

MASTER ENABLING AGREEMENT

COMMISSIONING SERVICES

This AGREEMENT is made and entered into this first day of July, 2023 pursuant to the Public Contract Code 10700, et seq., by and between the Trustees of the California State University on behalf of

<i>Campus, hereafter referred to as Trustees, and</i> California State University Office of the Chancellor	Amendment No.: N/A	Agreement No.: 23-701	Is agreement for Design Professional services: Yes (GP-8b)	Project No.: N/A
<i>Service Provider, hereafter referred to as Service Provider.</i> Guttman & Blaevoet	CSU Vendor ID No.: 8144	License No.: 39605		DIR No.: N/A

WITNESSETH: That the Service Provider in consideration of the statements and conditions herein contained, agrees to furnish labor, materials, and equipment and to perform work necessary to complete, in a skillful manner: The Service Provider shall provide new building and major renovation commissioning, retrocommissioning, and monitoring-based commissioning services for public works projects submitted by the California State University. This agreement is a master enabling agreement under which each campus and the administrative office of the California State University may engage the services of Service Provider as provided herein. Campuses and the administrative office shall execute a Service Order and Authorization to Proceed (Exhibit B) to secure Service Provider's commissioning services under this Agreement.

The Service Provider shall provide such services as more fully described in the following Rider, Exhibits, Attachments which by this reference are incorporated herein and made part of this Agreement:


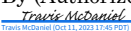

Rider A	Agreement General Provisions	consisting of six (6) pages;
Exhibit A	Project Area Scope Descriptions	consisting of four (4) pages;
Attachment 1	Sample Commissioning Scope	consisting of nineteen (19) pages;
Attachment 2	Sample Retrocommissioning Scope	consisting of eleven (11) pages;
Attachment 3	Sample MBCx Scope	consisting of seven (7) pages;
Exhibit B	Service Order Authorization to Proceed Sample	consisting of one (1) page;
Exhibit C	Service Provider Rate Schedule	consisting of one (1) page;
Exhibit D	Energy Usage Intensity Report	consisting of one (1) page;
Exhibit E	Sample Commissioning Fee Table	consisting of one (1) page.

The term shall begin upon receipt of an executed Agreement from the Trustees and shall end as of June 30, 2027, with the option given the Trustees of extending the Agreement with the same terms and conditions for two (2) additional, two (2) year periods. Work elements started during the term shall continue to their completion and acceptance by the Trustees.

Service Provider shall not perform services in excess of the Agreement without prior written authorization to proceed from the Trustees.

Service Provider shall report to: California State University, Lindsey Rowell, Chief of Energy, Sustainability, and Transportation, (916) 402-1622.

The basic services amount to be expended under this Agreement shall be determined by the overall usage of each participation campus and the administrative office of the California State University. Payment shall be made in accordance with Rider A, Exhibit A, Attachment 1, Attachment 2, Attachment 3, Exhibit B, Exhibit C, Exhibit D, and Exhibit E.

Trustees of the California State University							Service Provider						
Campus California State University Office of the Chancellor							Firm Name Guttman & Blaevoet						
By (Trustees' Authorized Signature) 							By (Authorized Signature) 						
Printed Name and Title of Person Signing Lindsey Rowell, Chief of Energy, Sustainability, and Transportation							Printed Name and Title of Person Signing Travis McDaniel, Associate						
Address of Campus Project Administrator 401 Golden Shore; Long Beach, CA 90802							Address of Service Provider 1620 Montgomery St, #230, San Francisco, CA 94111						
SCO Acct:	Fund	Sub Fund	Agency	Yr.	Ref/Item	Category	Program	Element	Component	Chapter	Fiscal Yr.	Legal Ref.	
Fund Name			PS Account		PS Fund	PS Dept. ID	PS Program	PS Class	PS Project/Grant				
Amount Encumbered \$0.00		<i>I hereby certify upon my personal knowledge that budgeted funds are available for the period and purpose of the expenditures stated above.</i>											
Amount of Increase \$0.00		Signature of Accounting Officer					N/A \$0.00 MEA			Date			
Amount of Decrease \$0.00		<i>I hereby certify that I have examined the written Agreement and find the same to be in accordance with the requirements of California State University Contract Law. G. ANDREW JONES, General Counsel</i>											
Total Amount Encumbered \$0.00		By Attorney								Date 10/31/2023			

This Agreement may be executed in counterparts all of which taken together shall constitute one and the same Agreement. The exchange of copies of this Agreement by electronic mail in "portable document format" ("PDF") form or by other similar electronic means shall constitute effective execution and delivery of this Agreement and shall have the same effect as copies executed and delivered with original signatures.

Rider A - Agreement General Provisions, Service Provider

1. Service Provider Relationship. Service Provider, in the performance of this Agreement, is an independent contractor and is not an employee, agent, or officer of the Trustees.
2. Payments. Payments under this Agreement shall be made in arrears of work increment completed to the satisfaction of the Trustees and upon submission of an invoice in CSU invoice format. If not otherwise specified payments for services rendered will be processed monthly upon presentation of invoice.
3. Services. Trustees may issue a written order with respect to the services to be performed under this Agreement at any time before the completion of the services. Trustees shall pay Service Provider an amount for such services as provided in this Agreement, or if not so provided, Trustees shall pay Service Provider a reasonable amount, which shall be agreed upon by the parties.
4. Service Provider shall not utilize any information, not a matter of public record, which is received by reason of this Agreement, for pecuniary gain not contemplated by the terms of this Agreement, regardless of whether Service Provider is or is not under contract at the time such gain is realized (Education Code Section 89006).
5. Ownership. The report, survey, or other product developed by Service Provider pursuant to this Agreement is the property of Trustees, and shall not be disseminated to others by Service Provider unless authorized by Trustees.
6. Termination for Convenience. Trustees may terminate this Agreement upon a three (3) business-day advance written notice to Service Provider. In the event of such termination, Service Provider shall be paid only for the work satisfactorily completed.
7. Termination for Cause. Trustees may terminate this Agreement for cause should Service Provider fail to perform as herein provided. In the event of such termination, Trustees shall be relieved of the obligation to make any payment to Service Provider and Trustees may proceed by other means with the work in any manner the Trustees deem proper.
8. Indemnification.
The Indemnification subsection below, next to the checked box, applies to this agreement, while the subsection next to the unchecked box does not apply to this agreement.
 - a. Provisions of item 8a shall apply if the agreement is with a Service Provider that does **not** qualify under the provisions of California Civil Code section 2782.8. The Service Provider agrees to hold harmless, defend, and indemnify the State of California, the Trustees of the California State University, the University, and the officers, employees representatives, and agents of each of them from any and all claims, damages, losses, causes of action and demands, and all costs and expenses incurred in connection therewith, including, but not limited to, attorneys' fees and costs resulting from or in any manner arising out of or in connection with any negligent act or omission or willful misconduct on the part of the Service Provider, its officers, agents, and employees, in the performance of this Agreement. This provision shall survive the expiration or termination of this Agreement.
 - b. Provisions of item 8b shall apply if the agreement is with a Service Provider that does qualify under the provisions of California Civil Code section 2782.8 and the scope of work is for design professional services. The Service Provider agrees to hold harmless, defend, and indemnify the State of California, the Trustees of the California State University, the University, and the officers, employees representatives, and agents of each of them from any and all claims, damages, losses, causes of action

and demands, and all costs and expenses incurred in connection therewith, including, but not limited to, attorneys' fees and costs to the extent arising out of, pertaining to, or relating to the negligence, recklessness, or willful misconduct on the part of the Service Provider, its officers, agents, and employees, in the performance of this Agreement. In no event shall the cost to defend charged to the Service Provider exceed the Service Provider's proportionate percentage of fault. However, notwithstanding the previous sentence, in the event one or more defendants is unable to pay its share of defense costs due to bankruptcy or dissolution of the business, the Service Provider shall meet and confer with other parties regarding unpaid defense costs. Service Provider's liability is not limited to recoverable insurance. This provision shall survive the expiration or termination of this Agreement.

The provisions of section 8b pertaining to the duty and cost to defend shall not apply to either of the following:

- 1) Any contract for design professional services per the provisions of California Civil Code section 2782.8, or amendment thereto, where a project-specific general liability policy insures all project participants for general liability exposures on a primary basis and also covers all design professionals for their legal liability arising out of their professional services on a primary basis.
 - 2) A design professional per the provisions of California Civil Code Section 2782.8, that provides design professional service and is party to a written design-build joint venture agreement and not the primary holder of the Trustees and Design-Builder contract.
9. Insurance Provisions. The Service Provider shall not commence work until the Trustees have received evidence of the insurance required in this section and approved it.
- a. Service Provider shall obtain the following policies and coverage. The insurance furnished by the Service Provider under this section shall provide coverage in amounts not less than the following, unless a different amount is stated in Exhibit A, Scope of Work Description:
 - 1) Comprehensive or Commercial Form General Liability Insurance:
On an occurrence basis, cover work done or to be done by or on behalf of the Service Provider and shall provide insurance coverage for bodily injury, personal injury, property damage, and contractual liability. The aggregate limit shall apply separately to the work. Limits of Liability:
\$2,000,000 General Aggregate
\$1,000,000 Each Claim - combined single limit for bodily injury and property damage.
 - 2) Business Automobile Liability Insurance:
On an occurrence basis, cover owned, scheduled, hired, and non-owned automobiles used by or on behalf of the Service Provider and shall provide insurance coverage for bodily injury, property damage, and contractual liability. Use Insurance Service Office (ISO) Form Number CA 0001 covering any automobile. Limits of Liability:
\$1,000,000 Each Accident - combined single limit for bodily injury and property damage.
 - 3) Workers' Compensation Insurance:
This insurance shall include Employers Liability limits of \$1,000,000 and other limits required under California law.
 - 4) Professional Liability Insurance:
Professional liability (errors and omissions) insurance on an occurrence basis is preferred, covering work done or to be done by or on behalf of the Service Provider and providing insurance

for professional liability in the amount of \$1,000,000 each occurrence. The Service Provider shall obtain and maintain professional liability insurance on a claims-made basis for no less than \$1,000,000 each claim and

\$2,000,000 annual aggregate, and certification of coverage shall be submitted to the Trustees upon signing of this Agreement. If the total contract amount exceeds \$1,000,000 the Service Provider shall renew and keep such insurance in effect for at least ten (10) years after the recordation of the notice of completion.

For any of the insurance described in the paragraphs above, the amount of limits can be satisfied by a combination of primary and excess or umbrella insurance.

- b. Insurers shall be authorized in the State of California to transact insurance and shall hold a current A.M. Best's rating of no less than **A: VII** or alternatively a carrier acceptable to the Trustees.

Verification of coverage shall be provided as follows:

- 1) The Service Provider shall submit to the Trustees copies of certificates of insurance and endorsements to the policies of insurance required by the Agreement as evidence of the insurance coverage.
 - 2) The scope of coverage shall be shown on the certificate of insurance.
 - 3) The Service Provider shall provide written notice of cancellation of coverage within thirty (30) days to the Trustees.
 - 4) The Service Provider shall notify the Trustees in writing of any material change in insurance coverage.
 - 5) Renewal certifications shall be timely filed by the Service Provider for coverage until the work is accepted as complete.
 - 6) Trustees reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these provisions, at any time.
- c. Insurance policies except for Workers Compensation and Professional Liability insurance shall contain, or be endorsed to contain, the following provisions:
- 1) For the general policies, the State of California, the Trustees of the California State University, the University, their officers, employees, representatives, volunteers, and agents shall be covered as additional insureds.
 - 2) For claims related to the work, the Service Provider's insurance coverage shall be primary insurance as respects the State of California, the Trustees of the California State University, the University, their officers, employees, representatives, volunteers, and agents. Insurance or self-insurance maintained by the State of California, the Trustees of the California State University, the University, their officers, employees, representatives, volunteers, and agents shall be in excess of the Service Provider's insurance and shall not contribute with it.
 - 3) The State of California, the Trustees of the California State University, the University, their officers, employees, representatives, volunteers, and agents shall not by reason of their inclusion as additional insureds incur liability to the insurance carriers for payment of premiums for such insurance.
- d. Additional Insurance Provisions
- 1) Any deductible under any policy of insurance required in this section shall be the Service

Provider's liability.

- 2) Acceptance of certificates of insurance by the Trustees shall not limit the Service Provider's liability under the Agreement.
 - 3) The Service Provider's obligations to obtain and maintain required insurance are non-delegable duties under this Agreement.
10. Personal Eligibility Certification. If the Service Provider is a natural person, the Service Provider certifies by signing this Agreement that s/he is a citizen or national of the United States or otherwise qualified to receive public benefits under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (P.L. 104-193; 110 STAT. 2105, 2268-69), State of California Governor's Executive Order W-135-96.
11. Corporate Eligibility Certification. If the Service Provider is a corporation, the Service Provider certifies and declares by signing this Agreement that it is eligible to contract with the State of California pursuant to the California Taxpayer and Shareholder Protection Act of 2003 (Public Contract Code Section 10286, *et seq.*).
12. Nondiscrimination. In the performance of this Agreement the Service Provider and its consultants shall not deny the Agreement's benefits nor shall they discriminate unlawfully against any person on the basis of religion, color, ethnic group identification, sex, actual or perceived gender identity, age, physical or mental disability, medical condition, marital status, or age (over 40). Additionally, the Service Provider and its consultants shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination as well.
- a. Service Provider shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12900, *et seq.*), the regulations promulgated thereunder (California Code of Regulations, Title 2, Sections 7285.0, *et seq.*), and the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Government Code Sections 11135-11139.5).
 - b. Service Provider shall permit access by representatives of the California Department of Fair Employment and Housing and the Trustees upon reasonable notice at times during normal business hours with at least 24 hours' notice, to its books, records, accounts, other sources of information, and its facilities as the Department or Trustees shall require to ascertain compliance with this Agreement.
 - c. Service Provider and its consultants/subcontractors shall give written notice of their obligations under this Agreement to labor organizations with which they have a collective bargaining or other agreement.
 - d. Service Provider shall include the nondiscrimination and compliance provisions of this Agreement in subcontracts to perform work under the Agreement (Government Code Sections 12990, 11135, *et seq.*, Title 2, California Code of Regulations, Section 11105)
13. Drug Free Workplace Certification. The Service Provider hereby certifies compliance with Government Code Sections 8355, 8356, and 8357 in matters relating to providing a drug-free workplace. In accordance with Government Code Section 8355, the Service Provider shall:
- a. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations;
 - b. Establish a Drug-Free Awareness Program to inform employees about all of the following:
 - 1) The dangers of drug abuse in the workplace,
 - 2) The Service Provider's policy of maintaining a drug-free workplace,
 - 3) Any available counseling, rehabilitation, and employee assistance programs, and

