	For each multiple-zone VAV system, provide calculations that verify total fan system bhp is ≤ 90% of the total allowable fan system bhp per Option 2 equation in Table C403.8.1.1		
	C403.6.10,Item 9	Fan-powered terminal unit motor and control	Indicate all series and parallel fan-powered terminals have electronically commutated motors (ECM); indicate DDC control system is configured to vary air terminal fan speed as a function of the load; indicate fan speed during periods of low heating, low cooling, or ventilation-only mode is ≤ 66% of peak design air flow, or provide supporting documentation for applied exception		
	C403.6.10, Item 10	Application of single duct and fan-powered terminal units	Indicate VAV terminal types on plans; verify fan-powered terminal units only serve perimeter zones with envelope loads and interior zones with high occupant density and DCV per C403.7.1; verify all other zones are served by single duct terminal units		
	C403.6.10, Item 11	Fan-powered terminal unit primary air reset	Indicate DDC controls are configured to automatically reset the primary supply air cfm setpoint of all fan-powered terminal units to the minimum required to maintain ventilation during occupied heating or deadband mode, based upon the VAV air handling unit minimum ventilation air fraction		
	C403.6.10,Item 12	Controls for high occupant density spaces	For zones > 150 sf with high occupant density (≥ 25 people / 1000 sf), indicate zone is served by a dedicated terminal unit with DCV control that resets terminal unit ventilation setpoint based on measured CO2; also indicate occupancy sensor control that automatically reduces minimum ventilation to zero and sets back room heating and cooling setpoints by ≥ 5°F when space in unoccupied		
	C403.6.10, Item 13	Dedicated cooling systems serving data centers and server, electronic equipment and telecom spaces	For data centers and server, electronic equipment, telecom or similar spaces with design cooling loads > 5 W/sf, indicate spaces are served by dedicated cooling systems that are independent of the HPVAV systems serving the rest of building		
			Indicate dedicated cooling systems are configured for 100% air economizer operation and comply with all related economizer requirements per C403.5 (without economizer exceptions), or heat recovery per C403.5, Exception 9		
	C403.6.10, Item 14	Central plant efficiency	Indicate whether systems are served by a high efficiency heating water plant, or a high efficiency chilled water plant		

			If complying via high efficiency heating water plant: Indicate all VAV terminals have hydronic heating coils served by a heating water system with either gas-fired boiler(s) with thermal efficiency (Et) ≥ 92%, air-to-water heat pumps, or heat recovery chillers; indicate hydronic heating coils are sized per a maximum 120°F entering water temperature during peak demand		
			If complying via high efficiency chilled water plant: Indicate all VAV air handlers have cooling coils served by chillers with rated IPLV efficiency that exceeds WSEC listed IPLV by at least 25% per Table C403.3.2(7) (note water-cooled IPLV is max, all others are min); indicate smallest chiller or compressor in plant is ≤ 20% of the total plant capacity, or provide thermal storage sized for ≥ 20% of total plant capacity		
	C403.6.10, Item 15	Fault detection and diagnostics	Indicate DDC system includes automatic fault detection and diagnostics (FDD) configured to monitor operation and provide fault reporting of all required parameters for all VAV air handlers and VAV air terminal units in the HPVAV system		
HIGH EFFICIENCY SINGLE-ZONE VAV SYSTEMS - EXCEPTION TO C403.3.5 DOAS, MUST COMPLY WITH ALL 8 PROVISIONS TO BE ELIGIBLE					
	C403.12, Item 1	Air economizer	Indicate system is configured for 100% air economizer operation and complies with all related economizer requirements per C403.5 (without economizer exceptions)		
	C403.12, Item 2	Direct digital controls (DDC)	Provide DDC controls for all components of system per C403.4.11 (regardless of system size); identify all DDC system input / output control points; indicate capability for trending and graphical display		
	C403.12,Item 3	Outdoor airflow measurement and control	For systems with minimum required outdoor air ≥ 1,000 cfm, provide an airflow monitoring station that is configured to measure outdoor air intake under all load conditions; indicate controls that adjust outdoor air cfm via DCV per C403.7.1		
	C403.12,Item 4	Maximum allowable system brake horsepower	For each single-zone VAV system, provide calculations that verify total fan system bhp is ≤ 90% of the total allowable fan system bhp per Option 2 equation in Table C403.8.1.1		
	C403.12, Item 5	Supply airflow control	Provide controls that adjust supply airflow based on the heating and cooling loads; indicate control sequence that limits minimum fan speed to 30% of peak design airflow or required ventilation during unoccupied mode, whichever is less		

	C403.12,Item 6	Controls for high occupant density spaces	For zones > 150 sf with high occupant density (≥ 25 people / 1000 sf), indicate DCV control that resets ventilation setpoint based on measured CO2; also indicate occupancy sensor control that automatically reduces minimum ventilation to zero and sets back room heating and cooling setpoints by ≥ 5°F when space in unoccupied		
	C403.12, Item 7	High efficiency system option	Indicate which system performance option is applied - high efficiency DX cooling and heat pump or high efficiency gas heating; or heating coils served by a high efficiency heating water plant; or cooling coils served by high efficiency chilled water plant		
			If complying via high efficiency DX: Indicate full load and part load rated cooling efficiency exceeds WSEC listed efficiency by at least 15%; if heating is supplied by a gas-fired furnace, indicate thermal efficiency (Et) is ≥ 90%; if system is a heat pump, indicate heating efficiency (HSPF or COP) exceeds WSEC listed efficiency by at least 10%; control of cooling and heating coil output shall be configured with a minimum of 2-stages or modulating		
			If complying via high efficiency heating water plant: Indicate hydronic heating coils are served by a heating water system with either gas-fired boiler(s) with thermal efficiency (Et) ≥ 92%, air-to-water heat pumps, or heat recovery chillers; indicate hydronic heating coils are sized per a maximum 120°F entering water temperature during peak demand		
			If complying via high efficiency chilled water plant: Indicate cooling coils are served by chillers with rated IPLV efficiency that exceeds WSEC listed IPLV by at least 25% per Table C403.3.2(7) (note water-cooled IPLV is max, all others are min); indicate smallest chiller or compressor in plant is ≤ 20% of the total plant capacity, or provide thermal storage sized for ≥ 20% of total plant capacity		
	C403.12, Item 8	Fault detection and diagnostics	Indicate DDC system includes automatic fault detection and diagnostics (FDD) configured to monitor operation and provide fault reporting of all required parameters for all HPVAV single-zone air systems		
EXTERIOR HEATING SYSTEMS					
	C403.11.1	Heating outside a building	Indicate systems providing heating in non-enclosed outdoor occupied spaces are radiant systems		

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			Indicate occupancy sensing or timer switch controls configured to automatically shut off heating system when area served is unoccupied		
	C403.11.2	Snow melt systems	Indicate automatic controls configured to shut off system when pavement temperature exceeds 50°F and no precipitation is falling, and when outdoor air temperature exceeds 40°F		
	C403.11.3	Freeze protection system controls	Indicate automatic controls to shut off system when outdoor temperature exceeds 40°F, or conditions protect fluid from freezing		
HVAC EQUIPMENT ENERGY USE METERING					
	C409.3.1	HVAC equipment energy use metering	For new buildings > 50,000 sf and building additions > 25,000 sf, verfiy energy use metering of all equipment used to provide space heating and cooling, dehumidification and ventilation will be provided per C409; indicate equipment eligible for exception		
DOCUMENTATION AND SYSTEM SPECIFIC REQUIREMENT TO SUPPORT COMMISSIONING (CX)					
	C408.1	Scope of mechanical systems commissioning	For buildings with ≥ 240,000 Btu/h total output cooling capacity or ≥ 300,000 Btu/h total output heating capacity, indicate that all mechanical systems regardless of individual capacity are required to be commissioned; or provide building heating / cooling capacity calculation demonstrating eligibilty for exception		
			Indicate that all systems, equipment and controls for which the WSEC requires control functions and / or configuration to perform specific functions are included in the Cx scope		
	C408.1.1 C408.1.4.1	Commissioning requirements in construction documents	Indicate in plans and specifications that Cx per C408 is required for all applicable mechanical systems		
			Include general summary that includes at minimum: narrative description of activites, responsibilities of the Cx team, schedule of activities including verification of project close out documentation per C103.6, and conflict of interest plan (if required)		
			Include in general summary that a Cx project report or Compliance Checklist (Figure C408.1.4.1) shall be completed by the Certified Cx Professional and provided to the owner prior to the final mechanical inspection.		

	C408.1.2.2	Functional performance testing criteria	Identify in plans and specifications the intended operation of all equipment and controls during all modes of operation, including interfacing between new and existing-to-remain systems		
	C408.2.2	Air system and hydronic system balancing	Indicate in plans that air and fluid flow rates shall be tested and balanced within the tolerances defined in the specifications; indicate systems shall be balanced in a manner to first minimize throttling losses, then adjusted to meet design flow conditions		
	C408.2.2.1	Air system balancing devices	Indicate devices that provide the capability to balance all supply air outlets, zone terminals and air handling equipment requiring system balancing		
	C408.2.2.2	Hydronic system balancing devices	Indicate devices that provide the capability to isolate, balance and measure flow across all hydronic equipment requiring system balancing including heating and cooling coils and pumps; or exception applied		
PROJECT CLOSE OUT DOCUMENTATION					
YES	C103.6	Documentation and project close out submittal requirements	Indicate in plans that project close out documentation and training of building operations personnel is required for all mechanical components, equipment and systems governed by this code; indicate close out documentation shall include: record documents, O&M manuals, applicable WSEC mechanical equipment compliance reports and calculations	M002	

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BENTON COUNTY
CORONER
AUTOPSY SUITE VENTILATION UPGRADE

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF SITE CONDITIONS, INSTALLATION STANDARDS AND CONSTRUCTION CONDITIONS. FIELD VERIFY ALL NECESSARY DIMENSIONS. DISCREPANCIES BETWEEN SITE CONDITIONS AND THE CONSTRUCTION DRAWINGS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER. WORK DONE WITHOUT THE ENGINEER'S APPROVAL IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. DRAWINGS MAY BE REDUCED, VERIFY SCALE.
3. THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR SAFETY. THE CONTRACTOR SHALL PROVIDE ADEQUATE SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTIONS NECESSARY TO PROTECT THE LIFE, HEALTH AND SAFETY OF THE PUBLIC AND TO PROTECT PROPERTY IN CONNECTION WITH THE WORK COVERED BY THE CONTRACT.
4. ALL ELECTRICAL MODIFICATIONS REQUIRED BY THE WORK OF THIS PROJECT SHALL BE DESIGN-BUILD BY CONTRACTOR. ALL DESIGN AND INSTALLATION WORK, MATERIALS, PERMITS, INSPECTIONS, ETC. SHALL BE PROVIDED BY CONTRACTOR. NO ELECTRICAL DESIGN INFORMATION IS PROVIDED IN THESE DRAWINGS. COORDINATE WITH EQUIPMENT CHANGES NOTED HEREIN AND IN FIELD.
5. ALL ARCHITECTURAL MODIFICATIONS AND ADDITIONS INCLUDING NEW DUCT CHASE CONSTRUCTION AND CEILING REMOVAL, PATCHING, AND REINSTALLATION, SHALL BE DESIGN-BUILD BY CONTRACTOR. ALL DESIGN AND INSTALLATION WORK, MATERIALS, PERMITS, INSPECTIONS, ETC. SHALL BE PROVIDED BY CONTRACTOR.
6. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND FEES REQUIRED BY ANY AUTHORITY HAVING JURISDICTION OVER THE WORK AND SHALL BE IN COMPLIANCE WITH SAID AGENCY STANDARDS AND SHALL ARRANGE ALL INSPECTION REQUIRED BY THESE AGENCIES.
7. COORDINATE WITH OWNER TO VERIFY PLAN FOR TEMPORARY RELOCATION OF EQUIPMENT AND OPERATIONS CONDUCTED IN THIS FACILITY. OWNER SHALL BE RESPONSIBLE FOR MOVING ALL NON-BUILDING EQUIPMENT AND ALL COSTS ASSOCIATED WITH TEMPORARY OPERATION PROVISIONS CONDUCTED ELSEWHERE.

PROJECT INFORMATION

PROJECT NAME:	BENTON COUNTY CORONER AUTOPSY SUITE VENTILATION UPGRADE
PROJECT ADDRESS:	7122 W OKANOGAN PLACE, BUILDING C, KENNEWICK, WA 99338
DESCRIPTION:	HVAC UPGRADES/REPLACEMENTS
OWNER: OWNER'S REP.	BENTON COUNTY ROBERT BLAIN 620 MARKET STREET PROSSER, WA 99350
PROJECT MANAGER:	MEIER ARCHITECTURE·ENGINEERING COLIN BATES 509-735-1589 12 W. KENNEWICK AVE, KENNEWICK WA, 99336
MECHANICAL ENGINEER:	MEIER ARCHITECTURE·ENGINEERING DEREK ARCHER 509-735-1589 12 W. KENNEWICK AVE, KENNEWICK WA, 99336

DRAWINGS LIST

T001 - TITLE PAGE (THIS SHEET)

M001 - GENERAL NOTES AND LEGENDS

M002 - 2018 WSEC NOTES

MD101 - HVAC DEMO PLANS

M101- HVAC FLOOR PLANS

M601 - MECHANICAL SCHEDULES

ELECTRICAL DESIGN-BUILD NOTES

1. THIS INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NFPA-70) AS AMENDED BY WAC 296-46B. CONTRACTOR SHALL BE FAMILIAR WITH, LICENSED TO PERFORM AND EXPERIENCED WITH SUCH WORK INDICATED HEREIN, AND BE QUALIFIED TO MEET MOST RECENT OSHA CERTIFICATION TO WORK ON ENERGIZED EQUIPMENT. CONTRACTOR IS RESPONSIBLE FOR DETERMINING SAFETY REQUIREMENTS; REFER TO AND COMPLY WITH OSHA 29CFR.1910 AND 1926 ELECTRICAL SAFETY PORTIONS AS AMENDED BY WISHA PER WAC 296-800-100. CONTRACTOR RESPONSIBLE FOR DETERMINING CONSTRUCTION METHOD AND MEANS REQUIREMENTS.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND FEES REQUIRED BY ANY AUTHORITY HAVING JURISDICTION OVER THE WORK AND SHALL BE IN COMPLIANCE WITH SAID AGENCY STANDARDS AND SHALL ARRANGE ALL INSPECTIONS REQUIRED BY THESE AGENCIES.
3. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER WITHIN STANDARD OF CARE FOR PROFESSION PER NEC 110.12 AND NECA-1. ALL DEVICES, LABOR, MATERIAL, TOOLS, PERMITS, ETC. REQUIRED FOR A COMPLETE, OPERATIONAL AND SATISFACTORY INSTALLATION TO DESIGN INTENT SHALL BE FURNISHED BY THIS CONTRACTOR. PROVIDE, AT NO ADDITIONAL COST, ANCILLARY, PERIPHERAL AND INCIDENTAL ITEMS NOT SHOWN WHEN REQUIRED FOR COMPLETION OF WORK. SPECIFICATIONS AND PLAN DRAWINGS ARE TO BE TAKEN TOGETHER AND UNDERSTOOD AS ONE.
4. PROJECT INVOLVES RE-USE OF EXISTING FEEDERS, PANELS AND ELECTRICAL DEVICES; CONTRACTOR SHALL VISUALLY INSPECT ALL SUCH OCCURRENCES RELATED TO WORK TO ASSURE GOOD CONDITIONS ARE PRESENT AND SUCH ARRANGEMENTS MEETS CURRENT NEC AND WA WAC PARAMETERS; REPORT ANY DISCOVERED ELECTRICAL DISCREPANCY IN WRITING TO OWNER, AND ENGINEER IN TIMELY MANNER FOR DISPOSITION. ADDITIONAL WORK SHALL PROCEED ONLY WITH WRITTEN APPROVAL. CONTRACTOR SHALL BE RESPONSIBLE FOR EVALUATING EXISTING ELECTRICAL SERVICE CAPACITY, PANEL CAPACITY, AND OTHER CONDITIONS TO FACILITATE THE INSTALLATION OF NEW EQUIPMENT. IF ANY ELECTRICAL DEVICE OR THE ELECTRICAL SERVICE IS INADEQUATE TO SERVE THE NEW EQUIPMENT, NOTIFY ENGINEER AND OWNER.
5. PROJECT DOCUMENTS GENERALLY DESCRIBE LIMITED OR PARTIAL DESIGN EFFORTS AND/OR WORK INTENT WITHIN THE NOMINAL STANDARD OF CARE FOR THE PROFESSION(S) APPLICABLE TO AN EXISTING FACILITY AND ARE NOT NECESSARILY AN EXACT OR COMPLETE REPRESENTATION OF EXISTING CONDITION(S). MEIER MAKES NO REPRESENTATIONS CONCERNING THE ACCURACY OR COMPLETENESS OF FURNISHED EXISTING PROJECT DOCUMENTS AND ARE NOT RESPONSIBLE OR LIABLE FOR ANY DISCREPANCY ARISING BETWEEN GOOD FAITH PROJECT DOCUMENTS AND CONDITIONS PRESENT. CONTRACTOR IS RESPONSIBLE FOR VERIFYING INFORMATION PRESENTED AND GENERAL CONDITIONS BY CONSULTING OWNER; SITE WALK-THROUGH AND REVIEWING EXISTING DOCUMENTS.
6. ANY/ALL ELECTRICAL SHUTDOWNS REQUIRED TO COMPLETE THE WORK SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. SHUTDOWNS SHALL BE KEPT TO A MINIMUM AND COORDINATED THROUGH THE OWNER'S REPRESENTATIVE.
7. PROVIDE UPDATED CIRCUIT DIRECTORIES AT ALL PANELS AFFECTED UPON PROJECT COMPLETION.
8. BY THE ACT OF SUBMITTING A BID THE CONTRACTOR SHALL BE DEEMED TO HAVE EXAMINED THE SITE AND ALL PROVIDED DRAWINGS AND TO HAVE ACCEPTED EXISTING CONDITIONS AND PROVIDED FOR THEM IN THE BID. CONTRACTOR SHALL COORDINATE AND MAKE FINAL ELECTRICAL CONNECTIONS AT ELECTRICALLY POWERED EQUIPMENT. CONTRACTOR SHALL TEST AND SUPERVISE THE INITIAL OPERATION OF ALL EQUIPMENT AND SPECIAL SYSTEMS. ANY CONTRADICTIONS, DISCREPANCIES OR DESIGN WORK WHICH DOES NOT MEET CODE OR WILL NOT FUNCTION AS INTENDED SHALL BE REPORTED TO THE OWNER AND ENGINEER IN WRITING.
9. THE GENERAL ARRANGEMENT OF OUTLETS AND OTHER EQUIPMENT AS SHOWN ON THE PLANS IS DIAGRAMMATIC AND APPROXIMATELY CORRECT AS TO LOCATIONS. WHERE CHANGES ARE REQUIRED BECAUSE OF EXISTING CONDITIONS, SUCH CHANGES SHALL BE MADE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE LOCATION OF ALL ITEMS ETC. WITH RESPECT TO EQUIPMENT, DOORS, PARTITIONS, CABINETS, ETC.
10. ALL PULL, JUNCTION, AND SPLICE BOXES SHALL BE SIZED, FURNISHED AND INSTALLED PER THE NATIONAL ELECTRICAL CODE. LABEL EACH INTERMEDIATE J-BOX COVER FACE WITH PANEL AND BRANCH CIRCUITS PRESENT; LEGIBLY WRITTEN WITH PERMANENT BLACK MARKER.
11. ALL APPLIANCES, COMPONENTS, DEVICES, MATERIALS, OUTLETS, AND UTILIZATION EQUIPMENT FURNISHED OR PROVIDED BY ELECTRICAL INSTALLER SHALL BE NEW AND ORIGINAL, LISTED AND LABELED PER NEC 90.7 AND 110.3 TO U.L. OR EQUIVALENT FOR ITS INTENDED PURPOSE, SUITABLE FOR ITS USE AND SHALL COMPLY WITH SPECIFICATIONS, DRAWINGS AND GENERAL CONDITIONS AND SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS, OPERATE PER DESIGN INTENT, BE UNDAMAGED AND HAVE MANUFACTURER'S FULL WARRANTY IN EFFECT AT THE DATE OF FINAL ACCEPTANCE OF THIS WORK.
12. WIRING METHOD; LIMITED USE OF TYPE MC OR AC CABLE, WHERE NEC ALLOWS (TYPE MC CABLE PER ARTICLE 330, TYPE AC CABLE PER ARTICLE 320), IS PERMISSIBLE ON THIS PROJECT WHERE NOT BURIED OR SUBJECT TO PHYSICAL DAMAGE BUT IS FURTHER RESTRICTED IN USE TO DOWNSTREAM OF INDIVIDUAL BRANCH CIRCUIT HOME-RUN; 120 VOLT 20 AMP OR LESS AND MUST CONTAIN SEPARATE EGC WIRE OR ITS APPROVED EQUIVALENT.
13. ELECTRICAL CONTRACTOR SHALL NOT PERFORM ANY ADDITIONAL WORK RELATED "CHANGES" IMPLIED, SUGGESTED OR DIRECTED BY ANY INSPECTOR NOTED FAILURE WITHOUT FIRST DOCUMENTING THE INSPECTOR'S SPECIFIC CODE-RELATED ISSUE, CITING THE EXACT GOVERNING CODE SECTION, INSPECTOR'S CONTACT INFORMATION, ASSOCIATED LOCATION AND DRAWING, AND NOTIFYING PROJECT ENGINEER AND OWNER; NO CHANGES OR ADDITIONAL COSTS ARE AUTHORIZED UNLESS ENGINEER IS PROPERLY NOTIFIED AND APPROVES SUCH IN ADVANCE.
14. PROVIDE SLIGHTLY OVERSIZED SLEEVES, LARGER THAN 1/4" CONDUIT DIAMETER MIN., FOR CONDUITS PASSING THROUGH CONCRETE BLOCK, MASONRY OR FOUNDATION WALL, FLOOR SLAB OR CEILING, INSTALLED FLUSH WITH NO ROUGH EDGES INCLUDING ALL THAT ENTER BUILDING; COORDINATE ALL SUCH LOCATIONS PRIOR TO CONCRETE WORK WITH ELECTRICAL CONTRACTOR. NOTE: PLANS MAY NOT SHOW ALL OCCURRENCES AND NOT ALL OCCURRENCES ARE BELOW GRADE OR EXTERIOR; CONTRACTOR RESPONSIBLE FOP INSTALLING SLEEVES. ELECTRICAL CONTRACTOR SHALL SEAL BOTH ENDS OF ALL CONDUIT/SLEEVE PENETRATIONS AT RACEWAY INSTALLATION; SPARE OR UNUSED SLEEVE/RACEWAYS SHALL ALSO BE SEALED. SEALANTS SHALL BE IDENTIFIED FOR USE WITH THE CABLE INSULATION, SHIELD, OR OTHER CONDUIT COMPONENTS. COMPLY WITH NEC 230.8, NEC 300.5(G) AND IBC-2009 SECTION 1906.3.
15. ALL ELECTRICAL CIRCUITS AND EQUIPMENT WHICH ARE ABANDONED AND NOT RE-USED AS PART OF THIS PROJECT SHALL BE MADE SAFE BY REMOVING CONDUCTORS BACK TO SERVICE PANEL. CONDUITS MAY BE ABANDONED IN PLACE. COMPLY WITH NEC REQUIREMENTS FOR ABANDONMENT.
16. SEE MECHANICAL DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.

PROJECT DESCRIPTION

THIS PROJECT INCLUDES THE FOLLOWING GENERAL TASKS:

1. REPLACEMENT OF RTU-2 WITH AN ERV SYSTEM TO PROVIDE IMPROVED VENTILATION, SUPPLY AND EXHAUST AIR, AND HEATING AND COOLING TO THE AUTOPSY SUITE.