- 4) Penalties that may be imposed upon employees for drug abuse violations;
 - c. Require that each employee engaged in the performance of the Agreement be given a copy of the statement required by subpart A, and require that each employee, as a condition of employment on the Agreement, agree to abide by the terms of the statement.
14. Disabled Veteran Business Enterprise. Responsive to direction from the State Legislature (Public Contract Code Section 10115, *et seq.*), the Trustees are seeking to increase the statewide participation of disabled veteran business enterprises in contract awards. To this end, Service Provider shall inform the Trustees of any contractual arrangements with consultants or suppliers that are certified disabled veteran business enterprises.
 15. Assignment. Service Provider shall not assign benefits or delegate duties under this Agreement in whole or in part, nor assign any moneys due or to become due hereunder without the written consent of Trustees.
 16. Successors. The provisions of this Agreement shall extend to and be binding upon and inure to the benefit of the heirs, executors, administrators, successors, and assigns to the parties hereto.
 17. Notice. Notice for either party may be served by delivering it in writing to the party, or by depositing it in a U.S. mail deposit box with postage fully prepaid addressed as shown within the information block of the Agreement page. Nothing herein shall preclude the giving of notice by personal service.
 18. Audit. If the Agreement exceeds \$10,000, the contracting parties shall be subject to the examination and audit of the State Auditor of the State of California and the California State University Auditor for a period of three years after final payment under the Agreement. This examination and audit shall be confined to those matters connected with the performance of this Agreement, including, but not limited to, the cost of administering this Agreement (Government Code Section 8546.7).
 19. DIR Registration. In accordance with Labor Code Section 1720, *et seq.*, the Service Provider shall register with the Department of Industrial Relations (DIR) for this project and pay at least the prevailing wages on services/work aspects where a prevailing wage applies. Such services and/or work aspects include, but are not limited to, the Service Provider or its sub-consultant's provision of geotechnical studies, potholing involving digging, site surveying and/or construction Inspector of Record services as defined by the DIR.
 20. Agreement Changes. Alteration or variation of the terms of this Agreement shall not be valid unless made in writing and signed and dated by the parties. Oral representations, understandings, or writings not expressly incorporated in the Agreement are void. Unless identified within Exhibit A, Scope of Work, under a separate sub-heading entitled 'Modifications to Agreement', it is the intent of the Trustees to use the standard published form of this Agreement and Rider A without modification. The Agreement and Rider A shall not be modified without review and concurrence by CSU Office of General Counsel.
 21. Offshoring of CSU Contract Work. Service Provider warrants it certified under penalty of perjury in its bid for this Agreement that the Agreement, and any subcontract performed under the Agreement, will be performed solely with workers within the United States; and if this Agreement, and any subcontract performed under this Agreement, will not be performed solely with workers within the United States, Service Provider described in its bid any parts of the work to be performed by workers outside of the United States. Further, Service Provider warrants no work will be performed under the Agreement with workers outside the United States, except as described in Service Provider's bid. If Service Provider or its sub-supplier performs the Agreement with workers outside the United States during the life of the Agreement, and Service Provider did not describe such work in its bid, Service Provider acknowledges and agrees that:
 - a. CSU may terminate the Agreement without further obligation for noncompliance, and
 - b. Service Provider will forfeit to CSU the amount CSU paid for the percentage of work that was performed

with workers outside the United States and not described in Service Provider's bid.

End of Rider A

THE CALIFORNIA STATE UNIVERSITY

“EXHIBIT A” – PROJECT AREA SCOPE DESCRIPTIONS

Guttman & Blaevoet

PROJECT AREA OBJECTIVES

New Building/Major Renovation Commissioning (Cx) Objectives

By statute, Title 24 of the California Code of Regulations (CCR), Part 6 - California Energy Code, and Part 11 - California Green Building Standards (CALGreen), requires a building system commissioning effort for new construction with conditioned space of 10,000 SF and greater. Commissioning shall be included in addition to the requirements of the Title 24 CCR, for all California State University (CSU) major capital construction projects.

For the New Building/Major Renovation commissioning project areas, or where another design team may be involved, the CxP acts as a campus agent and as a consulting campus advisor to the design team and contractor on issues that affect commissioning. The CxP's role is advisory, and in new building commissioning and other projects where another design review takes place, complementary to the Mechanical/Electrical Systems Reviewers' scope of work. In all applicable cases, the two parties shall coordinate to ensure no redundant reviews are performed. For Retrocommissioning and Monitoring Based Commissioning project areas, the CxP's role is usually not just advisory, but also implementation-focused to both identify and implement measures.

1. During the **pre-design activities**, the CxP will be expected to work with the campus project team, including occupants and controls end users, to define Owner's Project Requirements (OPR) suitable for use in a project RFQ/RFP. In close collaboration with CSU and the campus, the CxP may be asked to help advise and develop project and design goals, measurable performance criteria, budgets, schedules, success criteria, owner's directives, and supporting information for the OPR to form the basis from which all design, construction, acceptance, and operation decisions are made during the project lifecycle.
2. During the **design phase**, the role of the CxP will be to develop commissioning specifications and testing plan recommendations for the design team.
3. During **construction**, the CxP will be expected to monitor to ensure commissioning-related tasks are completed consistent with the approved Construction Documents and the commissioning plan, as well as facilitate building operator training.
4. During the **one-year post-occupancy period**, the CxP will be expected to provide the completed Systems Manual and any requested LEED documentation, as well as verify that the building is operating as designed, by documenting energy use intensity for the

first twelve (12) months of operations in the format specified in Exhibit B and providing this to both campus and CPDC.

Retrocommissioning (RCx) Objectives

CSU views Retrocommissioning as an important process to restore optimal functionality and efficiency to aged buildings. Over time certain systems or control components of a building can become uncalibrated and adversely affect the occupant comfort and efficiency of a building's operations. RCx pinpoints these problems and seeks to remedy them.

1. During the **planning phase**, the CxP will be expected to work with the campus project team, including occupants and controls end users, to define Owner's Project Requirements as well as develop a Retrocommissioning Plan.
2. During the **investigation phase**, the role of the CxP will be to conduct a systematic analysis of the building(s)' performance through observation, review of building documents and O&M practices, and trending and testing of building systems.
3. During the **implementation phase**, the CxP will be expected to develop an Implementation Plan for the measures selected from the investigation phase, implement said measures, and verify that the operational goals were achieved.
4. During the **handoff phase**, the CxP will be expected to provide the Final Report and Systems Manual such that the campus building operators have sufficient materials to monitor and maintain the implemented RCx measures.

Monitoring-Based Commissioning (MBCx) Objectives

The goal of an MBCx process is to maintain existing improvements and implement further improvements to building performance over time. Monitoring-based commissioning is defined as the implementation of an ongoing commissioning process with focus on monitoring and analyzing large amounts of data on a continuous basis.

1. During the **planning phase**, the CxP will be expected to work with the campus project team, including occupants and controls end users, to establish the technical plan and define the scope of how MBCx will be implemented using the energy management system (EMS) and/or energy information system (EIS).
2. During the **EMS/EIS configuration phase**, the role of the CxP will be to configure and calibrate necessary data points (e.g. fault detection, energy savings), user interfaces, and sensors for the accurate tracking of data over the course of the project.
3. During the **implementation phase**, the CxP will be expected to identify issues and opportunities for corrective action and work with the campus project team to implement these measures, and update facility documentation accordingly, as well as deliver a final report and necessary training.

APPLICABLE SYSTEMS AND ASSEMBLIES TO BE COMMISSIONED

The following includes a sample list of items anticipated to be included in any one of the three project areas.

HVAC Systems and Equipment Controls

- Chilled water system (chiller, cooling tower, piping, pumps)
- Heating water system (boilers, piping, pumps)
- Under floor air distribution system
- Air handlers (including minimum outside air control,
- CO2 monitoring, heat recovery, humidification)
- Hydronic piping (including air separators and expansion tanks)
- Ductwork
- Thermal comfort, temperature and humidity control
- Variable speed drives
- Outside air valves
- Perimeter heaters
- Unit heaters
- Air terminal boxes
- Variable refrigerant flow (VRF) system
- Computer room air conditioning units
- Fan coil units
- Restroom exhaust system
- Misc. exhaust fans
- Garage exhaust fans
- Building automation and control system (BAS)
- Data acquisition system
- Atrium smoke control system
- Radiant floor heating
- TAB work
- HVAC and envelope differential pressure relationship

Electrical Systems

- Scheduled lighting controls
- Exterior lighting controls
- Daylight dimming controls
- Lighting occupancy sensors
- Wire and cable
- Medium voltage shielded cable
- Wiring devices (switches and outlets)
- Switchgear
- Motor control centers
- Transformers
- Variable frequency drives
- Ground fault
- Secondary grounding
- Low voltage metal-enclosed switchgear
- Bus duct
- Emergency power generator system and ATS
- Whole building power outage integrated test
- Photovoltaics
- Battery Energy Storage Systems

Laboratory and Clean Room

- General lab exhaust systems

- Lab and room pressurization control
- Air terminal units (supply and exhaust valves)
- Room differential pressure controls and equipment (exhaust and makeup fans and terminals)
- Fume hood functionality (not including ASHRAE 110 tests or other certifications)
- Hood and process exhaust systems
- Exhaust scrubbers
- Biological safety cabinets
- Safety cabinets
- Cold rooms
- Bio-waste sterilization
- Lab vacuum pumps
- Lab air compressor
- Cleanroom fan filter units
- Cleanroom makeup air units
- Cleanroom certification
- Pure water systems
- Process gas systems
- Process coolers

Special Systems

- Automatic window shades
- Elevators
- Electric coiling doors and grills
- Loading dock lift
- LEED features to meet desired level of certification through:
 - Energy and Atmosphere Cx credits
 - M&V Credits
 - Environmental Quality credits
 - Water Efficiency credits
- Living Building Challenge features to meet desired petals:
 - Place petal
 - Water petal
 - Energy petal
 - Health + Happiness petal
 - Materials petal
 - Equity petal
 - Beauty petal

SPECIFIC SCOPE EXAMPLES

Selected respondents will be required to develop project-specific scopes of work, budgets, and schedules for each campus project. These project-specific items will be negotiated with individual campuses as they initiate projects requiring commissioning services. Examples of potential specific scope documents in each of the three project areas are included for reference and are expected to be used as a starting point for each campus-specific scope of work. Respondents may use the documents to inform their SOQs.

Attached:

1. Example New Building Commissioning Scope of Services
2. Example Retro-Commissioning Scope of Services
3. Example Monitoring Based Scope of Services

End of Exhibit "A"

THE CALIFORNIA STATE UNIVERSITY
Attachment 1 - Commissioning Scope of Work
Guttman & Blaevoet

(Sample Only – Campus to update or provide actual scope)

CSU Commissioning (Cx) Requirements and Scope

The objective of the CSU commissioning process is to provide a systematic quality assurance process that spans the entire design and construction process, including assisting the campus define Owner’s Project Requirements (OPR) verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to the applicable codes and standards as well as meet CSU’s project requirements.

The Service Provider engaged for this work is hereby designated as the Commissioning Provider (CxP) for the project. In this role the CxP acts as a campus agent and as a consulting campus advisor to the design team and contractor on issues that affect commissioning. The CxP’s role is advisory, and in new building commissioning, complementary to the Mechanical/Electrical Systems Reviewers’ scope of work. The two parties shall coordinate to ensure no redundant reviews are performed.

The Architect/Engineer and Contractor under their own separate contracts with the Campus are the respective Architect/Engineer-of-Record and Contractor-of-Record. The CxP shall perform to the selected scope of work using the most current CSU Commissioning Guidelines (available through the CSU CPDC [Resource Library](#)) as a reference. The CxP shall seek direction from the campus where guideline or scope requirements relative to the specific project are not applicable.

New Building/Major Renovation Commissioning (Cx) Objectives

By statute, Title 24 of the California Code of Regulations (CCR), Part 6 - California Energy Code, and Part 11 - California Green Building Standards (CALGreen), requires a building system commissioning effort for new construction with conditioned space of 10,000 SF and greater. Commissioning shall be included in addition to the requirements of the Title 24 CCR, for all California State University (CSU) major capital construction projects.

The new building commissioning scope of work will involve the CxP from pre-design through its completion and a one-year post-occupancy period thereafter.

1. During the pre-design phase, the CxP shall work with the campus project team to define Owner’s Project Requirements suitable for use in a project RFQ/RFP.

2. During the design phase, the role of the CxP is to develop commissioning specification and testing plan recommendations for the design team.
3. During construction, the CxP shall monitor to ensure commissioning-related tasks are completed consistent with the approved Construction Documents and the commissioning plan, as well as facilitate building operator training.
4. During the one-year post-occupancy period, the CxP shall provide the completed Systems Manual and any requested LEED documentation, as well as verify that the building is operating as designed.

Scope of Work

Campus project team shall determine which scope of work is applicable to the project. Note that all new buildings with more than 10,000 SF of conditioned space are required to be commissioned (i.e. subject to the Cx Scope of Work) per Title 24 Parts 6 and 11.

1. Phase 1: Pre-Design
 - a) Deliverables
 - i. Owner's Project Requirements
 - b) Activities
 - i. Develop an Owner's Project Requirement document (OPR) to memorialize the project's functional requirements, expectations of building use and operation as it relates to systems being commissioned, consistent with Title 24 of the CCR, Part 6- California Energy Code, CALGreen, and CSU major capital project requirements. Refer to the CSU Owner's Project Requirements Guide, available through the Resource Library.
 - ii. Actively coordinate the commissioning work effort during pre-design and all design phases.
2. Phase 2: Design
 - a) Deliverables
 - i. Commissioning Plan
 - ii. Meeting with design team and campus
 - iii. Updated OPRs as appropriate
 - iv. Phased Cx Reviews (reference Table 1)
 - v. Commissioning Specifications
 - vi. Participate in controls integration meetings, as requested
 - b) Activities
 - i. Table 1 below provides an overview of Commissioning Activities during the design phase, which are detailed further below.
 - ii. Develop commissioning plan and specification recommendations for design team use. The CxP's role here is to provide advisory support.

The project A/E retains record authority for the functionality and appropriateness of the design.

- iii. Conduct a design phase planning and scoping meeting with the design team and campus.
 - iv. With each design package from the Design Team, review and update the OPR as needed. Review the Basis of Design (BOD) and recommend changes to make it accurate.
 - v. Perform reviews of the design and specifications against the OPR and BOD. Coordinate with Mechanical and Electrical Systems Reviewers to ensure reviews are not redundant. Submit comments and review and adjudicate concerns and responses with the Owner and Design Team. Backcheck the incorporation of comments in the next design submission.
- (1) Table 1 provides guidelines for the reviews to be conducted by the CxP. Work with campus team to determine level of depth and rigor desired.