2. INSTALLATION OF CONTROLS TO MONITOR AND ADJUST THE NEW RTU-2 EXHAUST FAN TO MAINTAIN SPACE PRESSURE RELATIONSHIPS.

3. REPLACEMENT OF EXISTING SUPPLY AND RETURN/EXHAUST SYSTEM TO PROVIDE IMPROVED AIR DISTRIBUTION.

4. MODIFY SEQUENCES OF OPERATION OF SYSTEM AS INDICATED.

ITEMS WHICH APPLY TO ALL WORK SCOPE ITEMS:

1. ELECTRICAL COMPONENTS OF THIS PROJECT ARE TO BE DESIGN-BUILD BY THE CONTRACTOR. BIDDING CONTRACTOR SHALL BID A COMPLETE AND FUNCTIONING SYSTEM.

2. INSTALL, CUT, AND PATCH WALLS, CEILINGS, AND OTHER BUILDING COMPONENTS AS NECESSARY TO ACCOMPLISH TASKS. AFTER WORK IS COMPLETE, ALL BUILDING COMPONENTS SHALL BE RESTORED TO SIMILAR CONDITION TO EXISTING AND PRESENT A NEAT, FINISHED APPEARANCE. PROVIDE NEW CEILING SURFACE, TILES, AND GRIDS WHICH MATCH EXISTING IF REQUIRED FOR INFILL OR WHERE DAMAGED DURING WORK. AT THE CONTRACTOR'S OPTION THE CONTRACTOR CAN REPLACE THE ENTIRE CEILING IN A GIVEN AREA OF WORK, THIS COST MUST BE INCLUDED IN THE BID.

3. DO NOT MAKE ANY BUILDING COMPONENT MODIFICATIONS WHICH COMPROMISE THE STRUCTURAL INTEGRITY OF THE BUILDING. IF SUCH MODIFICATIONS ARE NECESSARY TO ACCOMPLISH THE WORK, NOTIFY THE ENGINEER IMMEDIATELY FOR RESOLUTION PRIOR TO PROCEEDING.

4. ALL LIGHT FIXTURES ARE TO REMAIN, THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AND INSTALL ANY LIGHT FIXTURE DAMAGED DURING WORK.

5. EXISTING DUCTWORK AND DIFFUSERS WILL BE REUSED UNLESS NOTED OTHERWISE ON THE PLANS.

THIS DRAWING PACKAGE DOES NOT INCLUDE EXHAUSTIVE AS-BUILT DETAILS OF THE EXISTING SYSTEM COMPONENTS AND THEIR LOCATIONS. CONTRACTOR SHALL VERIFY EXACT QUANTITIES OF EQUIPMENT AND EXACT LOCATIONS OF EQUIPMENT IN BUILDING BASED UPON FIELD OBSERVATIONS AND EXISTING DOCUMENTATION AVAILABLE. INFORMATION IS BASED ON AVAILABLE DOCUMENTATION, FIELD OBSERVATIONS, AND ASSUMPTIONS.

SITE MAP

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NO.	REVISIONS	DATE	DRWN	CHKD	DESIGN	APPD

APPROVAL		
DRAWN	NRW	12/09/2022
DESIGN	DLA	12/09/2022
CHECKED	CMB	12/09/2022
APPROVED	DLA	12/09/2022

BENTON COUNTY CORONER
AUTOPSY SUITE VENTILATION UPGRADE
KENNEWICK, WASHINGTON

TITLE PAGE

DWG. NO.
T001

SCALE: AS INDICATED

ISSUE DATE: 12/09/2022

JOB No. 9051

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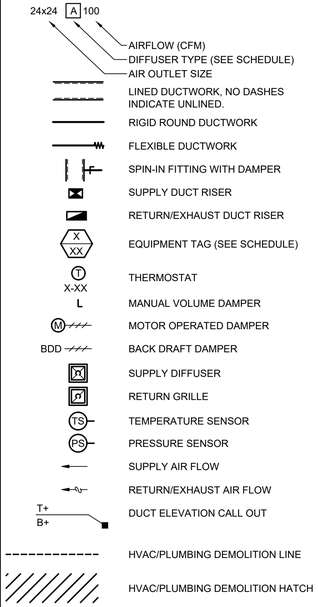
HVAC GENERAL NOTES



MECHANICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
APD	AIR PRESSURE DROP
APPROX	APPROXIMATELY
BDD	BACK DRAFT DAMPER
BTUH	BRITISH THERMAL UNITS PER HOUR
CAV	CONSTANT AIR VOLUME
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
COMP	COMPRESSOR
COND	CONDENS(ER,-ING,-ATE)
CR	CONDENSATE RECEPTOR
CW	COLD WATER
DB	DRY BULB
DIFF	DIFFERENCE
DN	DOWN
(E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EFF	EFFICIENCY
EL	ELEVATION
ERV	ENERGY RECOVERY VENTILATOR
EVAP	EVAPORATOR
EXT	EXTERNAL
FFE	FINISHED FLOOR ELEVATION
FLA	FULL LOAD AMPS
FLR	FLOOR
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FT	FEET
GA	GAUGE
GAL	GALLON(S)
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GSM	GALVANIZED SHEET METAL
HP	HEAT PUMP
HP	HORSEPOWER
HRV	HEAT RECOVERY VENTILATOR
IE	INVERT ELEVATION
ISCOP	INTEGRATED SEASONAL COEFFICIENT OF PERFORMANCE
ISMRE	INTEGRATED SEASONAL MOISTURE REMOVAL EFFICIENCY
IN	INCHES
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS (WEIGHT)
LRA	LOCKED ROTOR AMPS
MAX	MAXIMUM
MBH	BRITISH THERMAL UNITS PER HOUR (THOUSAND)
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MVD	MANUAL VOLUME DAMPER
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA / OSA	OUTSIDE AIR
OPER	OPERATING
PD	PRESSURE DROP
PH	PHASE
PSIG	POUNDS PER SQUARE INCH (GAGE)
RA	RETURN AIR
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
RV	ROOF VENT
SA	SUPPLY AIR
SF	SQUARE FEET
SP	STATIC PRESSURE
SST	SATURATED SUCTION TEMPERATURE
SST	STAINLESS STEEL
SUM	SUMMER
TA	TRANSFER AIR
TEMP	TEMPERATURE
UNO	UNLESS NOTED OTHERWISE
V	VENT
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THROUGH ROOF
WB	WET BULB
WG	WATER GAUGE
WIN	WINTER
WSEC	WASHINGTON STATE ENERGY CODE
WT	WEIGHT

GENERAL NOTES-MECHANICAL

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL MECHANICAL CODE (IMC), INTERNATIONAL FIRE CODE (IFC), INTERNATIONAL FUEL GAS CODE (IFGC), UNIFORM PLUMBING CODE (UPC), INCLUDING ALL STATE AND LOCAL AMENDMENTS; THE WASHINGTON STATE ENERGY CODE, AND ALL OTHER LOCAL JURISDICTION REQUIREMENTS.
2. ALL DUCT AND PIPE ROUTING AND CONSTRUCTION SHOWN ON THE DRAWINGS IS DIAGRAMMATIC IN NATURE AND MAY NOT BE SHOWN IN EXACT LOCATIONS OR WITH ALL ANCILLARY ITEMS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. CONTRACTOR SHALL COORDINATE ROUTING OF ALL DUCTWORK AND PIPING PER TYPICAL CONSTRUCTION PRACTICE IN THE MOST EFFICIENT WAY POSSIBLE WHILE ADHERING AS CLOSELY TO THE DRAWINGS AS POSSIBLE. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL INSTALLATION WITH THE WORK OF OTHER TRADES. IN THE EVENT A CONFLICT ARISES WHICH CANNOT BE RESOLVED IN THE FIELD, A REQUEST FOR INFORMATION (RFI) SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. INCLUDE PROPOSED SOLUTION AND COST/TIME IMPACT IF POSSIBLE.
3. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER WITHIN STANDARD OF CARE FOR PROFESSION. ALL LABOR, MATERIAL, TOOLS, PERMITS, INSPECTIONS, TESTING, CERTIFICATION, ETC. REQUIRED FOR A COMPLETE AND SATISFACTORY INSTALLATION TO DESIGN INTENT SHALL BE FURNISHED BY CONTRACTOR. PROVIDE, AT NO ADDITIONAL COST, INCLUDING INCIDENTAL ITEMS NOT SHOWN WHEN REQUIRED FOR TYPICAL COMPLETION OF WORK.
4. SPECIFICATIONS AND DRAWINGS ARE COMPLEMENTARY AND SHALL BE UNDERSTOOD AS ONE. IN THE EVENT OF A CONFLICT BETWEEN THE PLANS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. IF A CONFLICT CANNOT BE RESOLVED IN THIS MANNER, IT SHALL BE REFERRED TO THE ENGINEER FOR RESOLUTION.
5. ALL EQUIPMENT WHICH IS INDICATED TO BE FURNISHED AND/OR INSTALLED BY OTHERS OR BY OWNER IS INCLUDED FOR REFERENCE ONLY UNLESS NOTED OTHERWISE. DESIGN OF MECHANICAL SYSTEMS IN THESE AREAS IS BASED ON INFORMATION AVAILABLE AT THE TIME OF DESIGN. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND VERIFYING INSTALLATION REQUIREMENTS OF THIS EQUIPMENT WITH THE APPLICABLE SUPPLIER OR THE OWNER. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
6. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF SITE CONDITIONS, INSTALLATION STANDARDS AND CONSTRUCTION CONDITIONS AND PROCEDURES. FIELD VERIFY ALL DIMENSIONS PRIOR TO SHOP FABRICATION AND/OR FIELD ERECTION. DISCREPANCIES BETWEEN SITE CONDITIONS AND THE CONSTRUCTION DOCUMENTS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER. WORK DONE WITHOUT THE ENGINEER'S APPROVAL IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. DRAWINGS NOT BEARING THE STAMP OR SEAL AND SIGNATURE OF A REGISTERED PROFESSIONAL ENGINEER SHALL NOT BE USED FOR BIDDING OR CONSTRUCTION PURPOSES UNLESS EXPRESSLY APPROVED IN WRITING BY MEIER ARCHITECTURE•ENGINEERING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL DRAWINGS AND SPECIFICATIONS BEING USED FOR BIDDING AND CONSTRUCTION PURPOSES ARE OF THE LATEST REVISION AVAILABLE AND ALL ADDENDUM DOCUMENTS HAVE BEEN INCORPORATED EITHER BY REVISION RELEASE OF DRAWINGS/SPECIFICATIONS OR ATTACHMENT OF SKETCHES OR OTHER ADDENDUM INFORMATION.
8. NOT ALL SYMBOLS OR ABBREVIATIONS INDICATED MAY BE USED ON PROJECT DRAWINGS.
9. DRAWINGS MAY BE REDUCED. VERIFY SCALE.

DIRECT DIGITAL CONTROL SYSTEM NOTES

THIS PROJECT INCLUDES THE CONNECTION OF NEW COMPONENTS TO OWNER'S EXISTING BUILDING AND CAMPUS IP/ETHERNET NETWORK FOR MONITORING AND CONTROL BY OWNER'S EXISTING DIRECT DIGITAL CONTROL SYSTEM AT OTHER FACILITIES ON CAMPUS. THE EXISTING DDC SYSTEM MANUFACTURER IS JOHNSON CONTROLS.

CONTRACTOR SHALL PROVIDE ALL REQUIRED LABOR, MATERIALS, PERMITS, DESIGN, INSTALLATION, AND COMMISSIONING WORK TO MODIFY EXISTING DDC CONTROL SYSTEM AT OTHER CAMPUS BUILDING LOCATIONS AS NECESSARY TO ACCOMMODATE THE MONITORING AND CONTROL OF NEW EQUIPMENT AT PROJECT BUILDING OVER OWNER'S CAMPUS AREA NETWORK. OWNER SHALL BE RESPONSIBLE FOR LOCAL NETWORK CONNECTION OF EQUIPMENT IN PROJECT BUILDING. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF SITE CONDITIONS AND DETERMINATION OF THE EFFORT AND MATERIALS REQUIRED TO MONITOR THE PROPOSED EQUIPMENT AND MODIFY SEQUENCES OF EXISTING DDC EQUIPMENT. ANY DEFICIENCIES SHALL BE REPORTED TO THE ENGINEER DURING THE BIDDING PROCESS. NO CHANGE ORDERS WILL BE APPROVED AFTER THE BID OPENING FOR CONTRACTOR'S FAILURE TO EVALUATE ALL SITE CONDITIONS AND VERIFY COMPATIBILITY WITH NEW EQUIPMENT AND ABILITY OF EXISTING EQUIPMENT TO BE OPERATED WITH NEW SEQUENCES.