Table 1: Cx Review Phases

Phase	Systems to be Reviewed and Commented On	Scope of Reviews	Review Rigor
Schematics / Concepts	Systems that have some level of development	Moderate: Review is high level, looking for areas where the OPR may be difficult to achieve. Rigorous: Moderate, plus make comments where the concepts could be enhanced.	<input type="checkbox"/> moderate <input type="checkbox"/> rigorous

Phase	Systems to be Reviewed and Commented On	Scope of Reviews	Review Rigor
Design Development	HVAC, controls, lighting controls, domestic water heating, emergency power, building enclosure, fire alarm, fire protection, electric gear, security, telecom, other:	Moderate: Primarily review for commissioning facilitation and operations and maintenance issues and obvious areas where OPR may not be met. Rigorous: Moderate, plus a deeper look into OPR compliance, review the BOD, energy efficiency, indoor environmental quality, functionality for tenants, environmental sustainability, life cycle cost (qualitative), durability and safety.	<input type="checkbox"/> moderate <input type="checkbox"/> rigorous
Construction Documents-Mid	HVAC, controls, lighting controls, domestic water heating, emergency power, building enclosure, fire alarm, fire protection, electric gear, security, telecom, other:	Same as Design Development. And, for Moderate: Review training, O&M documentation and commissioning requirements. Rigorous: Moderate, plus review ongoing monitoring requirements, identify vague and incomplete issues likely to cause change orders and extra effort on confirming controls are well thought out, include feedback from campus facilities end-users, completely defined and workable.	<input type="checkbox"/> moderate <input type="checkbox"/> rigorous
Construction Documents-Late	Same as above, except:	Same as Mid-Construction Documents.	<input type="checkbox"/> moderate <input type="checkbox"/> rigorous

- (2) Reviews for constructability and physical coordination are not explicitly in the CxP's scope, but issues observed shall be documented.
- (3) Review to verify compliance with building codes are not explicitly in the CxP's scope, but issues observed shall be documented.
- vi. Facilitate, participate in and track outcomes of controls integration meetings with the CxP and appropriate members of the design team and controls representative of the contractor if known. Review control system features, strategies, sequences and interlocks between systems and disciplines, etc., identify and facilitate resolving conflicts and see they are incorporated into the design.
- vii. Confirm that the design team develops clear, complete and rigorous: a) sequences of operation for all dynamic equipment, b) Fire alarm response matrix, c) Emergency power response matrix, by approving formats and completed documents from the design team.
- viii. Develop project specific commissioning specifications.
 - (1) The commissioning specifications shall provide a clear and complete description of the commissioning process and the roles and responsibilities of the Contractor.
 - (2) Definitions, responsibilities by party, submittal requirements, coordination, meetings, process and requirements relative to installation, construction checklist creation and execution, start-up, test-readiness confirmation, functional test development and execution, deferred and seasonal testing, issue and non-conformance, training of Owner personnel, O&M documentation, systems manual requirements, documentation and closeout. Identify by equipment, who is writing construction checklists and functional tests, approving the forms, directing, executing, and documenting tests, etc.
 - (3) The above elements applicable to all systems commissioned shall be provided in a General Commissioning Requirements section, provided in draft during Design Development.
 - (4) Specific testing and monitoring (trends), sampling and other unique requirements shall be developed for each system in a separate appropriate specification section, e.g., mechanical, electrical, plumbing, fire alarm, envelope or enclosure.
 - (5) A few representative construction checklists and functional tests shall also be provided for reference.
 - (6) The commissioning specifications shall be updated as required for the 100% construction documents submission.
- ix. Create a Construction Phase Commissioning Plan.
 - (1) The Cx Plan shall augment the process given in the Cx specifications, providing some repeat of the general commissioning requirements.

- (2) Additionally, provided shall be more specificity for this project, including more detail on the communication, management, and access reporting and approval protocols, the submittal process, field observations, construction checklist and functional testing development, coordination, execution and documentation, air and water balancing management, meeting schedule and frequency, including controls integration meetings, communication protocols, scheduling issues, progress reporting, testing in phases, issue management, subcontractor task delineation, training, systems manual development, etc.
- (3) The Cx Plan document does not include the construction checklists and functional tests which are developed during the Construction Phase, though samples may be part of the plan.

3. Phase 3: Construction

a) Deliverables

- i. Planning meeting with Campus and General Contractor
- ii. Updated Commissioning Plan
- iii. Create and submit Cx schedule to GC
- iv. Cx kick-off meeting with GC and subcontractors
- v. Develop construction checklists and functional tests
- vi. Controls integration meeting
- vii. Commissioning issues log/progress reports
- viii. Commissioning coordination meetings
- ix. M&V Plan
- x. Functional testing reports
- xi. Facilitation and verification of operator training
- xii. Documentation of Operations and Maintenance Manual review

b) Activities

- i. Conduct a planning meeting with the Campus and General Contractor/Construction Manager.
- ii. Update the Construction Phase Commissioning Plan.
- iii. Create a Cx schedule and have the contractor integrate it into the construction schedule.
- iv. Conduct a Commissioning kick-off meeting with General and subcontractors. Review the Cx Plan and specifications and process highlighting the trades' responsibilities.
- v. Review Contractor submittals.
 - (1) Review and comment for compliance with the plans, specifications, OPR and for commissioning facilitation for the equipment and systems within scope, including but not limited to air and water balancing agenda, HVAC systems, building automation system, lighting controls, emergency power and fire alarm response matrices.

- (2) Review for information only and to assist in developing construction checklists and functional tests for the applicable equipment and systems, such as coordination shop drawings and piping.
- vi. Prior to controls programming, hold a controls integration meeting where the submittal review comments of controls sequences and drawings are discussed and issues resolved. Track and submit issues.
 - (1) Test procedures shall be developed uniquely for each project and are composed of repeatable, step-by-step narrative procedures and include the test prerequisites and set up conditions, the test process of perturbing or observing the system or set points, the expected outcomes, the acceptance criteria and a place to record the results.
 - (2) Test procedures shall confirm every sequence in the building automation system sequences of operation and relevant features and sequences of on-board controllers including staging, interlocks to other equipment, alarms, manual operation, time of day schedules, off-hours operation, fire mode, loss of power and equipment failure, etc.
 - (3) All larger, more complex, process critical or life-safety equipment shall be individually tested. Testing only a sample of some equipment or assemblies may be allowed where such equipment or assemblies are small in physical size or importance, are numerous and are not complex or critical for process or life-safety.
 - (4) Systems that are monitored through an energy management system (EMS) shall be trended by the CxP after manual testing is complete. If there is no EMS, the CxP shall provide and install data loggers. Trend requirements will be included in the functional test forms. Trends shall confirm proper operation of all major control loops, equipment staging and time of day scheduling, etc.
 - (5) Provide functional test procedures to the contractor early and so they can execute the tests on their own prior to formal functional testing with the CxP. Incorporate Contractor comments into the forms.
 - (6) Test procedures developed by the Contractor or vendors shall be approved by the CxP.
- vii. Review minutes of Campus, Architect, Contractor meetings to keep abreast of project progress.
- viii. Review requests for information and change orders of commissioned equipment. Comment as warranted to maintain the OPR.
- ix. Develop and manage the Commissioning Issues Log in a spreadsheet or database application that allows sorting and filtering and efficient displaying and printing of data. Keep log updated as issues are identified. Regularly submit the log to the Campus and Contractor.
- x. Facilitate quicker and better resolution of issues by assisting the project team with resolution of issues. The CxP is not responsible for

issue resolution, but is expected to provide input when they may have a unique and valuable perspective due to their expertise or onsite familiarity with the project and when such input can be readily done without much analysis.

- xi. Conduct construction site observations beginning when the commissioned equipment is shipped to the site.
 - (1) Make observations about equipment model and features meeting submittal requirements, equipment condition, installation, scheduling, coordination and in the proper utilization of construction checklists. The observations will check things randomly in construction checklists and will target other areas deemed necessary by the CxP.
 - (2) Document issues in the Cx Issues Log that require addressing by the Contractor and forward the log to the Campus and Contractor in a timely manner. Construction progress reports are not desired.
 - (3) Frequency of visits must be sufficient for the CxP to keep abreast of progress and to allow for catching significant issues early. Attendance at part of major equipment startup is desired. Propose the frequency and number of visits by discipline.
- xii. Conduct regularly scheduled commissioning coordination meetings. Take and distribute minutes. Propose meeting frequency. For example, meetings may include planning and kickoff meetings, plus one meeting per month once ductwork has been set and twice a month once the first major piece of HVAC equipment is started. When testing begins, meetings may be weekly until occupancy. Note, for small projects these frequencies may need significant compression.
- xiii. Submit commissioning progress reports to the Campus and Contractor at one half the frequency as commissioning meetings.
- xiv. Fully develop the M&V Plan. Confirm that all points and data streams are installed and recording properly.
- xv. Review startup and factory test reports of commissioning equipment and confirm compliance with the manufacturer's recommendations and good practice.
- xvi. Observe some of the air and water balancing work sufficient to be reasonably confident it is being done correctly. Review the balance report. Back check a 5% sample of the work with the balancer using their equipment.
- xvii. Confirm formal functional test readiness through field observation, review of start-up reports and construction checklists, observation of control system and equipment operation, including trending and when required review of contractor's pre-tests of system operation.
- xviii. Schedule, direct and document functional testing.
 - (1) The Cx Team shall utilize observations, active tests and trending or monitoring of systems and assemblies to evaluate compliance with

the construction documents and OPR. The testing rigor required is described in the functional test procedure articles above.

- (2) Prior to or at the beginning of testing, critical sensor and actuator calibrations and building automation system graphics shall be confirmed accurate.
 - (3) CxP shall write, direct, execute and document tests on approved test forms per the Testing Responsibility (Table 2) below. Record issues on the Issues Log and forward to Contractor and Campus in a timely manner. CxP shall witness tests executed and documented by others per the testing table below sufficient to be reasonably confident they are being done properly and shall review completed test reports.
 - (4) Sampling. Testing only a sample of like equipment shall be conducted as follows (Contractor testing described below is in addition to the Contractor pre-tests):
 - For all sampling testing by the CxP, if there are any failures, the Contractor shall make needed corrections to all like units and to units with the same or similar elements that failed in the entire project and then show the CxP how the units' corrections and programming were made and shall document random retesting of the rest of the project of the same percentage the CxP originally tested using the CxP's forms. CxP will review retesting documentation and may use allotted retesting hours for random back-checking of the corrections.
 - Terminal boxes or radiators (air or water): CxP tests all sequences and features on 10-30%. On all units CxP executes building automation system reports or queries during heating and cooling mode to verify proper valve and damper actuation and room temperature control.
 - Lighting occupancy sensors: CxP shall test 20-30% with the Contractor, Contractor tests and documents the balance.
 - Daylight dimming controls: CxP shall test 30-50% with the Contractor, Contractor tests and documents the balance.
 - Building enclosure elements as requested.
 - Other equipment as requested.
 - For the balance of equipment the Contractor tests alone, the CxP reviews the test reports and field backchecks for 5-20%.
- xix. Trend logs of BAS controlled equipment over a week's time at no greater than 5-minute intervals of temperature, flow, speed, pressure, position, status, setpoints, etc. shall be utilized to confirm proper operation of all primary control loops (space, coil, duct and water temperature and duct and room pressure control, speed, resets, economizer functions, major equipment staging, etc.).

- (1) The CxP shall view and analyze trends and record deficiencies in the Issues Log. The Contractor shall set up the trends specified by the CxP.
 - (2) Once systems are working properly, the CxP shall print graphs demonstrating the proper operation of the primary control loops of all equipment and submit with the active functional testing reports.
 - (3) When critical data is not available through a BAS, monitoring and recording of performance data is accomplished by using stand-alone data loggers provided, set and analyzed by the CxP.
- xx. Determine with Campus the maximum number of hours to be spent on CxP retesting of deficiencies in this scope.
 - xxi. Completed tests shall be submitted to the Owner.
 - xxii. Facilitate and verify operator training.
 - (1) Develop detailed training agendas for each system and assembly and provide to the Contractor to use during their training. From Campus input, include desired training rigor and attendee type. Alternatively, the CxP may review agendas developed by the Contractor. Include a place to mark each concept taught and have a log of attendees.
 - (2) Develop questionnaires for the trainees that evaluate the training and attach to the agenda submitted to the Contractor.
 - (3) If desired by Campus, the CxP may attend a few of the trainings.
 - (4) Review completed agendas and questionnaires to confirm training adequacy. Submit documentation of this review.
 - xxiii. Review O&M manuals for compliance with the specifications parallel with the A/E review. Submit documentation of this review with any deficiencies.
 - xxiv. Confirm that the as-built drawings for specified systems have been submitted. CxP is not required to verify accuracy.

Table 2: Testing Responsibility Table (adapt to scope of project as needed)

Equipment	Write Tests	Direct Tests	Execute Tests	Document Tests	Witness Test Only
HVAC & controls	CxP	CxP	Contr	CxP	----
Lighting controls	CxP	Both**	Contr	Both**	----
Electrical gear	Certified testing co. of Contr.	Certified testing co. of Contr.	Certified testing co. of Contr.	Certified testing co. of Contr.	CxP (sample*)
Fire alarm & protection	CxP	Vendor	Vendor	Vendor	CxP (sample*)

Equipment	Write Tests	Direct Tests	Execute Tests	Document Tests	Witness Test Only
Plumbing	CxP	CxP	Contr	CxP	----
Security & Intercom	CxP	CxP	Contr	CxP	----
Building enclosure	CxP	CxP	Contr	CxP	----
Laboratory process	CxP	CxP	Contr	CxP	CxP (see exceptions)
Other:					

Contr = Contractor

**Both, indicates that some equipment has shared responsibility as delineated in the Sampling article above.

4. Phase 4: Post-Occupancy

a) Deliverables

- i. Systems Manual
- ii. LEED Certification documentation (if requested)
- iii. Peak load seasonal testing report
- iv. 10-month post-occupancy report
- v. Updated Commissioning report

b) Activities

- i. The CxP shall stay engaged for one year after project completion.
- ii. Finish outstanding functional testing and other incomplete tasks listed in the Construction Phase, including facilitating the resolution of outstanding issues.
- iii. Finish compiling the Systems Manual. The CxP receives System Manual elements electronically from others and provides some elements themselves, as noted below, and compiles them into one electronic suite of pdf documents, all organized, bookmarked and hyperlinked and submits to Campus. Bookmarks must be down to the equipment level for submittals and O&Ms, startup reports, test record, etc. The Systems Manual is also provided in hard copy to the Campus, with the Contractor submitting their contributions directly to the Campus, as does the CxP (one copy provided). The contents of the Systems Manual generally follow ASHRAE Guideline 0. Work with Campus to determine the systems to be included in the Systems Manual, which may not include all of the commissioned systems.

(1) Systems Manual Contents

- o Table of Contents (bookmarked and hyperlinked)
- o Executive Summary
- o OPR and System Narratives
 - o OPR (by CxP or Campus) and Systems Narratives (by design team)

- System flow diagrams or schematics (when part of design documents, by design team)
- Operating Requirements
 - Owner approved building occupancy schedule (by CxP).
 - Equipment run-time schedules (by CxP).
 - Minimum outside air requirements (general building wide) (by design team).
 - By space: use, temperature, humidity, lighting level and any special noise, pressure, return air, air change requirements (by design team).
- (2) Operating Parameters and Procedures
 - As-built sequence of operations for all equipment, including those with standalone controllers (by contractor).
 - As-built control drawings, including points list (by contractor).
 - A list of all user-adjustable set points and reset schedules, their purpose, and range of reasonable adjustments with energy implications when adjusting them—including the central building automation system and packaged equipment controllers (by CxP).
 - A description of and rationale for all major energy-saving features and strategies with operating instructions and caveats about their function and maintenance (by CxP).
 - Fire and emergency power response criteria in matrix format, including narratives of special procedures and sequences (format by CxP and content by contractor and design team).
 - For 24-hour facilities or those with critical processes, provide maintenance start-up and shutdown, manual, and restart operation procedures for equipment and systems controlled by the building automation system and by stand-alone equipment controllers (by CxP).
 - Special useful notes and instructions to operators not found in the O&M Manuals or control sequences that emerged from the commissioning process (by CxP).
 - Training materials from the original trainings if different than the O&M manuals and any video recordings of trainings (by contractor).
- (3) Performance Persistence and Optimization Program
 - Recommendations for recalibration frequency of sensors and actuators by type and use (by CxP).
 - Plan outline for monitored based Ongoing Commissioning or recommended frequency for periodic recommissioning testing by equipment type with reference to construction-completed tests and checklists, including blank forms (by CxP).