WORK SCOPE GENERALLY INCLUDES:

1. REPLACEMENT OF EXISTING ROOFTOP UNIT #2, WITH A NEW PACKAGED ENERGY RECOVERY VENTILATOR WITH HEATING AND COOLING. THE NEW SPECIFIED UNIT CONTAINS AN INTEGRAL BACNET MICROCONTROLLER WHICH HANDLES STAGING AND OTHER OPERATIONS INTERNALLY BASED ON A SPACE TEMPERATURE CONTROL AND A SEPARATE SIGNAL FROM A NEW ROOM PRESSURIZATION CONTROL SYSTEM TO MODULATE THE EXHAUST FAN TO MAINTAIN SPACE PRESSURE SETPOINT. THE UNIT HAS AN INTEGRAL NETWORK INTERFACE TO THE OWNER'S LOCAL AREA NETWORK FOR MONITORING BY THE EXISTING CAMPUS DDC SYSTEM AND FAULT DETECTION AND DIAGNOSTICS, IN ADDITION TO A REMOTE UNIT CONTROL PANEL TO BE MOUNTED IN THE SPACE.
2. REMOVAL OF EXISTING EXHAUST FANS #1 AND #2. THE FUNCTIONS OF THESE FANS ARE INCORPORATED INTO THE NEW ROOFTOP UNIT #2.
3. MODIFICATION OF SETPOINTS DURING TESTING, ADJUSTING, AND BALANCING OF NEW SYSTEMS AS DIRECTED BY TAB SUBCONTRACTOR.
4. SUPPORT OF TAB AND COMMISSIONING ACTIVITIES AS DIRECTED IN SPECIFICATIONS.

MAINTAIN ALL OTHER EXISTING COMPONENTS IN WORKING CONDITION AND DO NOT MODIFY EXISTING OPERATIONAL SEQUENCES UNLESS DIRECTED IN DRAWINGS OR OTHERWISE IN WRITING BY THE ENGINEER.

HVAC GENERAL NOTES

1. ALL DUCT SHALL HAVE A MINIMUM OF 1-1/2" EXTERNAL DUCT WRAP INSULATION COMPLYING WITH LOCAL ENERGY CODE UNLESS NOTED OTHERWISE. UNLESS OTHERWISE NOTED, RECTANGULAR DUCTWORK SHALL HAVE MINIMUM 1" THICK ACOUSTIC LINER. DUCT WRAP INSULATION MAY BE OMITTED IF DUCT LINER PROVIDES MINIMUM INSULATION VALUES REQUIRED BY ENERGY CODE. ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE NET INSIDE DIMENSIONS UNLESS NOTED OTHERWISE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION ON DUCT INSULATION.
2. ALL JOINTS AND SEAMS ON SUPPLY, RETURN, AND EXHAUST AIR DUCTS SHALL BE SEALED PER LOCAL ENERGY CODE WITH DUCT SEALING COMPOUND.
3. PROVIDE AND INSTALL TURNING VANES IN ALL RECTANGULAR 90° ELBOWS AND TEES
4. INSULATED FLEXIBLE DUCT MAY BE USED FOR FINAL CONNECTIONS TO CEILING DIFFUSERS AND GRILLES. FLEXIBLE DUCT RUNS SHALL BE NO LONGER THAN 5'-0" IN LENGTH. ENSURE THAT THE INSIDE RADIUS OF ALL BENDS IS EQUAL TO OR GREATER THAN 1.5 TIMES THE DUCT DIAMETER. ATTACH ALL FLEXIBLE DUCT TO RIGID DUCT OR AIR TERMINAL DEVICE USING MIN 2 SCREWS TO SECURE WIRE AND MECHANICAL BAND (PANDUIT STRAP) TO SECURE INSIDE HOUSING. DUCT TAPE MAY BE USED TO SEAL OUTER JACKETING FOR FINISH.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF THE DUCTWORK TO ALLOW ADEQUATE CLEARANCE OF THE LIGHTING FIXTURES AND TO AVOID STRUCTURAL MEMBERS OR OTHER CEILING EQUIPMENT. THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO AVOID CONFLICTS IN THE CEILING SPACE.
6. INSTALL THERMOSTATS AND OTHER CONTROL DEVICES AT 54" AFF.
7. ALL DUCTS SHALL BE CONSTRUCTED PER SMACNA DUCT CONSTRUCTION STANDARD METAL AND FLEXIBLE 2" WC MINIMUM PRESSURE CLASS UNLESS NOTED OTHERWISE.
8. KEEP ALL DUCTS TIGHT TO BOTTOM OF STRUCTURE UNLESS NOTED OTHERWISE. WHERE CROSSOVERS OCCUR, DUCT RUNNING PARALLEL WITH JOISTS MAY BE INSTALLED ABOVE OTHER, IN JOIST SPACE. CEILING HEIGHTS SHALL BE MAINTAINED.
9. ALL ROOFTOP EQUIPMENT SHALL BE INSTALLED LEVEL. ADJUSTMENTS SHALL BE MADE IN THE CURBS/EQUIPMENT SUPPORTS OR BY USING SHIMS BELOW THE CURB.
10. CONTRACTOR SHALL ENSURE MECHANICAL SYSTEMS PERFORM AS DESCRIBED IN THE SEQUENCE OF OPERATION.
11. PAINT ALL VISIBLE DUCTWORK THROUGH GRILLES/DIFFUSERS FLAT BLACK.
12. INSTALL TAMPER-RESISTANT REFRIGERANT SERVICE PORT CAPS AT ALL EXTERIOR REFRIGERATION EQUIPMENT THAT IS ACCESSIBLE FROM THE GROUND AND NOT WITHIN A SECURE ENCLOSURE.

ROOM PRESSURIZATION CONTROL SYSTEM NOTES

THIS PROJECT INCLUDES THE ADDITION OF A ROOM PRESSURIZATION MONITORING AND CONTROL SYSTEM FOR THE EXISTING AUTOPSY SUITE, TO BE DONE IN CONCERT WITH THE REPLACEMENT OF ROOFTOP UNIT #2. THE PRESSURIZATION CONTROL SYSTEM WILL PROVIDE A SIGNAL TO THE NEW UNIT TO ALTER THE EXHAUST FAN SPEED WHILE THE SUPPLY FAN SPEED REMAINS CONSTANT TO CONTROL THE OVERALL AUTOPSY SUITE ZONE PRESSURIZATION. THE BASIS-OF-DESIGN SYSTEM MANUFACTURER IS "CRC"/"CRITICAL ROOM CONTROL" MODEL "IRC-PM".

CONTRACTOR SHALL PROVIDE ALL REQUIRED LABOR, MATERIALS, PERMITS, DESIGN, INSTALLATION, AND COMMISSIONING WORK TO INSTALL, PROGRAM, COMMISSION, AND VERIFY OPERATION OF THIS SYSTEM AND ENSURE THAT IT FUNCTIONS IN CONCERT WITH OTHER DEVICES AND EQUIPMENT PER THE REQUIRED SEQUENCES OF OPERATION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF SITE CONDITIONS AND DETERMINATION OF THE EFFORT AND MATERIALS REQUIRED TO CONTROL THE PROPOSED EQUIPMENT AND TO PROVIDE A FUNCTIONAL AND CONCISE INTERFACE FOR OCCUPANTS TO MONITOR PRESSURIZATION STATUS, ALTER PRESSURIZATION SETPOINTS, AND DIAGNOSE COMMON PRESSURIZATION ISSUES SUCH AS OPEN DOORS TO OTHER SPACES.

WORK SCOPE GENERALLY INCLUDES:

1. INSTALLATION OF ROOM PRESSURIZATION SENSOR/TOUCHSCREEN UNITS AT VARIOUS LOCATIONS TO ALLOW OCCUPANTS TO MONITOR AUTOPSY SUITE PRESSURIZATION WHILE INSIDE AND OUTSIDE OF THE SPACE.
2. INSTALLATION OF ROOM PRESSURIZATION CENTRAL CONTROLLER TO CONNECT TO ALL TOUCHSCREEN/MONITOR STATIONS AND CONNECT TO NEW ERV UNIT CONTROLS AND BUILDING LOCAL NETWORK TO INTERFACE WITH EXISTING CAMPUS DDC SYSTEM OVER OWNER'S IP/ETHERNET NETWORK. OWNER SHALL BE RESPONSIBLE FOR LOCAL NETWORK CONNECTION TO EQUIPMENT.
3. MODIFICATION OF SETPOINTS DURING TESTING, ADJUSTING, AND BALANCING OF NEW AIR HANDLING SYSTEMS AS DIRECTED BY TAB SUBCONTRACTOR.
4. SUPPORT OF TAB AND COMMISSIONING ACTIVITIES AS DIRECTED IN SPECIFICATIONS.

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NO.	REVISIONS	DATE	DRWN	CHKD	DESGN	APPD

APPROVAL		
DRAWN	NRW	12/09/2022
DESIGN	DLA	12/09/2022
CHECKED	CMB	12/09/2022
APPROVED	DLA	12/09/2022

BENTON COUNTY CORONER
AUTOPSY SUITE VENTILATION UPGRADE
KENNEWICK, WASHINGTON

GENERAL NOTES AND LEGENDS

DWG. NO. M001

SCALE: AS INDICATED

ISSUE DATE: 12/09/2022

JOB No. 9051

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WSEC NOTES

2018 WASHINGTON STATE ENERGY CODE: COMMERCIAL PROVISIONS (WAC 51-11C) REQUIREMENTS:

NOTE: THE FOLLOWING ITEMS ARE GENERAL REQUIREMENTS ONLY. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE PROVISIONS OF THE STATE ENERGY CODE REGARDLESS OF WHETHER OR NOT THE REQUIREMENTS ARE LISTED BELOW OR IN THE DRAWINGS OR SPECIFICATIONS.

1. CONTRACTOR SHALL COMPLY WITH CHAPTER 5 REQUIREMENTS FOR EXISTING BUILDINGS IN ADDITION TO APPLICABLE PROVISIONS ELSEWHERE IN THE CODE.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE RECORD DOCUMENTS TO OWNER AND BUILDING OFFICIAL WITHIN 90 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY. IF THE LOCAL BUILDING OFFICIAL REQUIRES THE ENGINEER OF RECORD TO PREPARE RECORD DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPENSATING THE ENGINEER FOR THE TIME AND MATERIALS REQUIRED TO DO SO. PER SECTION C103.6.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING AND INSTALLING BUILDING OPERATION AND MAINTENANCE INFORMATION LABELS, MANUALS, MARKINGS, AND OTHER OPERATIONAL INFORMATION REQUIRED BY SECTION C103.6.2. SPECIFICATION SECTIONS WHICH REFER TO EQUIPMENT LABELING ADDRESSES ONLY IDENTIFICATION LABELS AND DOES NOT INCLUDE LABELS REQUIRED BY WSEC. IF IT IS REQUIRED THAT THE ENGINEER OF RECORD PREPARE AND/OR INSTALL THESE LABELS OR TO DEVELOP OTHER INFORMATION BEYOND THAT INCLUDED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPENSATING THE ENGINEER FOR THE TIME AND MATERIALS REQUIRED TO DO SO.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SYSTEMS OPERATION TRAINING AND REPORTS TO OWNER PER SECTION C103.6.4.

5. ALL AREA UNDER ROOFTOP HVAC EQUIPMENT CURBS SHALL BE INSULATED TO A MINIMUM OF R-13, AND ANNULAR SPACE BETWEEN ROOF OPENING AND DUCTWORK SHALL BE SEALED TO MAINTAIN THE BUILDING AIR BARRIER, PER SECTION C402.2.1.2.

6. ALL SUPPLIED HEATING AND COOLING EQUIPMENT SHALL COMPLY WITH THE EFFICIENCY REQUIREMENTS IN SECTION C403.3.2, OR THE EFFICIENCY LISTED ON THE EQUIPMENT SCHEDULES ON DRAWINGS, WHICHEVER IS GREATER. MINOR DEVIATIONS FROM EFFICIENCY LISTED ON SCHEDULES DUE TO PRODUCT DIFFERENCES IS ALLOWED WITH THE APPROVAL OF THE ENGINEER.

7. PACKAGED ELECTRIC SYSTEMS THAT PROVIDE BOTH HEATING AND COOLING SHALL BE A HEAT PUMP WHEN OVER 6,000 BTU/HR COOLING CAPACITY, PER SECTION C403.3.2.4.

8. UNITARY AIR COOLED HEAT PUMP SYSTEMS WITH AUXILIARY HEAT SYSTEMS SHALL HAVE CONTROLS WHICH INCLUDE INDICATORS FOR WHEN AUXILIARY HEAT IS IN USE, SHALL LOCKOUT AUXILIARY HEAT ABOVE 40°F OUTDOOR AIR TEMPERATURE AND HAVE CONTROLS WHICH MINIMIZE AUXILIARY HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. PER SECTION C403.4.1.1.

9. THERMOSTATS AND ROOM TEMPERATURE SENSORS WHICH CONTROL BOTH HEATING AND COOLING EQUIPMENT SHALL HAVE A MINIMUM 5 DEGREE DEADBAND PER SECTION C403.4.1.2. IF SEPARATE HEATING AND COOLING THERMOSTATIC CONTROLS ARE LOCATED IN THE SAME ZONE, A MECHANICAL STOP OR CONTROL SYSTEM PROGRAMMING SHALL BE CONFIGURED TO PREVENT THE HEATING SETPOINT FROM EXCEEDING THE COOLING SETPOINT AND TO MAINTAIN DEAD BAND PER SECTION C403.4.1.3.

10. THERMOSTATS OR CENTRAL CONTROLS SHALL HAVE AUTOMATIC SETBACK CONTROLS AND HAVE A MINIMUM SEVEN DAY CLOCK CAPABLE OF BEING SET FOR SEVEN DIFFERENT DAYS OF THE WEEK, RETAINING PROGRAMMING DURING A LOSS OF POWER OF AT LEAST 10 HOURS, AND HAVE A MANUAL OVERRIDE THAT ALLOWS FOR OPERATION OF THE SYSTEM FOR UP TO 2 HOURS (UNLESS AN OCCUPANCY SENSOR IS USED), PER SECTION C403.4.2.2.

11. PER SECTION C403.7.8.3, MOTORIZED AND NONMOTORIZED DAMPERS SHALL HAVE A MAXIMUM LEAKAGE RATE WHEN TESTED IN ACCORDANCE WITH AMCA STANDARD 500D OF: MOTORIZED DAMPER 4 CFM/SF OF DAMPER AREA AT 1.0 IN W.G., NON MOTORIZED DAMPER 20 CFM/SF OF DAMPER AREA AT 1.0 IN W.G, (FOR RELIEF DAMPERS IN BUILDINGS LESS THAN 3 STORIES IN HEIGHT AND SYSTEMS LESS THAN 5000 CFM SUPPLY AIR) NON MOTORIZED DAMPERS SMALLER THAN 24" IN EITHER DIMENSION: 40CFM/SF OF DAMPER AREA AT 1.0 IN W.G. PER SECTION C403.2.4.3. EXCEPTIONS:
    - 11.1. MOTORIZED DAMPERS ON RETURN AIR OPENINGS IN UNITARY PACKAGED EQUIPMENT THAT HAVE THE MINIMUM LEAKAGE RATE AVAILABLE FROM THE MANUFACTURER.
    - 11.2. GRAVITY DAMPERS INSTALLED IN EXHAUST SYSTEMS 400 CFM AND LESS WHICH ARE EQUIPPED WITH A GASKETED SEAL.

12. OUTDOOR AIR INTAKE, RELIEF, AND EXHAUST DAMPERS SHALL BE INSTALLED WITH AUTOMATIC CONTROLS CONFIGURED TO CLOSE WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE OR DURING UNOCCUPIED PERIOD WARM-UP AND SETBACK OPERATION, UNLESS THE SYSTEMS SERVED REQUIRE OUTDOOR OR EXHAUST AIR IN ACCORDANCE WITH LOCAL MECHANICAL CODE OR THE DAMPERS ARE OPENED TO PROVIDE ECONOMIZER COOLING. PER SECTION C403.7.8.4.

13. ALL DIRECT EXPANSION (DX) COOLING SYSTEMS 42,000 BTU/HR OR LARGER, CHILLED WATER COOLING UNITS WITH 1/4 HP OR LARGER FAN MOTORS, AND EVAPORATIVE COOLING UNITS, SHALL BE REQUIRED TO HAVE VARIABLE FAN AIRFLOW CONTROL AS A FUNCTION OF THE SYSTEM LOAD. PER SECTION C403.8.5.1.
    - 13.0.1. MINIMUM FAN SPEED MAY BE INCREASED TO PROVIDE REQUIRED VENTILATION AIRFLOW PER THE LOCAL MECHANICAL CODE.

14. SUPPLY AIR DUCTS WITHIN BUILDING ENVELOPE SHALL BE INSULATED PER SECTION C403.10.1.2. EXCEPTION: DUCTWORK EXPOSED TO VIEW WITHIN A ZONE THAT SERVES THAT ZONE IS NOT REQUIRED TO BE INSULATED.

15. RETURN OR EXHAUST DUCTS THAT CONVEY RETURN OR EXHAUST AIR DOWNSTREAM OF AN ENERGY RECOVERY DEVICE SHALL BE INSULATED PER SECTION C403.10.1.2.

16. DUCTS SHALL BE CONSTRUCTED, SEALED AND TESTED IN ACCORDANCE WITH SECTION C403.10.2.

17. FRACTIONAL HORSEPOWER (1/12 HP TO 1HP) FAN MOTORS (WHICH ARE NOT COVERED BY TABLES C405.8(3) AND C405.8(4)) SHALL HAVE ELECTRONICALLY COMMUTATED (EC) MOTORS OR MINIMUM 70% MOTOR EFFICIENCY. EXCEPTIONS:
    - 17.1. MOTORS INCLUDED IN EFFICIENCY RATINGS OF EQUIPMENT COVERED BY SECTION C403.3.2 AND TABLES C403.3.2(1) THROUGH C403.3.2(12).

18. CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A "CERTIFIED COMMISSIONING PROFESSIONAL" TO PROVIDE COMMISSIONING SERVICES IN ACCORDANCE WITH THE PROJECT REQUIREMENTS AND SECTION C408. PROJECT MAY INCLUDE ADDITIONAL COMMISSIONING REQUIREMENTS IN CONTRACT DRAWINGS OR SPECIFICATIONS. REFER TO THOSE DOCUMENTS FOR ADDITIONAL INFORMATION.

19. CONTRACTOR SHALL ENSURE COOPERATION FROM ALL TRADES WITH ALL COMMISSIONING ACTIVITIES, INCLUDING DESIGN REVIEWS, SUBMITTAL REVIEWS, MEETINGS, SITE OBSERVATIONS, SYSTEM FUNCTIONAL TESTING, AND BALANCING.

20. COMMISSIONING PROFESSIONAL SHALL PROVIDE NARRATIVES AS REQUIRED PER SECTION C408.1.1.

21. COMMISSIONING PROFESSIONAL SHALL PROVIDE COMMISSIONING PLAN AS REQUIRED PER SECTION C408.1.2.

22. COMMISSIONING PROFESSIONAL SHALL NOT BE AN EMPLOYEE OF THE CONSTRUCTION CONTRACTOR OR THE PROJECT DESIGN FIRM UNLESS A CONFLICT MANAGEMENT PLAN IS CREATED AND ADHERED TO BY ALL PARTIES PER SECTION C408.1.2.1

23. ALL COMMISSIONING DOCUMENTATION SHALL BE MADE AVAILABLE TO THE CODE OFFICIAL UPON REQUEST PER SECTION C408.1.4.3.

24. ALL MECHANICAL SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS, AND SYSTEMS SHALL COMPLY WITH REQUIREMENTS IN SECTION C408.2.2 FOR BALANCING ACCESSORIES AND PROCEDURES.

25. THIS PROJECT IS DESIGNED TO BE IN GENERAL CONFORMANCE WITH CALCULATION METHODOLOGY REQUIRED BY SECTION C403.1.2 AND EQUIPMENT SIZING REQUIRED BY SECTION C403.3.1, SUBJECT TO UNIQUE PROJECT REQUIREMENTS AND DESIGN CONSIDERATIONS. ADDITIONAL INFORMATION ON CALCULATION AND DESIGN METHODOLOGIES IS AVAILABLE FROM THE ENGINEER UPON REQUEST.

SEQUENCE OF OPERATION

100% OUTSIDE AIR SINGLE-ZONE ROOFTOP AIR CONDITIONING UNIT WITH ENERGY RECOVERY

1. CONTROL:
    - 1.1. THE UNIT SHALL BE CONTROLLED BY THE UNIT'S ONBOARD MICROPROCESSOR CONTROLLER, WITH REMOTE MONITORING AND CONTROL PERMITTED BY CONNECTION TO OWNER'S LOCAL NETWORK FOR INTERFACE TO EXISTING CAMPUS DDC CONTROL SYSTEM OVER BACNET IP/ETHERNET. A REMOTE USER INTERFACE TERMINAL SHALL ALSO BE LOCATED IN THE SPACE TO CONTROL AND MONITOR ALL UNIT FUNCTIONS.
    - 1.2. SPACE IS EQUIPPED WITH A SINGLE TEMPERATURE SENSOR/THERMOSTAT FOR UNIT HEATING AND COOLING CONTROL.
    - 1.3. SPACE IS EQUIPPED WITH A ROOM PRESSURIZATION MONITOR AND CONTROL SYSTEM WHICH ALTERS UNIT OPERATION AS INDICATED BELOW.
    - 1.4. OCCUPIED SCHEDULE SHALL BE PROGRAMMED PER OWNER REQUEST. DEFAULT SCHEDULE SHALL BE 24-HOUR OCCUPANCY.
    - 1.5. THERMOSTAT SETTING RANGES/PERMISSIONS OR TAMPER LOCKOUTS SHALL BE PROGRAMMED PER OWNER REQUEST.
    - 1.6. THE FOLLOWING POINTS SHALL BE MONITORED AND CONTROLLED BY THE CAMPUS DDC CONTROL SYSTEM OVER OWNER'S IP/ETHERNET NETWORK WITH OCCUPANT ADJUSTMENT ALLOWED AS PROGRAMMED:
        - 1.6.1. SPACE TEMPERATURE AND SETPOINT.
        - 1.6.2. SPACE HUMIDITY LEVEL.
        - 1.6.3. OUTSIDE AIR TEMPERATURE.
        - 1.6.4. START/STOP COMMAND.
        - 1.6.5. SUPPLY AIR TEMPERATURE.
        - 1.6.6. TEMPERATURE AFTER ENERGY RECOVERY DEVICE AND BEFORE DX COIL.
        - 1.6.7. RETURN AIR TEMPERATURE.
        - 1.6.8. SUPPLY AND EXHAUST AIRFLOW AND SETPOINT.
        - 1.6.9. ECONOMIZER MODE INPUT (ENERGY RECOVERY CORE BYPASS DAMPERS).
        - 1.6.10. DIRTY FILTER SWITCH STATUS.
        - 1.6.11. HEAT/COOL COMMAND AND STAGE.
        - 1.6.12. CONDENSATE DRAIN PAN LEVEL SWITCH STATUS.
        - 1.6.13. OTHER UNIT STATUS AND FAULT INDICATIONS PROVIDED BY UNIT'S BACNET CONTROLLER.
        - 1.6.14. SPACE PRESSURIZATION SIGNAL AND STATUS FROM ROOM PRESSURIZATION CONTROL SYSTEM.