- Description of the primary recommended standard trend logs in the control system and control system reports that will assist in maintaining comfort, energy efficiency, and system control, including report templates and sample plots with explanations of what to look for in the graphs. These trends may include air handler functions (economizer, duct static pressure reset, supply air temp reset); boiler functions (HWST, HW pump control); chiller functions (CHWST, CWST, pump control), etc. (by CxP).
 - Description and use instructions for any installed fault detection features (by CxP).
 - Description and use of the energy management system and energy information system reports, when installed (by CxP).
 - Guidelines for establishing performance metrics and benchmarks and guidelines for tracking whole-building and primary end-use energy and efficiency (by CxP).
 - Suggestions for changes in the way things are controlled, set points, and sequence strategies for optimizing energy efficiency, comfort, and control coming out of the commissioning process to date (by CxP).
- (4) Commissioning Record (all by CxP)
- Summary commissioning report.
 - Issues log.
 - Issue resolution plan.
 - Lessons learned.
 - Cx Plan.
 - Cx Specifications.
 - Design, OPR and BOD review record.
 - Submittal reviews, including of TAB & O&Ms.
 - Testing schedule, progress reports and field observations.
 - Training record.
 - Completed and blank construction checklists and start-up reports.
 - Completed and blank functional tests and trend logs.
 - 10-month operations review and seasonal testing record.
 - 12-month energy usage intensity (EUI) report
- (5) Maintenance Procedures (all by contractor)
- O&M manuals.
 - Preventive maintenance procedures for all commissioned equipment. This shall be a link directly into the appropriate page of the respective O&M manual, but if no maintenance procedures are given in the O&Ms a list of procedures will need to be created. (O&Ms with links in pdf's made by contractor).
 - Warranties.
- (6) Construction Record (all by contractor)

- Record drawings.
 - Specifications.
 - Approved submittals.
 - Approved change orders.
- (7) Final air and water balance report
- (8) If requested, submit required documentation to USGBC for LEED certification for the Cx credits.
- (9) Conduct seasonal testing at near peak heating and cooling conditions, primarily by trending when possible. Also confirm space temperature control performance in all rooms, general building pressure and any special room differential pressure control. Submit report to Campus.
- (10) Conduct an on-site Building Operations Review about 10 months after project completion. Review work orders related to commissioned systems, review of alarm and complaint logs and review of selected trend logs of known problem areas and other critical areas to confirm proper performance and equipment operation. Document issues and proposed solutions and identify responsible parties. Submit a report of the Review to Campus. Update the Cx Report.
- (11) Document monthly EUI metrics after occupancy using the template in Exhibit B. Submit report to campus and CPDC.

Systems and Assemblies to be Commissioned

CxP shall work with campus to determine the applicable systems to be commissioned.

HVAC Systems and Equipment Controls

- Chilled water system (chiller, cooling tower, piping, pumps)
- Heating water system (boilers, piping, pumps)
- Under floor air distribution system
- Air handlers (including minimum outside air control,
- CO2 monitoring, heat recovery, humidification)
- Hydronic piping (including air separators and expansion tanks)
- Ductwork
- Thermal comfort, temperature and humidity control
- Variable speed drives
- Outside air valves
- Perimeter heaters
- Unit heaters
- Air terminal boxes
- Variable refrigerant flow (VRF) system
- Computer room air conditioning units
- Fan coil units
- Restroom exhaust system
- Misc. exhaust fans
- Garage exhaust fans

- Building automation and control system (BAS)
- Data acquisition system
- Atrium smoke control system
- Radiant floor heating
- TAB work
- HVAC and envelope differential pressure relationships

Electrical Systems

If electrical equipment other than lighting controls and emergency generators are to be tested by the CxP rather than the contractor's certified testing company, then additional detail should be provided in scope such as which tests and inspections will be required for each piece of equipment. Refer to InterNational Electrical Testing Association (NETA) testing standards and specifications online.

- Scheduled lighting controls
- Exterior lighting controls
- Daylight dimming controls
- Lighting occupancy sensors
- Wire and cable
- Medium voltage shielded cable
- Wiring devices (switches and outlets)
- Switchgear
- Motor control centers
- Transformers
- Variable frequency drives
- Ground fault
- Secondary grounding
- Low voltage metal-enclosed switchgear
- Bus duct
- Emergency power generator system and ATS
- Whole building power outage integrated test
- Photovoltaics
- Battery Energy Storage Systems

Fire Life Safety

- Fire alarm system
- Fire protection
- Stair pressurization system
- Fire smoke dampers

Plumbing

- Domestic water system (booster pumps)
- Domestic water heating system (heaters, circulation pumps, mixing valves)
- Sump and ejector pumps
- Irrigation systems and controls
- Automatic fixture control
- Grey/rainwater system
- Solar hot water

Laboratory and Clean Room

- General lab exhaust systems
- Lab and room pressurization control

- Air terminal units (supply and exhaust valves)
- Room differential pressure controls and equipment (exhaust and makeup fans and terminals)
- Fume hood functionality (not including ASHRAE 110 tests or other certifications)
- Hood and process exhaust systems
- Exhaust scrubbers
- Biological safety cabinets
- Safety cabinets
- Cold rooms
- Bio-waste sterilization
- Lab vacuum pumps
- Lab air compressor
- Cleanroom fan filter units
- Cleanroom makeup air units
- Cleanroom certification
- Pure water systems
- Process gas systems
- Process coolers

Building Enclosure

If Campus wishes to include Building Enclosure within Cx scope, determine when component inspections by CxP shall happen; pre-installation (including a conference with installers), during installation, or post-installation. CxP will inspect a sufficient fraction of components to be reasonably confident they are being installed properly. Contractor will also fill in construction checklists for each.

- Roofing system – water-proofing, insulation, roof membrane, rain and ice shield, pitch, coping, flashing, curbs for mechanical equipment, downspouts, drains, scuppers.
- Exterior wall opaque sections – curtain wall, storefront, masonry, brick / stone veneers, precast panels, metal panels, stucco, siding, sun shades, expansion joint cover assemblies.
- Walls – vapor barriers, insulation, mortar nets, weeps, joints, sealants, masonry ties, damp proofing, composite sheet waterproofing, flashing.
- Slab and landscaping on grade – slab vapor barriers & waterproofing, drainage slope, foundation drains, crystalline waterproofing.
- Concrete walls of occupied areas below grade: waterproofing, French drains.
- Doors, windows and skylights – sealants, mechanical operation, sills, flashing, end dams, hardware.
- Indicate for which assemblies performance testing will be conducted, and what fraction or quantity of each:
 - Water tests of roofs, slabs, doors, fenestration and/or exterior skin via mockups or in situ tests.
 - Infiltration evaluation via wind or pressure tests of doors, fenestration and/or exterior opaque wall sections via mockups, wind tunnel or in situ tests.
 - Building-wide air leakage via pressurization tests.
 - Thermography tests of fenestration and door perimeters, exterior opaque wall sections and joints and/or roofing.
 - Structural wind loading tests of exterior skin mockups or other elements.
 - Potential special roof conditions - green roof; roof terrace/roof garden.

Special Systems

Projection screens

- Automatic window shades
- Elevators
- Electric coiling doors and grills
- Loading dock lift

LEED features to meet desired level of certification through:

- Energy and Atmosphere Cx credits
- M&V Credits

- Environmental Quality credits
- Water Efficiency credits
- Living Building Challenge features to meet desired petals:
 - Place petal
 - Water petal
 - Energy petal
 - Health + Happiness petal
 - Materials petal
 - Equity petal
 - Beauty petal

Service Duration

The term of the service authorization shall begin at Schematic Design and conclude at the end of the Post-Occupancy phase.

Fee

- a) Commissioning fee for each project shall be provided on an hourly rate in accordance with the Billing Rate Table agreed and attached hereto as Exhibit C with a maximum ‘not to exceed’ amount identified, as calculated by Attachment 1 to Exhibit C. Invoicing for services shall be provided monthly.
- b) The work effort shall generally align to the percentage ranges below. Advise the Trustees at the earliest opportunity if it is anticipated that the required effort will vary materially from these ranges.

Percentage of fee	Milestone
25%	Completion of Schematic Phase
20%	Completion of Design Development Phase
0%	Bidding
20%	50% construction completion
25%	100% construction completion
10%	1-year Post-Occupancy review and report

Deliverables

Provide deliverables as specified in the applicable scope of commissioning work above.

- a) Note that the OPR and Commissioning Plan should be part of Campus submittal to CPDC at 75% Schematic Drawings for all major capital projects, per the Major Capital Project Transmittal Sheet, available via the Resource Library.

- b) At other milestones:
 - i. Provide electronic copies of report to Campus. Deliver via email or FTP, Dropbox, etc.
 - ii. Provide print report copies to campus as requested.

Scope Summary

This scope is modified as follows:

- No modifications
- As listed below:

- a) Attached (suggested, campus to select/provide):
 - i. Summary of deliverables at each stage
 - ii. CSU commissioning guidelines current as of MEA issuance
 - iii. OPR guidelines current as of MEA issuance

All correspondence regarding commissioning shall be sent to **NAME, TITLE**, with a copy to **NAME, TITLE**.

End of Attachment 1

THE CALIFORNIA STATE UNIVERSITY
Attachment – 2 Retrocommissioning (RCx) Scope of Work
Guttman & Blaevoet

(Sample Only – Campus to update or provide actual scope)

The objective of the CSU retrocommissioning process is to provide a systematic approach to test, document, review and make adjustments to bring building systems and components to the original design functionality, or to meet new functional requirements as they may change from original design, using current best practices to provide the intended functionality in the most efficient manner and meet CSU’s operational and project requirements.

The Service Provider engaged for this work is hereby designated as the Retrocommissioning Provider (RCxP) for the project. In this role the RCxP acts as a consultant and vendor to the campus to test, document, review and make adjustments to the building systems to accomplish the scope of work. The RCxP serves as the Engineer of Record for this retrocommissioning project.

The RCxP shall perform to the selected scope of work using the most current CSU Commissioning Guidelines (available through the CSU CPDC [Resource Library](#)) as a reference. The RCxP shall seek direction from the campus where guideline or scope requirements relative to the specific project are not applicable.

Retrocommissioning (RCx) Objectives

Retrocommissioning is an important process to restore optimal functionality and efficiency to aged buildings. Over time certain systems or control components of a building can become uncalibrated and adversely affect the occupant comfort and efficiency of a building’s operations. RCx pinpoints these problems and seeks to remedy them.

The existing building retrocommissioning scope of work will involve the RCxP through four phases of the project.

1. During the planning phase, the RCxP shall work with the campus project team to define Owner’s Project Requirements as well as develop a Retrocommissioning Plan.
2. During the investigation phase, the role of the RCxP is to conduct a systematic analysis of the building(s)’ performance through observation, review of building documents and O&M practices, and trending and testing of building systems.
3. During the implementation phase, the RCxP shall develop an Implementation Plan for the measures selected from the investigation phase,

implement said measures, and verify that the operational goals were achieved.

4. During the handoff phase, the RCxP shall provide the Final Report and Systems Manual such that the campus building operators have sufficient materials to monitor and maintain the implemented RCx measures.

Scopes of Work

Campus project team shall determine which scope of work is applicable to the project.

1. Phase 1: Planning
 - a) Deliverables
 - i. Retrocommissioning Plan
 - ii. Project kick-off meeting
 - b) Activities
 - i. The RCxP Work with Campus to determine the scope of the project, including the buildings and systems to be included in the project.
 - ii. Determine the objectives of the RCx effort, which may include reducing energy usage, solving indoor air quality problems, and troubleshooting persistent occupant comfort concerns.
 - iii. Interview campus staff and review the existing building documentation to determine the original specifications, design intent, and their relevance to current owner / user requirements
 - iv. Document current operating requirements through review of the buildings use and occupancy, as well as campus and department specific operational requirements.
 - v. Perform initial site walk-through to incorporate site conditions in the RCx planning.
 - vi. Develop retrocommissioning plan for testing and reporting on the pertinent systems, including documentation strategies. The retro-commissioning plan should include the following:
 - (1) Equipment, systems, or specific measures to be included, or selection criteria for inclusion
 - (2) Plan for reviewing existing systems and related documentation
 - (3) Define current operational requirements from original design documents and interviews with agency staff
 - (4) Detailed plan for equipment calibrations, including calibration forms
 - (5) Maintenance checks to be performed
 - (6) Detailed plan for diagnostic monitoring / trending, including data archival
 - (7) Functional tests to be performed

- (8) Methods to be used in analyzing the monitored / trended data
- (9) Plan to assess and document the current operating strategies and sequences of operation for all systems and equipment included
- (10) Strategies to be used in calculating energy impacts and implementation cost estimates for opportunities identified
- (11) Implementation schedule
- (12) Define the content of the final retro-commissioning report
- vii. Hold project kick-off meeting with all campus stakeholders. Review the RCx plan and coordinate for execution of the project plan.

2. Phase 2: Investigation

a) Deliverables

- i. Perform simple repairs
- ii. Diagnostic monitoring plan
- iii. Develop master list of findings
- iv. List of improvements

b) Activities

- i. Perform diagnostic monitoring using the trending capability of the control system for troubleshooting, testing, and data gathering (when cost-effective), or install data logger devices as per the RCx plan.
- ii. Calibrate sensors as needed according to the RCx plan:
 - (1) Test equipment used for calibration should have traceable calibration documentation provided in the final report.
 - (2) Document test equipment readings versus the EMCS sensor readings prior to adjustment.
 - (3) Document the adjustments made to match the EMCS sensor readings to the test equipment readings.
 - (4) A minimum of two points of calibration to check both slope and intercept are required for sensors seeing a wide range of conditions such as the outside air temperature sensors. Adjusting the offset may be sufficient for sensors seeing a narrow range of conditions.
 - (5) Document test equipment readings versus the EMCS sensor readings following adjustment (calibration) and note date and time of the adjustments made.
- i. Perform functional testing by changing parameters, set-points or conditions, and observing and documenting the actual system or equipment response through various modes and conditions (both simulated and real). Tests should be developed on a case-by-case basis, and be documented in the RCx plan, to ensure functionality across normal operating conditions. For equipment that is being monitored with sufficient points, manual testing may be accomplished by changing the parameters, etc., during the monitored period. The monitored data is then examined and used to document and verify correct or incorrect operation.