2. DURING OCCUPIED HOURS:
    - 2.1. SUPPLY FAN SHALL BE ON AND OPERATE AT SET AIRFLOW VOLUME.
    - 2.2. EXHAUST FAN SHALL BE ON AND OPERATE AT SET AIRFLOW VOLUME, WITH ADJUSTMENT WITHIN A TRACKING BAND OF THE SUPPLY FAN TO ENSURE NEGATIVE PRESSURE IN THE SPACE. OPERATION SIGNAL SUPPLIED FROM ROOM PRESSURIZATION CONTROL SYSTEM.
    - 2.3. OUTDOOR AIR AND EXHAUST DAMPER SHALL BE OPEN.
    - 2.4. ENERGY RECOVERY CORE BYPASS DAMPERS SHALL MODULATE TO MAINTAIN DISCHARGE TEMPERATURE AS DETERMINED BY CURRENT SPACE TEMPERATURE, DISTANCE FROM SETPOINT, AND UNIT'S ONBOARD CONTROLLER. IF ENERGY RECOVERY CORE ALONE CANNOT SATISFY DISCHARGE TEMPERATURE SETPOINT REQUIREMENT (BYPASS DAMPERS FULLY CLOSED), COOLING OR HEATING SHALL BE ACTIVATED AS INDICATED BELOW.
    - 2.5. DURING FULL ECONOMIZER COOLING, ERV UNITS SHALL OPERATE AS NORMAL EXCEPT THAT RECOVERY CORE BYPASS DAMPERS SHALL BE OPEN.
    - 2.6. ERV HEAT PUMP AND AUXILIARY ELECTRIC HEATERS SHALL MODULATE HEATING TO MAINTAIN 65F MINIMUM AIR TEMP EXCEPT WHEN A CALL FOR COOLING IS PRESENT. DURING A CALL FOR COOLING, ERV SHALL MODULATE CORE BYPASS DAMPERS TO MAINTAIN 55F MINIMUM AIR TEMP AND THE ELECTRIC HEAT SHALL BE DISABLED. IF THIS TEMPERATURE CANNOT BE MAINTAINED BY THE RECOVERY CORE ALONE, THE HEAT PUMP AND AUXILIARY ELECTRIC HEAT SHALL OPERATE TO SUPPLEMENT THE CORE AND MAINTAIN THE SUPPLY AIR TEMP.
    - 2.7. ON A CALL FOR COOLING, MECHANICAL COOLING SHALL BE ACTIVATED AS NECESSARY TO MAINTAIN THE SPACE TEMPERATURE SETPOINT CONDITIONS.
    - 2.8. ON A CALL FOR HEATING, COMPRESSION HEATING (HEAT PUMP) SHALL CYCLE AS NECESSARY TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT CONDITIONS. IF COMPRESSION HEATING ALONE CANNOT MAINTAIN SETPOINT CONDITIONS, AUXILIARY ELECTRIC RESISTANCE HEAT SHALL BE ACTIVATED AS NECESSARY TO MAINTAIN SETPOINT CONDITIONS. IN ADDITION, THE AUXILIARY HEAT SHALL ALSO OPERATE WHEN THE HEAT PUMP SYSTEM IS IN DEFROST CYCLE. AUXILIARY HEAT SHALL BE LOCKED OUT WHEN OUTSIDE AIR TEMPERATURE IS ABOVE 40 DEG F.
    - 2.9. AUXILIARY ELECTRIC HEATING SYSTEM HAS MODULATING CAPACITY.
    - 2.10. DX COOLING AND HEAT PUMP SYSTEM HAS MODULATING CAPACITY.

3. DURING UNOCCUPIED HOURS (IF AN UNOCCUPIED CYCLE IS SET BY OWNER):
    - 3.1. SUPPLY FAN AND EXHAUST FAN SHALL OPERATE THE SAME AS IN THE OCCUPIED MODE.
    - 3.2. OUTDOOR AIR DAMPER SHALL BE OPEN WHEN FANS ARE ON.
    - 3.3. CALLS FOR COOLING SHALL BE SATISFIED AS IN THE OCCUPIED MODE.
    - 3.4. CALLS FOR HEATING SHALL BE SATISFIED AS IN THE OCCUPIED MODE.
    - 3.5. SETPOINTS SHALL BE ALTERED UP FOR COOLING AND DOWN FOR HEATING AS A SETBACK OPERATION AS PROGRAMMED BY THE OWNER.
    - 3.6. NOTE THAT THIS DESIGNED UNOCCUPIED CYCLE MAINTAINS PRESSURIZATION OF SPACE BY KEEPING FANS RUNNING AS DURING OCCUPIED MODE. IF OWNER DESIRES COMPLETE SHUTDOWN OF UNIT DURING UNOCCUPIED HOURS, NOTIFY ENGINEER PRIOR TO IMPLEMENTATION.

EF-2

EF-2 IS CURRENTLY INTERLOCKED WITH THE ROOM LIGHTS OF THE ROOM IT SERVES. EF-2 CONTROLS SHALL BE MODIFIED TO INTERLOCK ITS OPERATION WITH THE SUPPLY FAN ON RTU-2, SEE SEQUENCE ABOVE FOR SUPPLY FAN OPERATION ON RTU-2.

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APPROVAL		
DRAWN	NRW	12/09/2022
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BENTON COUNTY CORONER
AUTOPSY SUITE VENTILATION UPGRADE
KENNEWICK, WASHINGTON

NOTES

DWG. NO. M002

SCALE: AS INDICATED

ISSUE DATE: 12/09/2022

JOB No. 9051

REV. 0

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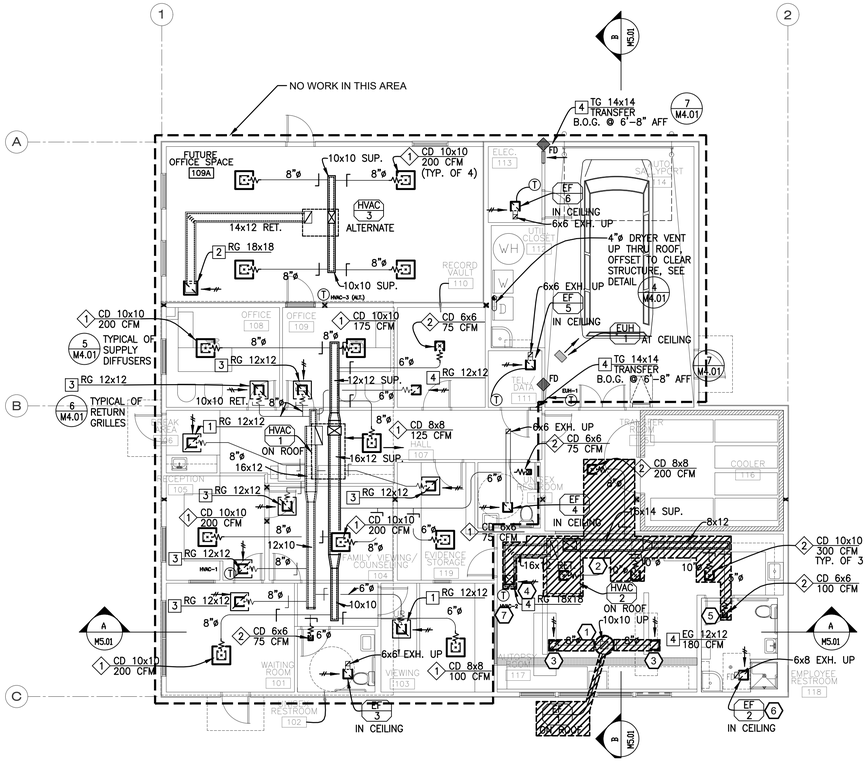
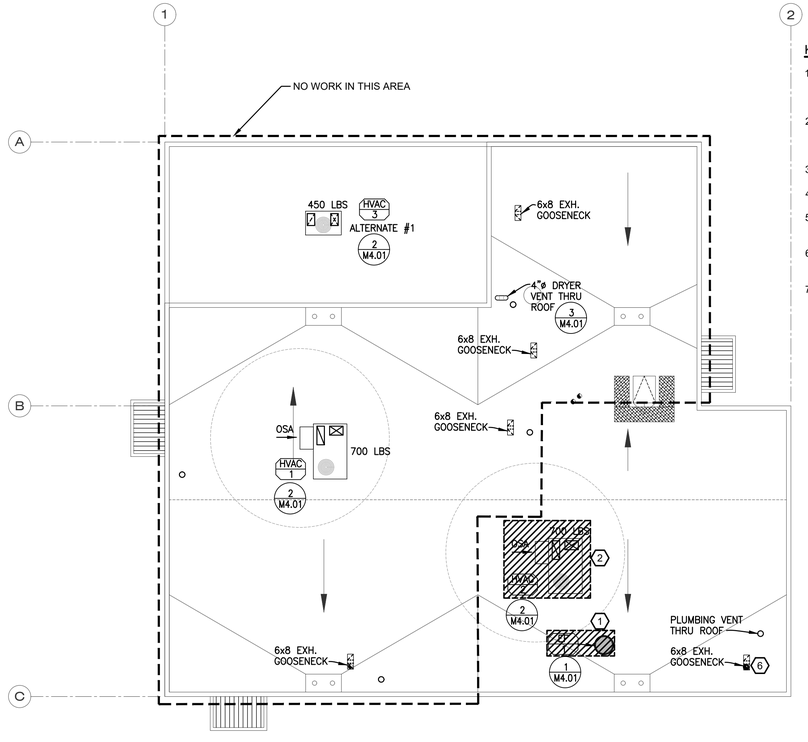
NOTES

1. SEE M001 FOR GENERAL NOTES AND LEGENDS.
2. DRAWINGS ARE CREATED FROM EXISTING DRAWINGS. CONTRACTOR TO VERIFY EXISTING LOCATIONS PRIOR TO START OF WORK. MINOR MODIFICATIONS MAY BE REQUIRED FOR A COMPLETE INSTALLATION.
3. DRAWINGS MAY NOT INDICATE ALL EXISTING ITEMS. CONTRACTOR TO REMOVE ALL ITEMS INDICATED. ADDITIONAL ITEMS MAY BE REQUIRED TO BE REMOVED TO FACILITATE NEW LAYOUT/INSTALLATION SEE M101.
4. PATCH ROOF AROUND CURB OF NEW ERV AND UNUSED ROOF PENETRATIONS. WORK SHALL BE COMPLETED BY A FIRESTONE CERTIFIED ROOFER TO RE-CERTIFY THE ROOF WARRANTY.
5. REMOVE CEILING TO THE MINIMUM EXTENT NECESSARY TO ACCOMPLISH WORK. UNLESS CONTRACTOR HAS ELECTED TO REPLACE ENTIRE CEILING IN WORK AREA. SEE PROJECT DESCRIPTION ON T001 REGARDING THIS OPTION.



HVAC DEMO FLOOR PLAN

NORTH 1/8"=1'-0'



HVAC DEMO ROOF PLAN

NORTH 1/8"=1'-0'

KEYNOTES (#)

1. REMOVE EXISTING EXHAUST FAN AND DUCTWORK. REMOVE FAN, CURB AND PATCH ROOF, PER NOTE 4..
2. REMOVE EXISTING RTU AND CURB, REMOVE DUCTWORK AND ALTER AND PATCH OPENING AS REQUIRED FOR NEW UNIT SEE M101.
3. REMOVE EXISTING EXHAUST GRILLE AND DUCT.
4. REMOVE EXISTING RETURN DUCT AND GRILLE.
5. REMOVE EXISTING SUPPLY GRILLES AND DUCTWORK.
6. (E) RESTROOM EXHAUST FAN AND GOOSENECK TO REMAIN.
7. REMOVE (E) THERMOSTAT.

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APPROVAL		
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BENTON COUNTY CORONER
AUTOPSY SUITE VENTILATION UPGRADE
KENNEWICK, WASHINGTON

HVAC DEMO PLANS

DWG. NO. MD101

SCALE: AS INDICATED

ISSUE DATE: 12/09/2022

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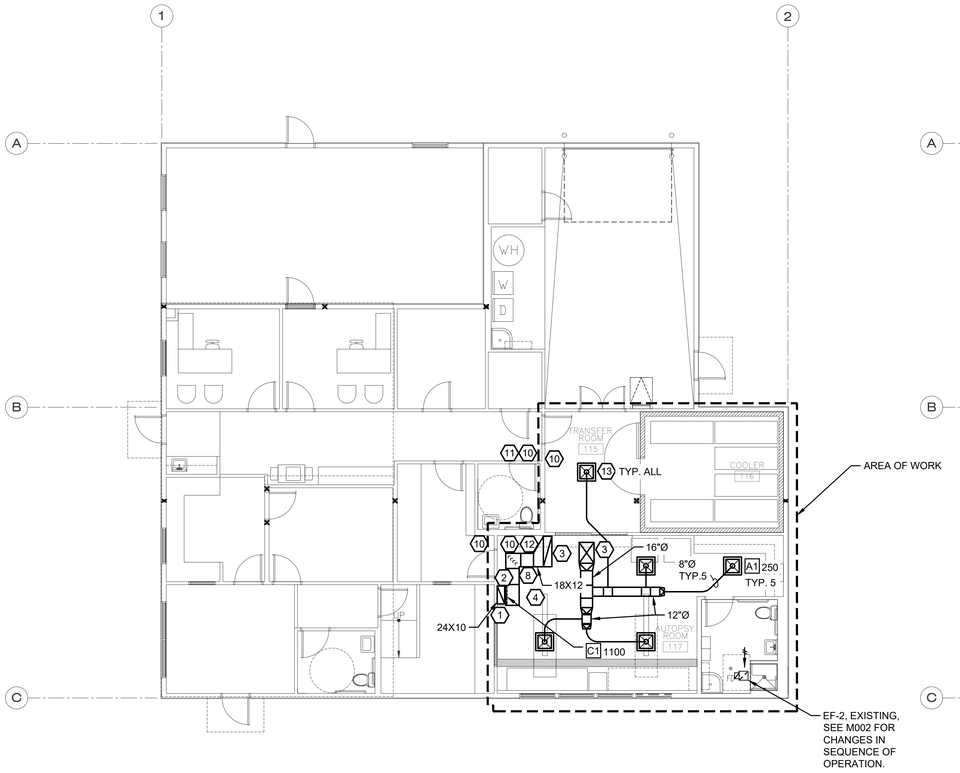
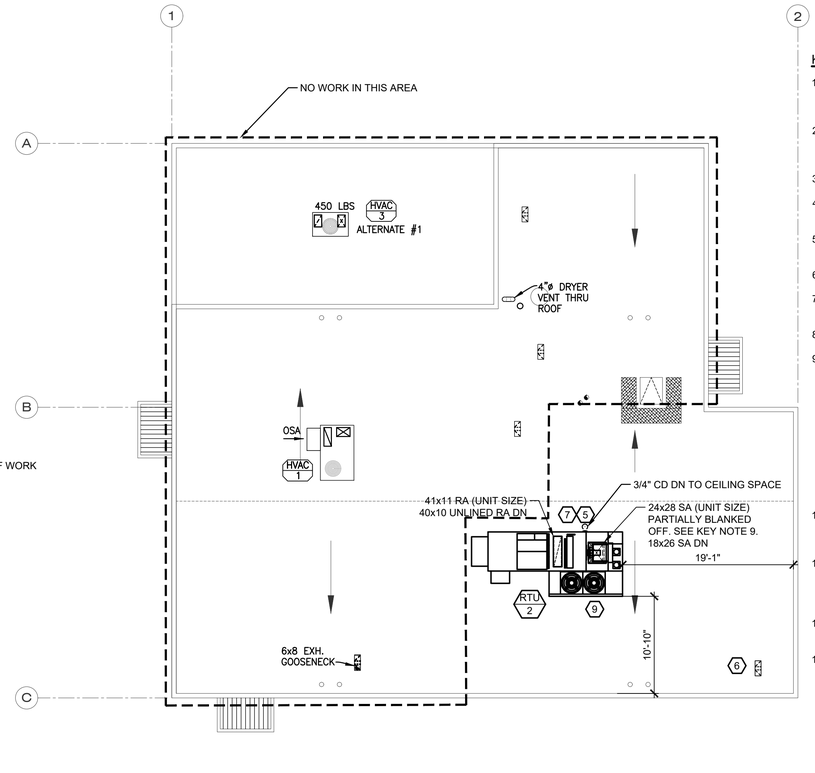


HVAC FLOOR PLAN

1/8"=1'-0'

NORTH



HVAC ROOF PLAN

1/8"=1'-0'

NORTH

AIR BALANCE SCHEDULE

ROOM NUMBER	ROOM NAME	SUPPLY AIR (CFM)	RETURN AIR (CFM)	EXHAUST AIR	TRANSFER IN (CFM)	TRANSFER OUT (CFM)	NET PRESSURE
117	AUTOPSY	1000	1100	-	0	150	-
118	EMPLOYEE RESTROOM	0	-	150	150	0	NEGATIVE TO 117
115	TRANSFER ROOM	250	0	-	0	250 (TO 117)	POSITIVE TO 117

NOTE: FOR THIS SYSTEM, ALL RETURN AIR IS EXHAUSTED AT THE ROOFTOP UNIT. NO RETURN AIR IS RECIRCULATED AS SUPPLY AIR.

NOTES

1. SEE M001 FOR GENERAL NOTES AND LEGENDS.
2. PATCH ROOF AROUND CURB OF NEW ERV AND AT UNUSED PENETRATIONS. WORK SHALL BE COMPLETED BY A FIRESTONE CERTIFIED ROOFER TO RE-CERTIFY EXISTING ROOF WARRANTY.
3. DRAWINGS ARE CREATED FROM EXISTING DRAWINGS. CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO START OF WORK.
4. REMOVE CEILING TO THE MINIMUM EXTENT NECESSARY TO ACCOMPLISH WORK. PATCH, REPLACE AND REFINISH CEILING TO MATCH EXISTING IN ALL AREAS WHERE CEILING IS DISTURBED. AT CONTRACTORS OPTION ENTIRE CEILING MAY BE REPLACED SEE PROJECT DESCRIPTION NOTES ON T001 FOR MORE INFORMATION ON THIS OPTION.

KEYNOTES (#)

1. NEW RETURN DUCT CHASE. GYPSUM BOARD FRAMED CHASE PAINTED AND FINISHED TO MATCH (E) WALL.
2. NEW TYPE C1 RETURN GRILLE AT NEW DUCT CHASE. LOCATE BOTTOM OF GRILLE AT 18" ABOVE FINISHED FLOOR.
3. NEW SUPPLY AND RETURN DUCTWORK.
4. INSTALL THERMOSTAT ABOVE NEW RETURN GRILLE ON WALL CHASE.
5. SEE DETAIL 2/M601 FOR CONDENSATE TRAP DETAIL.
6. EXISTING EXHAUST GOOSENECK TO REMAIN.
7. ROUTE NEW 3/4" CD LINE TO NEAREST ROOF DRAIN.
8. DO NOT INSTALL LINER IN RETURN DUCT.
9. INSTALL NEW UNIT AT THIS LOCATION AND ORIENTATION. DO NOT ALTER POSITION OF UNIT WITHOUT ENGINEER'S APPROVAL. UNIT IS DESIGNED WITH RETURN AIR DUCT DROP BETWEEN EXISTING JOISTS. SUPPLY AIR DUCT OPENING SHALL BE PARTIALLY BLANKED OFF AS REQUIRED TO ACCOMMODATE DUCT DROP BETWEEN EXISTING JOISTS. DO NOT BLANK OFF SUPPLY OPENING IN ANY MANNER WHICH RESULTS IN HIGH LOCALIZED TEMPERATURE AT RTU ELECTRIC HEATING COIL OR OTHER NEGATIVE EFFECTS.
10. INSTALL ROOM PRESSURE MONITOR SCREEN HERE. CONNECT TO PRESSURIZATION CONTROL SYSTEM TYP. 4.
11. INSTALL PRESSURIZATION CONTROLLER ABOVE CEILING IN ACCESSIBLE LOCATION. CONNECT TO OWNER'S LOCAL NETWORK SEE M001 AND SPECIFICATIONS FOR CONTROLS.
12. INSTALL RTU REMOTE MONITORING AND CONTROL PANEL HERE.
13. SEE DETAIL 1/M601 FOR DIFFUSER DETAIL.

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BENTON COUNTY CORONER
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HVAC FLOOR PLANS

DWG. NO.
M101

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HEAT/ENERGY RECOVERY VENTILATOR (WITH HEAT AND COOL) SCHEDULE

SYMBOL	MANUF.	MODEL	GENERAL							INTAKE FAN			EXHAUST FAN				ENERGY RECOVERY SECTION										
			TYPE	SUPPLY DUCT LOCATION	RETURN DUCT LOCATION	CONFIGURATION	INTAKE AIR FLOW (CFM)	EXHAUST AIR FLOW (CFM)	CONTROL TYPE	EXT. STATIC PRESSURE (IN WC)	MOTOR NAMEPLATE HP	FAN BRAKE HP AT DESIGN	EXT. STATIC PRESSURE (IN WC)	MOTOR NAMEPLATE HP	FAN BRAKE HP AT DESIGN	WATTS PER CFM AT DESIGN	FROST PROTECTION	SUMMER PERFORMANCE					WINTER PERFORMANCE					
																		EXHAUST AIR TEMP (°F DB/WB)	INTAKE AIR TEMP (°F DB/WB)	SENSIBLE EFF (%)	LATENT EFF (%)	CONDITIONED AIR TEMP (°F DB/WB)	EXHAUST AIR TEMP (°F DB/WB)	INTAKE AIR TEMP^ (°F DB/WB)	SENSIBLE EFF (%)	LATENT EFF (%)	CONDITIONED AIR TEMP (°F DB/WB)
RTU-2	GREENHECK	RVC-35-PL-5A-1-A1	TOTAL-ENERGY CORE	BOTTOM	BOTTOM	100% OSA	1255	1100	CAV	0.15	1	0.27	0.15	1	0.21	0.33	ELECTRIC PRE-HEATER	75.0/62.5	100.7/67.3	72.6	55.1	82.1/63.2	70/52.8	7.7/5.6	69.2	55.7	50.7/40.0

HEAT/ENERGY RECOVERY VENTILATOR (WITH HEAT AND COOL) SCHEDULE (CONTINUED)

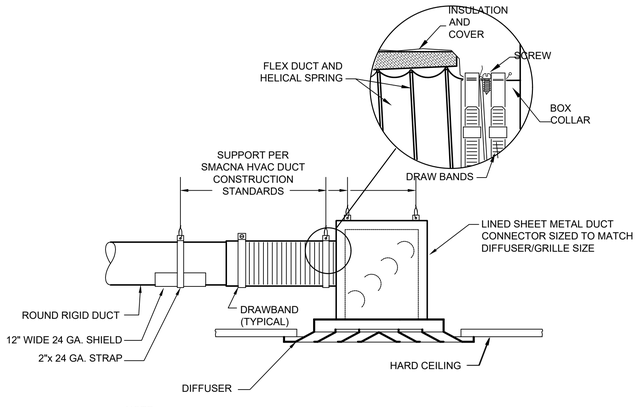
SYMBOL	AIR SOURCE HEAT PUMP SECTION										ELECTRIC POST-HEATER					UNIT ELECTRICAL				ELECTRICAL DISCONNECT		STRUCTURAL/SEISMIC		
	COOLING CYCLE					HEATING CYCLE*				EFFICIENCY		HEATING CAPACITY (KW)	EAT (°F DB)	LAT MAX* (°F DB)	LAT SETPOINT (°F DB)	CAPACITY STEPS	VOLTS	PHASE	MCA	MOCP	PROVIDED	TYPE	OPER WEIGHT (LBS)	MOUNTING	
	TOTAL CAPACITY (BTUH)	SENSIBLE CAPACITY (BTUH)	EVAP EAT DB/WB (°F)	EVAP LAT DB/WB (°F)	COND EAT (°F)	TOTAL CAPACITY (BTUH)	EAT (°F)	LAT (°F)	OUTDOOR EAT (°F)	ISMRE	ISCOP													LOCATION	SECUREMENTS
RTU-2	61500	50200	82.1/63.2	45.5/45.2	100.7	28100	55.7	76.4	10.0	9.9	7.1	20.4	50.7	102.1	100 MAX	SCR	208	3	122.0	125	INTEGRAL	NON-FUSED	3,590 + 218 CURB	ROOF	ROOF CURB

^INTAKE AIR TEMP IS BEFORE ELECTRIC FROST-PROTECTION PREHEATER (IF EQUIPPED).
*HEAT PUMP IS LOCKED OUT AT 10 DEG F OUTDOOR TEMP AND BELOW. LAT SHOWN FOR ELECTRIC POST-HEATER IS AT OUTDOOR DESIGN CONDITIONS WITHOUT HEAT PUMP OPERATION. NOTE THAT DURING DEFROST OPERATION, LAT FOR ELECTRIC POST-HEATER IS APPROX. 10 DEG F LOWER THAN SHOWN.