- Visual verification of equipment functionality may be required if feedback from the control system is not available.
- ii. Perform simple repairs that can be made on site that determined as a result of the functional performance testing.
 - iii. Develop master list of findings and actions taken. Calculate energy impacts and develop implementation cost estimates for measures Track resolution of deficiencies and necessary capital repairs.
 - iv. In collaboration with Campus staff, prioritize and select operational improvements for implementation within available budget.

3. Phase 3: Implementation

a) Deliverables

- i. Implementation plan
- ii. Implementation summary report

b) Activities

- i. Develop implementation plan to implement operational improvements and/or capital repairs determined in investigation. Develop resource plan and master schedule and coordinate with Campus through bi-weekly project meetings.
- ii. Implement selected operational improvements.
- iii. Verify results. Review trend data or repeat functional tests to ensure system is commissioned and operating as expected. Repeat adjustments or implement additional repairs as needed to resolve issues.
- iv. Update master list of findings with actions taken and resolutions

4. Phase 4: Handoff

a) Deliverables

- i. Final Report
- ii. New/Updated Systems Manual
- iii. Recommissioning Plan

b) Activities

- i. Develop final report. The final retro-commissioning report shall be issued once commissioning scoping activities are completed, and include:
 - (1) Executive summary
 - (2) Project background and scope of the commissioning project
 - (3) Overview of activities conducted
 - (4) Details of all potential improvements identified and other findings, including:
 - (5) Documentation of equipment conditions
 - (6) Any needed facility staff training
 - (7) Missing critical documentation

- (8) The estimated implementation costs and the energy impacts for each improvement
 - (9) Current system operation sequences for all equipment and systems included
 - (10) The retro-commissioning plan (appendix item)
 - (11) The EMCS / data logger trended data, analysis, and annotated results. Electronic copies of the data should be provided (appendix item)
 - (12) Completed calibration worksheets (appendix item)
 - (13) Documentation of campus witnessing, as required (appendix item)
- ii. Develop/update Systems Manual. The manual will be one electronic suite of pdf documents, all organized, bookmarked and hyperlinked. Bookmarks must be down to the equipment level for submittals and O&Ms, startup reports, test record, etc. **The Systems Manual is also provided in hard copy to the Campus (one copy provided).** The contents of the Systems Manual generally follow ASHRAE Guideline 0, and include all of the retrocommissioned systems.
- iii. Systems Manual Contents
- (1) Table of Contents (bookmarked and hyperlinked)
 - (2) Executive Summary
 - (3) OPR, System Narratives and system flow diagrams or schematics
 - (4) Operating Requirements
 - Owner approved building occupancy schedule.
 - Equipment run-time schedules.
 - Minimum outside air requirements (general building wide).
 - By space: use, temperature, humidity, lighting level and any special noise, pressure, return air, air change requirements.
 - (5) Operating Parameters and Procedures
 - As-built sequence of operations for all equipment, including those with standalone controllers.
 - As-built control drawings, including points list.
 - A list of all user-adjustable set points and reset schedules, their purpose, and range of reasonable adjustments with energy implications when adjusting them—including the central building automation system and packaged equipment controllers.
 - A description of and rationale for all major energy-saving features and strategies with operating instructions and caveats about their function and maintenance.
 - Fire and emergency power response criteria in matrix format, including narratives of special procedures and sequences.

- For 24-hour facilities or those with critical processes, provide maintenance start-up and shutdown, manual, and restart operation procedures for equipment and systems controlled by the building automation system and by stand-alone equipment controllers.
 - Special useful notes and instructions to operators not found in the O&M Manuals or control sequences that emerged from the retrocommissioning process.
 - Training materials from the original trainings if different than the O&M manuals and any video recordings of trainings.
- (6) Performance Persistence and Optimization Program
- Recommendations for recalibration frequency of sensors and actuators by type and use.
 - Plan outline for monitored based Ongoing Commissioning or recommended frequency for periodic recommissioning testing by equipment type with reference to construction-completed tests and checklists, including blank forms.
 - Description of the primary recommended standard trend logs in the control system and control system reports that will assist in maintaining comfort, energy efficiency, and system control, including report templates and sample plots with explanations of what to look for in the graphs. These trends may include air handler functions (economizer, duct static pressure reset, supply air temp reset); boiler functions (HWST, HW pump control); chiller functions (CHWST, CWST, pump control), etc.
 - Description and use instructions for any installed fault detection features.
 - Description and use of the energy management system and energy information system reports, when installed.
 - Guidelines for establishing performance metrics and benchmarks and guidelines for tracking whole-building and primary end-use energy and efficiency.
 - Suggestions for changes in the way things are controlled, set points, and sequence strategies for optimizing energy efficiency, comfort, and control coming out of the commissioning process to date.
- (7) Commissioning Record (Append RCx Final Report to original Commissioning Record)
- (8) Maintenance Procedures
- O&M manuals.
 - Preventive maintenance procedures for all retrocommissioned equipment. This shall be a link directly into the appropriate page of the respective O&M manual, but if no maintenance

procedures are given in the O&Ms a list of procedures will need to be created.

- Warranties.
- (1) Construction Record (from Cx System Manual, updated/add if any capital measures implemented)
 - Record drawings.
 - Specifications.
 - Approved submittals.
 - Approved change orders.
 - Final air and water balance report
- iv. Provide training. Conduct 8-hour hands-on training with Campus facilities/physical plant/plant operations/operations & maintenance staff and operators. Review systems retrocommissioned, actions taken, and trends set up for future monitoring. Review systems manual.
- v. Close-out meeting. Conduct final project meeting to review project results, answer final questions and handover final Retrocommissioning Report and Systems Manual.

Systems and Assemblies to be Retrocommissioned

RCxP shall work with campus to determine the applicable systems to be commissioned.

HVAC Systems and Equipment Controls

- Chilled water system (chiller, cooling tower, piping, pumps)
- Heating water system (boilers, piping, pumps)
- Under floor air distribution system
- Air handlers (including minimum outside air control, CO2 monitoring, heat recovery, humidification)
- Hydronic piping (including air separators and expansion tanks)
- Thermal comfort, temperature and humidity control
- Variable speed drives
- Outside air valves
- Perimeter heaters
- Unit heaters
- Air terminal boxes
- Variable refrigerant flow (VRF) system
- Computer room air conditioning units
- Fan coil units
- Restroom exhaust system
- Misc. exhaust fans
- Garage exhaust fans
- Building automation and control system (BAS)
- Data acquisition system
- Atrium smoke control system
- Radiant floor heating

- HVAC and envelope differential pressure relationships

Electrical Systems

- Scheduled lighting controls
- Exterior lighting controls
- Daylight dimming controls
- Lighting occupancy sensors
- Wire and cable
- Medium voltage shielded cable
- Wiring devices (switches and outlets)
- Switchgear
- Motor control centers
- Transformers
- Variable frequency drives
- Ground fault
- Secondary grounding
- Low voltage metal-enclosed switchgear
- Bus duct
- Emergency power generator system and ATS
- Whole building power outage integrated test
- Photovoltaics
- Battery Energy Storage Systems

Fire Life Safety

- Fire alarm system
- Fire protection
- Stair pressurization system
- Fire smoke dampers

Plumbing

- Domestic water system (booster pumps)
- Domestic water heating system (heaters, circulation pumps, mixing valves)
- Sump and ejector pumps
- Irrigation systems and controls
- Automatic fixture control
- Grey/rainwater system
- Solar hot water

Laboratory and Clean Room

- General lab exhaust systems
- Lab and room pressurization control
- Air terminal units (supply and exhaust valves)
- Room differential pressure controls and equipment
- (exhaust and makeup fans and terminals)
- Fume hood functionality (not including ASHRAE 110 tests or other certifications)
- Hood and process exhaust systems
- Exhaust scrubbers
- Biological safety cabinets
- Cold rooms

- Bio-waste sterilization
- Lab vacuum pumps
- Lab air compressor
- Cleanroom fan filter units
- Cleanroom makeup air units
- Cleanroom certification
- Pure water systems
- Process gas systems
- Process coolers
- Safety cabinets

Special Systems Projection screens

- Automatic window shades
- Elevators
- Electric coiling doors and grills
- Loading dock lift Service Duration

The term of the service authorization shall begin at the planning phase and conclude with the hand-off phase.

Fee

- a) Commissioning fee for each project shall be provided on an hourly rate in accordance with the Billing Rate Table agreed and attached hereto as Exhibit C with a maximum ‘not to exceed’ amount identified, as calculated by Attachment 1 to Exhibit C. Invoicing for services shall be provided monthly.
- b) The work effort shall generally align to the percentage’s ranges below. Advise the trustees at the earliest opportunity if it is anticipated that the required effort will vary materially from these ranges.

Percentage of fee	Phase/Milestone
10%	Planning Phase / Retrocommissioning Plan
40%	Investigation Phase / Lists of Findings and Improvements
40%	Implementation Phase/ Implementation Summary Report
10%	Handoff Phase / Final Report & Close-out Meeting

Deliverables

- a) Provide deliverables as specified in the applicable scope of retrocommissioning work above in the format specified:
- b) Provide electronic copies of reports to Campus. Deliver via email or FTP, Dropbox, etc.
- c) Provide print report copies to campus as requested.

Scope Summary

This scope is modified as follows:

- No modifications
- As listed below:

Attached (campus to determine/provide):

- 1.
- 2.
- 3.

All correspondence regarding commissioning shall be sent to **NAME, TITLE**, with a copy to **NAME, TITLE**.

End of Attachment 2

THE CALIFORNIA STATE UNIVERSITY
Attachment 3 - Monitoring-Based Commissioning (MBCx) Scope of Work
Guttman & Blaevoet

(Sample Only – Campus to update or provide actual scope)

The objective of the CSU Monitoring Based Commissioning process is to utilize permanent data trending from a campus' energy management systems controlling electrical and mechanical systems to detect and diagnose faults within the systems. The MBCx process is also intended to make adjustments to bring building systems and components to bring the original design functionality, or to meet new functional requirements as they may change from original design using current best practices to provide the intended functionality in the most efficient manner and meet CSU's operational and project requirements.. The preferred software is SkySpark® analytics software, although similar software products may be considered if proposed. This includes monitoring of zone level sensor data such as space temperatures, set points, valve positions, airflow, commands, and similar data that can be analyzed to detect faults.

The Service Provider engaged for this work is hereby designated as the Monitoring Based Commissioning Provider (MBCxP) for the project. In this role the MBCxP acts as a consultant and vendor to the campus to test, document, review and make adjustments to the building systems to accomplish the scope of work. The MBCxP serves as the Engineer of Record for this monitoring based commissioning project. The MBCxP shall perform to the selected scope of work using the most current CSU Commissioning Guidelines (available through the CSU CPDC [Resource Library](#)) as a reference.

The MBCxP shall seek direction from the campus where guideline or scope requirements relative to the specific project are not applicable.

Monitoring-Based Commissioning (MBCx) Objectives

The goal of an MBCx process is to maintain existing improvements and implement further improvements to building performance over time. Monitoring-based commissioning is defined as the implementation of an ongoing commissioning process with focus on monitoring and analyzing large amounts of data on a continuous basis.

The existing building MBCx scope of work will involve the MBCxP through three phases of the project.

1. During the planning phase, the MBCxP shall work with the campus project team to establish the technical plan and define the scope of how MBCx will

be implemented using the energy management system (EMS) and/or energy information system (EIS).

2. During the EMS/EIS configuration phase, the role of the MBCxP is to configure and calibrate necessary data points (e.g. fault detection, energy savings), user interfaces, and sensors for the accurate tracking of data over the course of the project.
3. During the implementation phase, the MBCxP shall identify issues and opportunities for corrective action and work with the campus project team to implement these measures, and update facility documentation accordingly, as well as deliver a final report and necessary training.

Scopes of Work

1. Phase 1: Planning
 - a) Deliverables
 - i. Monitoring Action Plan (MAP)
 - ii. Training Plan
 - iii. Kick-off meeting
 - b) Activities
 - i. Hold project kick-off meeting
 - ii. Collect building documentation and create/update current facility requirements. Work with campus and building personnel to identify normal operating ranges for monitored systems. Requirement will be used inform the monitoring action plan. Requirements for the following shall be included as applicable: Indoor temperature and humidity, occupied and unoccupied mode, building operational hours, special use areas, other key operational
 - iii. Define high priority systems for performance monitoring. Work with campus and facility personnel to identify the critical facility systems to be monitored. Focus should be given to previously implemented commissioning efforts and other key energy saving features as defined by the campus. Building systems to be monitored may include the following systems: Chillers and cooling towers, boilers, air handlers, terminal units, packaged HVAC, lighting, commercial refrigeration, whole building meters, energy submeters, others as defined by campus.
 - iv. Create a Monitoring Action Plan. The Monitoring Action Plan (MAP) will serve as the key document for the MBCx project. The MAP should define the metrics, views, and analytics to be used through the project. A template MAP is included as Appendix 1 to this document.
 - v. Specify enhancements for EMIS. During the creation of the MAP, MBCx Agent should identify any necessary or suggested enhancements to the EMIS that will allow for a more successful project.

- vi. Create a training plan. A training plan that identifies areas of necessary training and personnel requiring training should be created using the facilities requirements, priority systems, and MAP as guidelines.
2. Phase 2: EMS and EIS Configuration
- a) Deliverables
 - i. Calibration Plan
 - ii. EMS/EIS User Guide and Configuration Summary
 - iii. Summary of planned energy savings and anomaly tracking periods
 - b) Activities
 - i. Define data configuration requirements. **Appendix 2 (Data Configuration Requirements, campus specific)** outlines the data types that will be monitored using the EMIS to support the MBCx program. In addition to configuring an ongoing data stream, there will be certain meters for which historical data will also be imported (for example, to provide a historical energy baseline). Data point naming/tagging will follow consistent, transparent naming conventions.
 - ii. Develop calibration plan and calibrate critical sensors. Wherever possible, meters/sensors will be calibrated, and values derived from interval meters and submeters will be cross-checked against monthly billing data or other documents of record to ensure consistency. The most critical points for calibration are: Outside air temperature, air handler supply/return/mixed air temperatures, chilled water supply/return temperatures, hot water supply/return temperatures.
 - iii. Perform EMIS data quality checks. Ensure that data reported to the EMIS meets quality needs for the MBCx project. Issues that should be identified and remedied include data values falling outside the range of an installed meter or sensor, meters installed incorrectly, insufficient data capture (e.g., memory, value, sample rates, or gaps in timeseries errors), data reporting errors, misleading labels, insufficient sampling rates.
 - iv. Create an EMS or EIS user interface. As allowable Cx agent shall design and implement dashboards and drill-down views will be configured for the MBCx program, to support the MAP and other general reporting needs. Cx agent shall work with the campus and facilities personnel to identify requirements and capabilities.
 - v. Configure fault detection diagnostics (FDD).
 - vi. Configure diagnostics, energy savings and anomaly tracking. Savings tracking will be configured using appropriate modeling techniques in accordance with CalTRACK 1.0 (<https://www.caltrack.org/>).

3. Phase 3: Implementation

a) Deliverables

- i. Implementation report
 - ii. Updated facility documentation
 - iii. Building operator training
- b) Activities
- i. Identify issues and opportunities using EMS/EIS and the Monitoring Action Plan. Using the previously created project deliverables identify issues using either automated methods or manual review and compile into an issues log
 - ii. Investigate root cause for prioritized issues.
 - iii. Identify and implement corrective actions.
 - iv. Verify performance improvement
 - v. Tracking of Improvements/Repairs. All recommendations shall be tracked for progress and each item's status and history shall be recorded on the Findings Log. Any item that was detected through data analytics shall be verified as completed once noted as such, by review of the relevant data to ensure the issue was resolved.
 - vi. Report Findings – Recommendations shall be presented to the Campus at regular intervals (specify interval) during the duration of the commissioning project, culminating in a final report. The final MBCx report shall include a description of the facility, HVAC equipment, controls, operating schedules, operational deficiencies and energy efficiency opportunities (commonly referred to as a Findings Log), changes in project scope, an analysis of baseline and post-MBCx energy use and the resulting energy savings along with a verbal and visual description of the analysis approach, and any other issues encountered which are relevant to a comprehensive understanding of the project. The Final Report should also describe the staff training program which will be offered and when it will take place.
 - vii. Update Systems Manual. The systems manual will include
 - o MBCx Final Report
 - o Alarm set points
 - o Available monitoring points and active trending capabilities
 - o Control graphics or diagrams
 - o O&M plan
 - o Ongoing diagnostics
 - o M&V Plan
 - o General building or plant info & Design intent (current facility requirements)
 - o System diagram and descriptions
 - o Equipment schedules & control sequences (this includes setpoints)
 - o Available monitoring points and recommended trend groups
 - o ECM persistence recommendations
 - o Updated findings log and action plan
 - o Updated benchmarking and baseline data

- Operator training plans and records
- Plans for Recommissioning to maintain persistence (15 years).
- Summary of available as-built records & documentation
- Conduct 8-hour hands-on training with Campus facilities/physical plant/plant operations/operations & maintenance staff and operators. Review systems commissioned, actions taken, and trends set up for future monitoring.

Systems and Assemblies to be Commissioned

MBCxP shall work with campus to determine the applicable systems to be commissioned.

HVAC Systems and Equipment Controls

- Chilled water system (chiller, cooling tower, piping, pumps)
- Heating water system (boilers, piping, pumps)
- Under floor air distribution system
- Air handlers (including minimum outside air control,
- CO2 monitoring, heat recovery, humidification)
- Hydronic piping (including air separators and expansion tanks)
- Ductwork
- Thermal comfort, temperature and humidity control
- Variable speed drives
- Outside air valves
- Perimeter heaters
- Unit heaters
- Air terminal boxes
- Variable refrigerant flow (VRF) system
- Computer room air conditioning units
- Fan coil units
- Restroom exhaust system
- Misc. exhaust fans
- Garage exhaust fans
- Building automation and control system (BAS)
- Data acquisition system
- Atrium smoke control system
- Radiant floor heating
- TAB work
- HVAC and envelope differential pressure relationships

Electrical Systems

If electrical equipment other than lighting controls and emergency generators are to be tested by the MBCxP rather than the contractor's certified testing company, then additional detail should be provided in scope such as which tests and inspections will be required for each piece of equipment. Refer to InterNational Electrical Testing Association (NETA) testing standards and specifications online.

- Scheduled lighting controls
- Exterior lighting controls

- Daylight dimming controls
- Lighting occupancy sensors
- Wire and cable
- Medium voltage shielded cable
- Wiring devices (switches and outlets)
- Switchgear
- Motor control centers
- Transformers
- Variable frequency drives
- Ground fault
- Secondary grounding
- Low voltage metal-enclosed switchgear
- Bus duct
- Emergency power generator system and ATS
- Whole building power outage integrated test
- Photovoltaics
- Battery Energy Storage Systems

Plumbing

- Domestic water system (booster pumps)
- Domestic water heating system (heaters, circulation pumps, mixing valves)
- Sump and ejector pumps
- Irrigation systems and controls
- Automatic fixture control
- Grey/rainwater system
- Solar hot water

Laboratory and Clean Room

- General lab exhaust systems
- Lab and room pressurization control
- Air terminal units (supply and exhaust valves)
- Room differential pressure controls and equipment (exhaust and makeup fans and terminals)
- Fume hood functionality (not including ASHRAE 110 tests or other certifications)
- Hood and process exhaust systems
- Exhaust scrubbers
- Biological safety cabinets
- Safety cabinets
- Cold rooms
- Bio-waste sterilization
- Lab vacuum pumps
- Lab air compressor
- Cleanroom fan filter units
- Cleanroom makeup air units
- Cleanroom certification
- Pure water systems
- Process gas systems
- Process coolers

Special Systems

- Automatic window shades

Service Duration

The term of the service authorization shall begin at the planning phase and conclude with the hand-off phase.

Fee

Commissioning fee for each project shall be provided on an hourly rate in accordance with the Billing Rate Table agreed and attached hereto as Exhibit C with a maximum ‘not to exceed’ amount identified, as calculated by Attachment 1 to Exhibit C. Invoicing for services shall be provided monthly.

The work effort shall generally align to the percentage’s ranges below. Advise the trustees at the earliest opportunity if it is anticipated that the required effort will vary materially from these ranges.

Percentage of fee	Phase
20%	Planning
40%	EMS/EIS Configuration
40%	Implementation

Deliverables

Provide deliverables as specified in the applicable scope of monitoring based commissioning work above in the format specified:

Provide electronic copies of reports to Campus. Deliver via email or FTP, Dropbox, etc.

Provide print report copies to campus as requested.

Scope Summary

This scope is modified as follows:

- No modifications
- As listed below:

Attached (campus to determine/provide):

1. Monitoring Action Plan (LBNL Template)
2. Data Configuration Requirements (Campus specific)
- 3.

All correspondence regarding commissioning shall be sent to **NAME, TITLE**, with a copy to **NAME, TITLE**.

End of Attachment 3

THE CALIFORNIA STATE UNIVERSITY
Exhibit "B"- Service Order and Authorization to Proceed,
Guttman & Blaevoet

[Date]

Mr. John Doe, President
John Doe, LLC
555 Marin Street; Suite 230
Thousand Oaks, CA 91360

Dear Mr. Doe

[Project Name], [Project Number]
[Campus]
Service Order and Authorization to Proceed Number [insert]

In accordance with the provisions of the Systemwide Master Enabling Agreement Number XXXX you are hereby authorized to provide [insert as appropriate].

The Service Provider shall not perform services in excess of this Service Order without prior written authorization to proceed from the University.

Service Provider shall coordinate services with:

[CSU Campus Name]
[Campus Department]
[Executive Dean or Designated Campus Project Manager]
[Campus Address]
[Campus Project Manager's Phone Number]

The total amount to be expended under this Service Order shall not exceed [written and numerical dollar value] inclusive of reimbursables, regardless of Service Provider's cost in performing these services. Service Provider shall submit all invoices with the Agreement and Service Order and Authorization to Proceed number on each invoice to the project manager named above.

Questions regarding this authorization shall be directed to the above-named project manager.

Approved:

Fund Certified:

[Name]
[Department Head]
[Department]

[Name]
[Accounting/Fiscal Officer]
[Department]

cc:

End of Exhibit "B"

THE CALIFORNIA STATE UNIVERSITY Exhibit
"C" – Service Provider Rate Schedule
Guttman & Blaevoet

Discipline	Maximum Rate
Associate	\$260
Senior Engineer	\$250
Associate	\$260
Senior Engineer	\$250
Senior Engineer	\$270
Associate Principal	\$300
Principal	\$315

End of Exhibit "C"



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

10/03/23

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER KRAFT INSURANCE BROKERAGE 2095 Hilltop Drive, Suite A Redding, CA 96002	CONTACT NAME: Seth
	PHONE (A/C, No, Ext): (530)356-1008
	FAX (A/C, No):
	E-MAIL ADDRESS: seth@kraftib.com
	INSURER(S) AFFORDING COVERAGE
	INSURER A : Hartford Casualty Insurance Company
	INSURER B : Sentinel Insurance Company
	INSURER C : Continental Casualty Company
	INSURER D : Hartford Accident & Indemnity
	INSURER E :
	INSURER F :

INSURED
Guttman & Blaevoet
 1620 Montgomery Street, #230
 San Francisco, CA 94111
 CA 94111


COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	Y	Y	57SBABP5522	9/1/2023	9/1/2024	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 Deductible \$ 500
D	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY	Y	Y	57 UEC BD0444	9/1/2023	9/1/2024	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ Deductible \$ 1,000
B	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> DED <input type="checkbox"/> RETENTION \$			57SBABP5522	9/1/2023	9/1/2024	EACH OCCURRENCE \$ 1,000,000 AGGREGATE \$ 1,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	57WECAB6F6E	9/1/2023	9/1/2024	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
C	Professional Liability			AEH288360479	9/1/2023	9/1/2024	Per Claim Limit: \$ 5,000,000 Annual Aggregate: \$ 6,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

That the State of California, the Trustees of the California State University, the CSU, and the employees, officers, and agents of each of them, are included as additional insured, but only insofar as the operations under this contract are concerned.

CERTIFICATE HOLDER California State University 401 Golden Shore Long Beach, CA 90802	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**WAIVER OF OUR RIGHT TO RECOVER
FROM OTHERS ENDORSEMENT**

Policy Number: 57 WEC AB6F6E

Endorsement Number:

Effective Date: 09/01/23

Effective hour is the same as stated on the Information Page of the policy.

Named Insured and Address: Guttman & Blaevoet

1620 MONTGOMERY ST STE 230

SAN FRANCISCO CA 94111

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule.

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

SCHEDULE

Any person or organization for whom you are required by contract or agreement to obtain this waiver from us. Endorsement is not applicable in KY, NH, NJ or for any MO construction risk

Countersigned by _____

Authorized Representative

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED (ARCHITECTS, ENGINEERS AND SURVEYORS)

This endorsement modifies insurance provided under the following:
COMMERCIAL GENERAL LIABILITY COVERAGE PART

1. The following is added to SECTION II – WHO IS AN INSURED:

Any person or organization that you agree in a "written contract requiring insurance" to include as an additional insured on this Coverage Part, but:

- a. Only with respect to liability for "bodily injury", "property damage" or "personal injury"; and
- b. If, and only to the extent that, the injury or damage is caused by acts or omissions of you or your subcontractor in the performance of "your work" to which the "written contract requiring insurance" applies, or in connection with premises owned by or rented to you.

The person or organization does not qualify as an additional insured:

- c. With respect to the independent acts or omissions of such person or organization; or
- d. For "bodily injury", "property damage" or "personal injury" for which such person or organization has assumed liability in a contract or agreement.

The insurance provided to such additional insured is limited as follows:

- e. This insurance does not apply on any basis to any person or organization for which coverage as an additional insured specifically is added by another endorsement to this Coverage Part.
- f. This insurance does not apply to the rendering of or failure to render any "professional services".
- g. In the event that the Limits of Insurance of the Coverage Part shown in the Declarations exceed the limits of liability required by the "written contract requiring insurance", the insurance provided to the additional insured shall be limited to the limits of liability required by that "written contract requiring insurance". This endorsement does not increase the limits of insurance described in Section III – Limits Of Insurance.

- h. This insurance does not apply to "bodily injury" or "property damage" caused by "your work" and included in the "products-completed operations hazard" unless the "written contract requiring insurance" specifically requires you to provide such coverage for that additional insured, and then the insurance provided to the additional insured applies only to such "bodily injury" or "property damage" that occurs before the end of the period of time for which the "written contract requiring insurance" requires you to provide such coverage or the end of the policy period, whichever is earlier.

2. The following is added to Paragraph 4.a. of SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS:

The insurance provided to the additional insured is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured for a loss we cover. However, if you specifically agree in the "written contract requiring insurance" that this insurance provided to the additional insured under this Coverage Part must apply on a primary basis or a primary and non-contributory basis, this insurance is primary to other insurance available to the additional insured which covers that person or organizations as a named insured for such loss, and we will not share with the other insurance, provided that:

- (1) The "bodily injury" or "property damage" for which coverage is sought occurs; and
- (2) The "personal injury" for which coverage is sought arises out of an offense committed;

after you have signed that "written contract requiring insurance". But this insurance provided to the additional insured still is excess over valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured when that person or organization is an additional insured under any other insurance.

COMMERCIAL GENERAL LIABILITY

injury" or "property damage" occurs, or the "personal injury" offense is committed.

D. The following definition is added to DEFINITIONS (Section V):

"Contract or agreement requiring insurance" means that part of any contract or agreement under which you are required to include a person or organization as an additional insured on this Cov-

erage Part, provided that the "bodily injury" and "property damage" occurs, and the "personal injury" is caused by an offense committed:

- a. After you have entered into that contract or agreement;
- b. While that part of the contract or agreement is in effect; and
- c. Before the end of the policy period.

Insured: Guttman & Blaevoet
Policy Number: 680-2H183496

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS

This endorsement modifies insurance provided under the following:

COMMERCIAL EXCESS LIABILITY (UMBRELLA) INSURANCE

The following is added to Paragraph 11., **OUR RIGHT TO RECOVER FROM OTHERS.**, of **SECTION IV – CONDITIONS.**:

If the insured has agreed in a contract or agreement to waive that insured's right of recovery against any person or organization, we waive our right of recovery against such person or organization, but only for payments we make because of:

- a. "Bodily injury" or "property damage" caused by an "occurrence" that takes place; or
- b. "Personal injury" or "advertising injury" caused by an "offense" that is committed;
subsequent to the execution of the contract or agreement.

Insured: Guttman & Blaevoet
Policy Number: CUP-0F346611

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

COMMERCIAL AUTOMOBILE BROAD FORM ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

To the extent that the provisions of this endorsement provide broader benefits to the "insured" than other provisions of the Coverage Form, the provisions of this endorsement apply.

1. BROAD FORM INSURED

A. Subsidiaries and Newly Acquired or Formed Organizations

The Named Insured shown in the Declarations is amended to include:

- (1) Any legal business entity other than a partnership or joint venture, formed as a subsidiary in which you have an ownership interest of more than 50% on the effective date of the Coverage Form. However, the Named Insured does not include any subsidiary that is an "insured" under any other automobile policy or would be an "insured" under such a policy but for its termination or the exhaustion of its Limit of Insurance.
- (2) Any organization that is acquired or formed by you and over which you maintain majority ownership. However, the Named Insured does not include any newly formed or acquired organization:
 - (a) That is a partnership or joint venture,
 - (b) That is an "insured" under any other policy,
 - (c) That has exhausted its Limit of Insurance under any other policy, or
 - (d) 180 days or more after its acquisition or formation by you, unless you have given us notice of the acquisition or formation.

Coverage does not apply to "bodily injury" or "property damage" that results from an "accident" that occurred before you formed or acquired the organization.

B. Employees as Insureds

Paragraph A.1. - WHO IS AN INSURED - of SECTION II - LIABILITY COVERAGE is amended to add:

- d. Any "employee" of yours while using a covered "auto" you don't own, hire or borrow in your business or your personal affairs.