ACCESSORIES/REMARKS FOR ALL MODEL RVC ERV'S: PHASE/BROWNOUT PROTECTION, HINGED ACCESS DOORS, POLYMER CORE MATERIAL. SINGLE-POINT POWER CONNECTION. MERV 8 FILTERS ON INTAKE AND EXHAUST UPSTREAM SIDES AUTOMATIC FROST PROTECTION SEQUENCE. WITH 2-POSITION CLASS 1A LOW-LEAKAGE MOTORIZED DAMPERS AND ACTUATORS ON INTAKE AND EXHAUST. MICROPROCESSOR CONTROLS PACKAGE WITH VFD ON EACH FAN. ROOM TEMPERATURE CONTROL. DIRTY FILTER SENSORS. SUPPLY AND EXHAUST FAN CONTROL CONSTANT VOLUME WITH ADJUSTABLE SETPOINT. REMOTE DISPLAY CONTROLLER WITH 10 FOOT CORD, MOUNTED IN SPACE. CONDENSATE OVERFLOW SWITCH. UV GERMICIDAL LIGHT WITH DOOR SAFETY SWITCH. SUPPLY AND EXHAUST AIRFLOW MONITORING. OUTDOOR AIR INTAKE AND SUPPLY AIR DISCHARGE TEMPERATURE SENSORS (INCLUDED WITH MICROPROCESSOR CONTROLS). RETURN AIR INTAKE, AFTER COOLING COIL, AND OUTSIDE AIR AFTER CORE TEMPERATURE SENSOR. COLD COIL SETPOINT CONTROL DEHUMIDIFICATION. OUTSIDE AIR TEMPERATURE ECONOMIZER CONTROL, WITH ENERGY CORE BYPASS DAMPERS. BACNET IP CONNECTION (CONNECTED TO OWNER'S LAN IN BUILDING, ACCESSIBLE FROM DDC SYSTEM IN ADJACENT BUILDING, COORDINATE WITH OWNER). FACTORY 14-INCH ROOF CURB. PERMATECTOR FINISH. DAMPER END SWITCHES. FIELD-POWERED CONVENIENCE RECEPTACLE (PROVIDED BY MECHANICAL, WIRED BY ELECTRICAL). 2 YEAR EXTENDED UNIT WARRANTY. 5-YEAR EXTENDED COMPRESSOR WARRANTY. SPARE FILTER SET. EXTERNAL 0-10VDC SIGNAL TO CONTROL EXHAUST, GREENHECK SPECIAL DESIGN REQUEST # E2200847, CONNECT TO ROOM PRESSURIZATION CONTROL SYSTEM (SEE PLANS AND SEQUENCE OF OPERATION).

REGISTER/GRILLE/DIFFUSER SCHEDULE

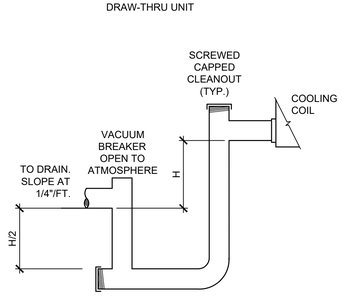
SYMBOL	MANUFACTURER	MODEL	SERVICE	TYPE	STYLE	DISCHARGE PATTERN	NECK SIZE (INCHES)	FACE SIZE	MATERIAL	COLOR	MOUNTING	DAMPER	ACCESSORIES/REMARKS
A1	TITUS	PMC	CEILING SUPPLY	PERFORATED MODULAR-CORE DIFFUSER	4-WAY MODULAR CORE WITH PERFORATED FACE	4-WAY	10x10	SAME AS NECK	STEEL	WHITE	FLANGED FRAME, STANDARD SCREWS	OBD	PROVIDE SQUARE TO ROUND TRANSITION AT DIFFUSER CONNECTION SIZE.
C1	TITUS	33RS	WALL RETURN/EXHAUST	FIXED-LOUVER GRILLE	1/2" BLADE SPACING, 38° DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION	-	20x20	SAME AS NECK	STEEL	WHITE	FLANGED FRAME, STANDARD SCREWS	NONE	ORIENT WITH BLADES FACING DOWNWARD.



NOTE:

PROVIDE SUPPORT ON ALL BRANCH DUCT RUNOUTS. MINIMUM OF TWO SUPPORTS ON BRANCH DUCTS OVER 6'-0" IN LENGTH.

1 DIFFUSER INSTALLATION DETAIL
NTS



H= FAN INLET PRESSURE + 1" FOR DRAW THROUGH UNITS

2 CONDENSATE DRAIN DETAIL
NTS

Meier
ARCHITECTURE • ENGINEERING
12 W. Kennewick Ave.
Kennewick, WA 99336
P: 509.735.1589
F: 509.783.5075
www.meierinc.com

NO.	REVISIONS	DATE	DRWN	CHKD	DESIGN	APPD

APPROVAL		
DRAWN	NRW	12/09/2022
DESIGN	DLA	12/09/2022
CHECKED	CMB	12/09/2022
APPROVED	DLA	12/09/2022

BENTON COUNTY CORONER
AUTOPSY SUITE VENTILATION UPGRADE
KENNEWICK, WASHINGTON

MECHANICAL SCHEDULES

DWG. NO. M601
SCALE: AS INDICATED
ISSUE DATE: 12/09/2022
JOB No. 9051
REV. 0

\PROJECTS\9000\9051 Benton County Autopsy Suite\DWG\9051001M601.dwg - Dec 09, 2022-4:15 pm - Nathaniel R Weinman

COMMISSIONERS' AGENDA ACTION SHEET

Meeting Date:	March 28, 2023
Subject:	Authorizing the Purchase of HVAC Controls Equipment & Software for the Justice Center Building from Basin Building Solutions
Presenter:	
Prepared By:	P. Schut
Reviewed By:	Procurement

PA Review, Approval to Form: ☒ Yes ☐ No ☐ N/A *(If no, include reasoning for no approval)*

Type of Agenda Item:	**Type of Action Needed:**	
☒ Consent Agenda	☐ Discussion Only (1st)	☐ Pass Motion
☐ Public Hearing	☐ Discussion Only (2nd)	☒ Pass Resolution
☐ Scheduled Business	☐ Decision/Direction	☐ Pass Ordinance
	☐ Sign Letter/Document	☐ Execute Contract

Summary / Background Information

A main component of the HVAC controls system for the Justice Center failed and needs to be replaced as quickly as possible.

The Facilities Department contracted the Purchasing Department to purchase the necessary equipment & software to resolve the issue.

The Purchasing Department solicited three quotes from Vendors off the MRSC Vendors Roster with the following results:

- Apollo Mechanical Contractors – No Response
- Johnson Controls, Inc. - $50,544.14 w/o installation or not including WSST
- Basin Building Solutions - $34,293.60 w/ installation & including WSST

After reviewing the quotes, the Purchasing Department & Facilities Department recommends purchasing the HVAC Controls Equipment & Software for the Justice Center HVAC System from Basin Building Solutions.

Fiscal Impact

Amount: $34,500.00

Fund: Capital Projects Fund

Recommendation

Authorize the Purchase of the HVAC Controls Equipment & Software for the Justice Center Building from Basin Building Solutions.

Suggested Motion

Approve as part of the consent agenda.

RESOLUTION

BEFORE THE BOARD OF COMMISSIONERS OF BENTON COUNTY, WASHINGTON

IN THE MATTER OF AUTHORIZING THE PURCHASE OF HVAC CONTROLS EQUIPMENT & SOFTWARE FOR THE JUSTICE CENTER BUILDING FROM BASIN BUILDING SOLUTIONS

WHEREAS, a main component of the HVAC controls system for the Justice Center failed and needs to be replaced as quickly as possible; and

WHEREAS, the Facilities Department contracted the Purchasing Department to purchase the necessary equipment & software to resolve the issue; and

WHEREAS, the Purchasing Department solicited three quotes from Vendors off the MRSC Vendors Roster with the following results; and

- Apollo Mechanical Contractors – No Response
- Johnson Controls, Inc. - $50,544.14 w/o installation or not including WSST
- Basin Building Solutions - $34,293.60 w/ installation & including WSST

WHEREAS, after reviewing the quotes, the Purchasing Department & Facilities Department recommends purchasing the HVAC Controls Equipment & Software for the Justice Center HVAC System from Basin Building Solutions; **NOW, THEREFORE**

BE IT RESOLVED, the Board of Benton County Commissioners, Benton County, Washington, hereby concurs with Purchasing and Facilities Departments and authorizes purchasing the necessary equipment and software from Basin Building Solutions in the amount not to exceed $34,500.00.

Dated this 28th day of March 2023.

_____
Chairman of the Board

_____
Chairman Pro-Tem

_____
Commissioner

Constituting the Board of Commissioners
of Benton County, Washington

Attest:_____
Clerk of the Board

Original: Purchasing Dept.
cc: Auditor,Facilities

P. Schut

BENTON COUNTY ADX SERVER PARTS
Quote Prepared by Joseph Davis
03/21/2023

PROPOSAL

Account Information

Bill To:	BENTON COUNTY 7122 WEST OKANOGAN PLACE BOX H KENNEWICK WA USA 99336
Quote Reference Number:	1-1N1OQ3IZ
Project Name:	BENTON COUNTY ADX SERVER PARTS
Site:	BENTON COUNTY NEW COURTS BLDG 7122 W OKANOGAN PL BLDG A KENNEWICK WA 99336-2359
Branch Info:	JOHNSON CONTROLS SPOKANE WA BOISE ID CB - 0N54
Attn:	GARY MATHEWS

Customer Information

Name: GARY MATHEWS

This proposal is hereby accepted and Johnson Controls is authorized to proceed with the work, subject to credit approval By Johnson Controls, Inc. Milwaukee, WI.
We propose to furnish the materials and/or perform the work below for the net price of: $50,544.14

This proposal is valid through: 04/20/2023

BENTON COUNTY	**Johnson Controls Inc.**
Signature: _____	Signature: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____
PO: _____	

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Proposal Overview

Benefits/Scope of Work: Material requested to upgrade the existing Metasys system to Metasys 12.

NOTE: All software needed will be sitting on the JCI Software Portal and will need to be downloaded to the server platform.

List of Materials				
Quantity	**Part Number**	**Description**	**Unit Price**	**Extended Price**
1	MS-ADX10SQL-6	APP&DAT SQL, 10USR UPGRAD	$33,106.74	$33,106.74
1	TL-BUNDLEMS-0	TOOL BUNDLE METASYS, NEW	$394.91	$394.91
1	M4-SNE22002-0	SNE NETWORK ENGINE	$17,042.49	$17,042.49
			Total excluding TAX:	$50,544.14

Exclusions:

1.Material not specifically described above is excluded from this proposal.
2.Applicable taxes or special freight charges are excluded from this proposal.

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BENTON COUNTY

METASYS UPGRADE

03/16/2023

Basin Building Solutions
103024 Kash Loop
Kennewick, WA 99338
509.392.2969

1. Project Background and Description

Upgrade Metasys to a compatible revision to latest hardware models

2. Project Scope

Upgrade Metasys to release 11

Upgrade Metasys SCT and CCT software & provide licenses for controller packages.

Migrate existing Metasys database to new server

Provide new NSE22002-0 engine to replace the failed one, install and load database

3. Specific Exclusions from Scope

Bonding,

All items not mentioned in this proposal

4. Proposal Amount

Software	***$14,608.38 (W/tax)***
Software Labor	***$2,258.88 (W/tax)***
SNE22002-0	***$14,519.82 (W/tax)***
SNE Labor	***$2,906.52 (W/tax)***