C. Lessors as Insureds

Paragraph A.1. - WHO IS AN INSURED - of Section II - Liability Coverage is amended to add:

- e. The lessor of a covered "auto" while the "auto" is leased to you under a written agreement if:
 - (1) The agreement requires you to provide direct primary insurance for the lessor and
 - (2) The "auto" is leased without a driver.

Such a leased "auto" will be considered a covered "auto" you own and not a covered "auto" you hire.

D. Additional Insured if Required by Contract

(1) Paragraph A.1. - WHO IS AN INSURED - of Section II - Liability Coverage is amended to add:

- f. When you have agreed, in a written contract or written agreement, that a person or organization be added as an additional insured on your business auto policy, such person or organization is an "insured", but only to the extent such person or organization is liable for "bodily injury" or "property damage" caused by the conduct of an "insured" under paragraphs a. or b. of Who Is An Insured with regard to the ownership, maintenance or use of a covered "auto."

The insurance afforded to any such additional insured applies only if the "bodily injury" or "property damage" occurs:

- (1) During the policy period, and
- (2) Subsequent to the execution of such written contract, and
- (3) Prior to the expiration of the period of time that the written contract requires such insurance be provided to the additional insured.

(2) How Limits Apply

If you have agreed in a written contract or written agreement that another person or organization be added as an additional insured on your policy, the most we will pay on behalf of such additional insured is the lesser of:

- (a) The limits of insurance specified in the written contract or written agreement; or
- (b) The Limits of Insurance shown in the Declarations.

Such amount shall be a part of and not in addition to Limits of Insurance shown in the Declarations and described in this Section.

(3) Additional Insureds Other Insurance

If we cover a claim or "suit" under this Coverage Part that may also be covered by other insurance available to an additional insured, such additional insured must submit such claim or "suit" to the other insurer for defense and indemnity.

However, this provision does not apply to the extent that you have agreed in a written contract or written agreement that this insurance is primary and non-contributory with the additional insured's own insurance.

(4) Duties in The Event Of Accident, Claim, Suit or Loss

If you have agreed in a written contract or written agreement that another person or organization be added as an additional insured on your policy, the additional insured shall be required to comply with the provisions in LOSS CONDITIONS 2. - DUTIES IN THE EVENT OF ACCIDENT, CLAIM, SUIT OR LOSS - OF SECTION IV - BUSINESS AUTO CONDITIONS, in the same manner as the Named Insured.

E. Primary and Non-Contributory if Required by Contract

Only with respect to insurance provided to an additional insured in 1.D. - Additional Insured If Required by Contract, the following provisions apply:

(3) Primary Insurance When Required By Contract

This insurance is primary if you have agreed in a written contract or written agreement that this insurance be primary. If other insurance is also primary, we will share with all that other insurance by the method described in Other Insurance 5.d.

(4) Primary And Non-Contributory To Other Insurance When Required By Contract

If you have agreed in a written contract or written agreement that this insurance is primary and non-contributory with the additional insured's own insurance, this insurance is primary and we will not seek contribution from that other insurance.

Paragraphs (3) and (4) do not apply to other insurance to which the additional insured has been added as an additional insured.

When this insurance is excess, we will have no duty to defend the insured against any "suit" if any other insurer has a duty to defend the insured against that "suit". If no other insurer defends, we will undertake to do so, but we will be entitled to the insured's rights against all those other insurers.

When this insurance is excess over other insurance, we will pay only our share of the amount of the loss, if any, that exceeds the sum of:

- (1) The total amount that all such other insurance would pay for the loss in the absence of this insurance; and
- (2) The total of all deductible and self-insured amounts under all that other insurance.

We will share the remaining loss, if any, by the method described in Other Insurance 5.d.

2. AUTOS RENTED BY EMPLOYEES

Any "auto" hired or rented by your "employee" on your behalf and at your direction will be considered an "auto" you hire.

The OTHER INSURANCE Condition is amended by adding the following:

If an "employee's" personal insurance also applies on an excess basis to a covered "auto" hired or rented by your "employee" on your behalf and at your direction, this insurance will be primary to the "employee's" personal insurance.

3. AMENDED FELLOW EMPLOYEE EXCLUSION

EXCLUSION 5. - FELLOW EMPLOYEE - of SECTION II - LIABILITY COVERAGE does not apply if you have workers' compensation insurance in-force covering all of your "employees".

Coverage is excess over any other collectible insurance.

4. HIRED AUTO PHYSICAL DAMAGE COVERAGE

If hired "autos" are covered "autos" for Liability Coverage and if Comprehensive, Specified Causes of Loss, or Collision coverages are provided under this Coverage Form for any "auto" you own, then the Physical Damage Coverages provided are extended to "autos" you hire or borrow, subject to the following limit.

The most we will pay for "loss" to any hired "auto" is:

- (1) \$100,000;
- (2) The actual cash value of the damaged or stolen property at the time of the "loss"; or
- (3) The cost of repairing or replacing the damaged or stolen property,

whichever is smallest, minus a deductible. The deductible will be equal to the largest deductible applicable to any owned "auto" for that coverage. No deductible applies to "loss" caused by fire or lightning. Hired Auto Physical Damage coverage is excess over any other collectible insurance. Subject to the above limit, deductible and excess provisions, we will provide coverage equal to the broadest coverage applicable to any covered "auto" you own.

We will also cover loss of use of the hired "auto" if it results from an "accident", you are legally liable and the lessor incurs an actual financial loss, subject to a maximum of \$1000 per "accident".

This extension of coverage does not apply to any "auto" you hire or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company), or members of their households.

5. PHYSICAL DAMAGE - ADDITIONAL TEMPORARY TRANSPORTATION EXPENSE COVERAGE

Paragraph A.4.a. of SECTION III - PHYSICAL DAMAGE COVERAGE is amended to provide a limit of \$50 per day and a maximum limit of \$1,000.

6. LOAN/LEASE GAP COVERAGE

Under SECTION III - PHYSICAL DAMAGE COVERAGE, in the event of a total "loss" to a covered "auto", we will pay your additional legal obligation for any difference between the actual cash value of the "auto" at the time of the "loss" and the "outstanding balance" of the loan/lease.

"Outstanding balance" means the amount you owe on the loan/lease at the time of "loss" less any amounts representing taxes; overdue payments; penalties, interest or charges resulting from overdue payments; additional mileage charges; excess wear and tear charges; lease termination fees; security deposits not returned by the lessor; costs for extended warranties, credit life insurance, health, accident or disability insurance purchased with the loan or lease; and carry-over balances from previous loans or leases.

7. AIRBAG COVERAGE

Under Paragraph B. EXCLUSIONS - of SECTION III - PHYSICAL DAMAGE COVERAGE, the following is added:

The exclusion relating to mechanical breakdown does not apply to the accidental discharge of an airbag.

8. ELECTRONIC EQUIPMENT - BROADENED COVERAGE

a. The exceptions to Paragraphs B.4 - EXCLUSIONS - of SECTION III - PHYSICAL DAMAGE COVERAGE are replaced by the following:

Exclusions 4.c. and 4.d. do not apply to equipment designed to be operated solely by use of the power from the "auto's" electrical system that, at the time of "loss", is:

- (1) Permanently installed in or upon the covered "auto";
- (2) Removable from a housing unit which is permanently installed in or upon the covered "auto";
- (3) An integral part of the same unit housing any electronic equipment described in Paragraphs (1) and (2) above; or

- (4) Necessary for the normal operation of the covered "auto" or the monitoring of the covered "auto's" operating system.

b. Section III – Version CA 00 01 03 10 of the Business Auto Coverage Form, Physical Damage Coverage, Limit of Insurance, Paragraph C.2 and Version CA 00 01 10 01 of the Business Auto Coverage Form, Physical Damage Coverage, Limit of Insurance, Paragraph C are each amended to add the following:

\$1,500 is the most we will pay for "loss" in any one "accident" to all electronic equipment (other than equipment designed solely for the reproduction of sound, and accessories used with such equipment) that reproduces, receives or transmits audio, visual or data signals which, at the time of "loss", is:

- (1) Permanently installed in or upon the covered "auto" in a housing, opening or other location that is not normally used by the "auto" manufacturer for the installation of such equipment;
- (2) Removable from a permanently installed housing unit as described in Paragraph 2.a. above or is an integral part of that equipment; or
- (3) An integral part of such equipment.

c. For each covered "auto", should loss be limited to electronic equipment only, our obligation to pay for, repair, return or replace damaged or stolen electronic equipment will be reduced by the applicable deductible shown in the Declarations, or \$250, whichever deductible is less.

9. EXTRA EXPENSE - BROADENED COVERAGE

Under Paragraph A. - COVERAGE - of SECTION III - PHYSICAL DAMAGE COVERAGE, we will pay for the expense of returning a stolen covered "auto" to you.

10. GLASS REPAIR - WAIVER OF DEDUCTIBLE

Under Paragraph D. - DEDUCTIBLE - of SECTION III - PHYSICAL DAMAGE COVERAGE, the following is added:

No deductible applies to glass damage if the glass is repaired rather than replaced.

11. TWO OR MORE DEDUCTIBLES

Under Paragraph D. - DEDUCTIBLE - of SECTION III - PHYSICAL DAMAGE COVERAGE, the following is added:

If another Hartford Financial Services Group, Inc. company policy or coverage form that is not an automobile policy or coverage form applies to the same "accident", the following applies:

- (1) If the deductible under this Business Auto Coverage Form is the smaller (or smallest) deductible, it will be waived;
- (2) If the deductible under this Business Auto Coverage Form is not the smaller (or smallest) deductible, it will be reduced by the amount of the smaller (or smallest) deductible.

12. AMENDED DUTIES IN THE EVENT OF ACCIDENT, CLAIM, SUIT OR LOSS

The requirement in LOSS CONDITIONS 2.a. - DUTIES IN THE EVENT OF ACCIDENT, CLAIM, SUIT OR LOSS - of SECTION IV - BUSINESS AUTO CONDITIONS that you must notify us of an "accident" applies only when the "accident" is known to:

- (1) You, if you are an individual;
- (2) A partner, if you are a partnership;
- (3) A member, if you are a limited liability company; or
- (4) An executive officer or insurance manager, if you are a corporation.

13. UNINTENTIONAL FAILURE TO DISCLOSE HAZARDS

If you unintentionally fail to disclose any hazards existing at the inception date of your policy, we will not deny coverage under this Coverage Form because of such failure.

14. HIRED AUTO - COVERAGE TERRITORY

Paragraph e. of GENERAL CONDITIONS 7. - POLICY PERIOD, COVERAGE TERRITORY - of SECTION IV - BUSINESS AUTO CONDITIONS is replaced by the following:

- e. For short-term hired "autos", the coverage territory with respect to Liability Coverage is anywhere in the world provided that if the "insured's" responsibility to pay damages for "bodily injury" or "property damage" is determined in a "suit," the "suit" is brought in the United States of America, the territories and possessions of the United States of America, Puerto Rico or Canada or in a settlement we agree to.

15. WAIVER OF SUBROGATION

TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US - of SECTION IV - BUSINESS AUTO CONDITIONS is amended by adding the following:

We waive any right of recovery we may have against any person or organization with whom you have a written contract that requires such waiver because of payments we make for damages under this Coverage Form.

16. RESULTANT MENTAL ANGUISH COVERAGE

The definition of "bodily injury" in SECTION V-DEFINITIONS is replaced by the following:

"Bodily injury" means bodily injury, sickness or disease sustained by any person, including mental anguish or death resulting from any of these.

17. EXTENDED CANCELLATION CONDITION

Paragraph 2. of the COMMON POLICY CONDITIONS - CANCELLATION - applies except as follows:

If we cancel for any reason other than nonpayment of premium, we will mail or deliver to the first Named Insured written notice of cancellation at least 60 days before the effective date of cancellation.

18. HYBRID, ELECTRIC, OR NATURAL GAS VEHICLE PAYMENT COVERAGE

In the event of a total loss to a "non-hybrid" auto for which Comprehensive, Specified Causes of Loss, or Collision coverages are provided under this Coverage Form, then such Physical Damage Coverages are amended as follows:

- a. If the auto is replaced with a "hybrid" auto or an auto powered solely by electricity or natural gas, we will pay an additional 10%, to a maximum of \$2,500, of the "non-hybrid" auto's actual cash value or replacement cost, whichever is less,
- b. The auto must be replaced and a copy of a bill of sale or new lease agreement received by us within 60 calendar days of the date of "loss,"

- c. Regardless of the number of autos deemed a total loss, the most we will pay under this Hybrid, Electric, or Natural Gas Vehicle Payment Coverage provision for any one "loss" is \$10,000.

For the purposes of the coverage provision,

- a. A "non-hybrid" auto is defined as an auto that uses only an internal combustion engine to move the auto but does not include autos powered solely by electricity or natural gas.
- b. A "hybrid" auto is defined as an auto with an internal combustion engine and one or more electric motors; and that uses the internal combustion engine and one or more electric motors to move the auto, or the internal combustion engine to charge one or more electric motors, which move the auto.

19. VEHICLE WRAP COVERAGE

In the event of a total loss to an "auto" for which Comprehensive, Specified Causes of Loss, or Collision coverages are provided under this Coverage Form, then such Physical Damage Coverages are amended to add the following:

In addition to the actual cash value of the "auto", we will pay up to \$1,000 for vinyl vehicle wraps which are displayed on the covered "auto" at the time of total loss. Regardless of the number of autos deemed a total loss, the most we will pay under this Vehicle Wrap Coverage provision for any one "loss" is \$5,000. For purposes of this coverage provision, signs or other graphics painted or magnetically affixed to the vehicle are not considered vehicle wraps.

BUSINESS AUTO COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words "you" and "your" refer to the Named Insured shown in the Declarations. The words "we", "us" and "our" refer to the company providing this insurance.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section V – Definitions.

SECTION I – COVERED AUTOS

Item Two of the Declarations shows the "autos" that are covered "autos" for each of your coverages. The following numerical symbols describe the "autos" that may be covered "autos". The symbols entered next to a coverage on the Declarations designate the only "autos" that are covered "autos".

A. Description Of Covered Auto Designation Symbols

Symbol	Description Of Covered Auto Designation Symbols	
1	Any "Auto"	
2	Owned "Autos" Only	Only those "autos" you own (and for Covered Autos Liability Coverage any "trailers" you don't own while attached to power units you own). This includes those "autos" you acquire ownership of after the policy begins.
3	Owned Private Passenger "Autos" Only	Only the private passenger "autos" you own. This includes those private passenger "autos" you acquire ownership of after the policy begins.
4	Owned "Autos" Other Than Private Passenger "Autos" Only	Only those "autos" you own that are not of the private passenger type (and for Covered Autos Liability Coverage any "trailers" you don't own while attached to power units you own). This includes those "autos" not of the private passenger type you acquire ownership of after the policy begins.
5	Owned "Autos" Subject To No-fault	Only those "autos" you own that are required to have no-fault benefits in the state where they are licensed or principally garaged. This includes those "autos" you acquire ownership of after the policy begins provided they are required to have no-fault benefits in the state where they are licensed or principally garaged.
6	Owned "Autos" Subject To A Compulsory Uninsured Motorists Law	Only those "autos" you own that because of the law in the state where they are licensed or principally garaged are required to have and cannot reject Uninsured Motorists Coverage. This includes those "autos" you acquire ownership of after the policy begins provided they are subject to the same state uninsured motorists requirement.
7	Specifically Described "Autos"	Only those "autos" described in Item Three of the Declarations for which a premium charge is shown (and for Covered Autos Liability Coverage any "trailers" you don't own while attached to any power unit described in Item Three).
8	Hired "Autos" Only	Only those "autos" you lease, hire, rent or borrow. This does not include any "auto" you lease, hire, rent or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households.
9	Non-owned "Autos" Only	Only those "autos" you do not own, lease, hire, rent or borrow that are used in connection with your business. This includes "autos" owned by your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households but only while used in your business or your personal affairs.

19	Mobile Equipment Subject To Compulsory Or Financial Responsibility Or Other Motor Vehicle Insurance Law Only	Only those "autos" that are land vehicles and that would qualify under the definition of "mobile equipment" under this policy if they were not subject to a compulsory or financial responsibility law or other motor vehicle insurance law where they are licensed or principally garaged.
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B. Owned Autos You Acquire After The Policy Begins

1. If Symbols 1, 2, 3, 4, 5, 6 or 19 are entered next to a coverage in Item Two of the Declarations, then you have coverage for "autos" that you acquire of the type described for the remainder of the policy period.
2. But, if Symbol 7 is entered next to a coverage in Item Two of the Declarations, an "auto" you acquire will be a covered "auto" for that coverage only if:
 - a. We already cover all "autos" that you own for that coverage or it replaces an "auto" you previously owned that had that coverage; and
 - b. You tell us within 30 days after you acquire it that you want us to cover it for that coverage.

C. Certain Trailers, Mobile Equipment And Temporary Substitute Autos

If Covered Autos Liability Coverage is provided by this Coverage Form, the following types of vehicles are also covered "autos" for Covered Autos Liability Coverage:

1. "Trailers" with a load capacity of 2,000 pounds or less designed primarily for travel on public roads.
2. "Mobile equipment" while being carried or towed by a covered "auto".
3. Any "auto" you do not own while used with the permission of its owner as a temporary substitute for a covered "auto" you own that is out of service because of its:
 - a. Breakdown;
 - b. Repair;
 - c. Servicing;
 - d. "Loss"; or
 - e. Destruction.

SECTION II – COVERED AUTOS LIABILITY COVERAGE

A. Coverage

We will pay all sums an "insured" legally must pay as damages because of "bodily injury" or "property damage" to which this insurance applies, caused by an "accident" and resulting from the ownership, maintenance or use of a covered "auto".

We will also pay all sums an "insured" legally must pay as a "covered pollution cost or expense" to which this insurance applies, caused by an "accident" and resulting from the ownership, maintenance or use of covered "autos". However, we will only pay for the "covered pollution cost or expense" if there is either "bodily injury" or "property damage" to which this insurance applies that is caused by the same "accident".

We have the right and duty to defend any "insured" against a "suit" asking for such damages or a "covered pollution cost or expense". However, we have no duty to defend any "insured" against a "suit" seeking damages for "bodily injury" or "property damage" or a "covered pollution cost or expense" to which this insurance does not apply. We may investigate and settle any claim or "suit" as we consider appropriate. Our duty to defend or settle ends when the Covered Autos Liability Coverage Limit of Insurance has been exhausted by payment of judgments or settlements.

1. Who Is An Insured

The following are "insureds":

- a. You for any covered "auto".
- b. Anyone else while using with your permission a covered "auto" you own, hire or borrow except:

- (1) The owner or anyone else from whom you hire or borrow a covered "auto".

This exception does not apply if the covered "auto" is a "trailer" connected to a covered "auto" you own.

- (2) Your "employee" if the covered "auto" is owned by that "employee" or a member of his or her household.
 - (3) Someone using a covered "auto" while he or she is working in a business of selling, servicing, repairing, parking or storing "autos" unless that business is yours.
 - (4) Anyone other than your "employees", partners (if you are a partnership), members (if you are a limited liability company) or a lessee or borrower or any of their "employees", while moving property to or from a covered "auto".
 - (5) A partner (if you are a partnership) or a member (if you are a limited liability company) for a covered "auto" owned by him or her or a member of his or her household.
- c. Anyone liable for the conduct of an "insured" described above but only to the extent of that liability.

2. Coverage Extensions

a. Supplementary Payments

We will pay for the "insured":

- (1) All expenses we incur.
- (2) Up to \$2,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.
- (3) The cost of bonds to release attachments in any "suit" against the "insured" we defend, but only for bond amounts within our Limit of Insurance.
- (4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to \$250 a day because of time off from work.
- (5) All court costs taxed against the "insured" in any "suit" against the "insured" we defend. However, these payments do not include attorneys' fees or attorneys' expenses taxed against the "insured".
- (6) All interest on the full amount of any judgment that accrues after entry of the judgment in any "suit" against the "insured" we defend, but our duty to pay interest ends when we have paid, offered to pay or deposited in court the part of the judgment that is within our Limit of Insurance.

These payments will not reduce the Limit of Insurance.

b. Out-of-state Coverage Extensions

While a covered "auto" is away from the state where it is licensed, we will:

- (1) Increase the Limit of Insurance for Covered Autos Liability Coverage to meet the limits specified by a compulsory or financial responsibility law of the jurisdiction where the covered "auto" is being used. This extension does not apply to the limit or limits specified by any law governing motor carriers of passengers or property.
- (2) Provide the minimum amounts and types of other coverages, such as no-fault, required of out-of-state vehicles by the jurisdiction where the covered "auto" is being used.

We will not pay anyone more than once for the same elements of loss because of these extensions.

B. Exclusions

This insurance does not apply to any of the following:

1. Expected Or Intended Injury

"Bodily injury" or "property damage" expected or intended from the standpoint of the "insured".

2. Contractual

Liability assumed under any contract or agreement.

But this exclusion does not apply to liability for damages:

- a. Assumed in a contract or agreement that is an "insured contract", provided the "bodily injury" or "property damage" occurs subsequent to the execution of the contract or agreement; or
- b. That the "insured" would have in the absence of the contract or agreement.

3. Workers' Compensation

Any obligation for which the "insured" or the "insured's" insurer may be held liable under any workers' compensation, disability benefits or unemployment compensation law or any similar law.

4. Employee Indemnification And Employer's Liability

"Bodily injury" to:

- a. An "employee" of the "insured" arising out of and in the course of:
 - (1) Employment by the "insured"; or
 - (2) Performing the duties related to the conduct of the "insured's" business; or
- b. The spouse, child, parent, brother or sister of that "employee" as a consequence of Paragraph a. above.

This exclusion applies:

- (1) Whether the "insured" may be liable as an employer or in any other capacity; and
- (2) To any obligation to share damages with or repay someone else who must pay damages because of the injury.

But this exclusion does not apply to "bodily injury" to domestic "employees" not entitled to workers' compensation benefits or to liability assumed by the "insured" under an "insured contract". For the purposes of the Coverage Form, a domestic "employee" is a person engaged in household or domestic work performed principally in connection with a residence premises.

5. Fellow Employee

"Bodily injury" to:

- a. Any fellow "employee" of the "insured" arising out of and in the course of the fellow "employee's" employment or while performing duties related to the conduct of your business; or
- b. The spouse, child, parent, brother or sister of that fellow "employee" as a consequence of Paragraph a. above.

6. Care, Custody Or Control

"Property damage" to or "covered pollution cost or expense" involving property owned or transported by the "insured" or in the "insured's" care, custody or control. But this exclusion does not apply to liability assumed under a sidetrack agreement.

7. Handling Of Property

"Bodily injury" or "property damage" resulting from the handling of property:

- a. Before it is moved from the place where it is accepted by the "insured" for movement into or onto the covered "auto"; or

- b. After it is moved from the covered "auto" to the place where it is finally delivered by the "insured".

8. Movement Of Property By Mechanical Device

"Bodily injury" or "property damage" resulting from the movement of property by a mechanical device (other than a hand truck) unless the device is attached to the covered "auto".

9. Operations

"Bodily injury" or "property damage" arising out of the operation of:

- a. Any equipment listed in Paragraphs 6.b. and 6.c. of the definition of "mobile equipment"; or
- b. Machinery or equipment that is on, attached to or part of a land vehicle that would qualify under the definition of "mobile equipment" if it were not subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged.

10. Completed Operations

"Bodily injury" or "property damage" arising out of your work after that work has been completed or abandoned.

In this exclusion, your work means:

- a. Work or operations performed by you or on your behalf; and
- b. Materials, parts or equipment furnished in connection with such work or operations.

Your work includes warranties or representations made at any time with respect to the fitness, quality, durability or performance of any of the items included in Paragraph a. or b. above.

Your work will be deemed completed at the earliest of the following times:

- (1) When all of the work called for in your contract has been completed;
- (2) When all of the work to be done at the site has been completed if your contract calls for work at more than one site; or
- (3) When that part of the work done at a job site has been put to its intended use by any person or organization other than another contractor or subcontractor working on the same project.

Work that may need service, maintenance, correction, repair or replacement, but which is otherwise complete, will be treated as completed.

11. Pollution

"Bodily injury" or "property damage" arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":

- a. That are, or that are contained in any property that is:
 - (1) Being transported or towed by, handled or handled for movement into, onto or from the covered "auto";
 - (2) Otherwise in the course of transit by or on behalf of the "insured"; or
 - (3) Being stored, disposed of, treated or processed in or upon the covered "auto";
- b. Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or
- c. After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".

Paragraph a. above does not apply to fuels, lubricants, fluids, exhaust gases or other similar "pollutants" that are needed for or result from the normal electrical, hydraulic or mechanical functioning of the covered "auto" or its parts if:

- (1) The "pollutants" escape, seep, migrate or are discharged, dispersed or released directly from an "auto" part designed by its manufacturer to hold, store, receive or dispose of such "pollutants"; and
- (2) The "bodily injury", "property damage" or "covered pollution cost or expense" does not arise out of the operation of any equipment listed in Paragraphs 6.b. and 6.c. of the definition of "mobile equipment".

Paragraphs b. and c. above of this exclusion do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:

- (a) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and
- (b) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.

12. War

"Bodily injury" or "property damage" arising directly or indirectly out of:

- a. War, including undeclared or civil war;
- b. Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- c. Insurrection, rebellion, revolution, usurped power or action taken by governmental authority in hindering or defending against any of these.

13. Racing

Covered "autos" while used in any professional or organized racing or demolition contest or stunting activity, or while practicing for such contest or activity. This insurance also does not apply while that covered "auto" is being prepared for such a contest or activity.

C. Limit Of Insurance

Regardless of the number of covered "autos", "insureds", premiums paid, claims made or vehicles involved in the "accident", the most we will pay for the total of all damages and "covered pollution cost or expense" combined resulting from any one "accident" is the Limit Of Insurance for Covered Autos Liability Coverage shown in the Declarations.

All "bodily injury", "property damage" and "covered pollution cost or expense" resulting from continuous or repeated exposure to substantially the same conditions will be considered as resulting from one "accident".

No one will be entitled to receive duplicate payments for the same elements of "loss" under this Coverage Form and any Medical Payments Coverage endorsement, Uninsured Motorists Coverage endorsement or Underinsured Motorists Coverage endorsement attached to this Coverage Part.

SECTION III – PHYSICAL DAMAGE COVERAGE

A. Coverage

1. We will pay for "loss" to a covered "auto" or its equipment under:

a. Comprehensive Coverage

From any cause except:

- (1) The covered "auto's" collision with another object; or
- (2) The covered "auto's" overturn.

b. Specified Causes Of Loss Coverage

Caused by:

- (1) Fire, lightning or explosion;
- (2) Theft;
- (3) Windstorm, hail or earthquake;
- (4) Flood;
- (5) Mischief or vandalism; or
- (6) The sinking, burning, collision or derailment of any conveyance transporting the covered "auto".

c. Collision Coverage

Caused by:

- (1) The covered "auto's" collision with another object; or
- (2) The covered "auto's" overturn.

2. Towing

We will pay up to the limit shown in the Declarations for towing and labor costs incurred each time a covered "auto" of the private passenger type is disabled. However, the labor must be performed at the place of disablement.

3. Glass Breakage – Hitting A Bird Or Animal – Falling Objects Or Missiles

If you carry Comprehensive Coverage for the damaged covered "auto", we will pay for the following under Comprehensive Coverage:

- a. Glass breakage;
- b. "Loss" caused by hitting a bird or animal; and
- c. "Loss" caused by falling objects or missiles.

However, you have the option of having glass breakage caused by a covered "auto's" collision or overturn considered a "loss" under Collision Coverage.

4. Coverage Extensions

a. Transportation Expenses

We will pay up to \$20 per day, to a maximum of \$600, for temporary transportation expense incurred by you because of the total theft of a covered "auto" of the private passenger type. We will pay only for those covered "autos" for which you carry either Comprehensive or Specified Causes Of Loss Coverage. We will pay for temporary transportation expenses incurred during the period beginning 48 hours after the theft and ending, regardless of the policy's expiration, when the covered "auto" is returned to use or we pay for its "loss".

b. Loss Of Use Expenses

For Hired Auto Physical Damage, we will pay expenses for which an "insured" becomes legally responsible to pay for loss of use of a vehicle rented or hired without a driver under a written rental contract or agreement. We will pay for loss of use expenses if caused by:

- (1) Other than collision only if the Declarations indicates that Comprehensive Coverage is provided for any covered "auto";
- (2) Specified Causes Of Loss only if the Declarations indicates that Specified Causes Of Loss Coverage is provided for any covered "auto"; or

- (3) Collision only if the Declarations indicates that Collision Coverage is provided for any covered "auto".

However, the most we will pay for any expenses for loss of use is \$20 per day, to a maximum of \$600.

B. Exclusions

1. We will not pay for "loss" caused by or resulting from any of the following. Such "loss" is excluded regardless of any other cause or event that contributes concurrently or in any sequence to the "loss".

a. Nuclear Hazard

- (1) The explosion of any weapon employing atomic fission or fusion; or
- (2) Nuclear reaction or radiation, or radioactive contamination, however caused.

b. War Or Military Action

- (1) War, including undeclared or civil war;
- (2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power or action taken by governmental authority in hindering or defending against any of these.

2. We will not pay for "loss" to any covered "auto" while used in any professional or organized racing or demolition contest or stunting activity, or while practicing for such contest or activity. We will also not pay for "loss" to any covered "auto" while that covered "auto" is being prepared for such a contest or activity.

3. We will not pay for "loss" due and confined to:
 - a. Wear and tear, freezing, mechanical or electrical breakdown.
 - b. Blowouts, punctures or other road damage to tires.

This exclusion does not apply to such "loss" resulting from the total theft of a covered "auto".

4. We will not pay for "loss" to any of the following:
 - a. Tapes, records, discs or other similar audio, visual or data electronic devices designed for use with audio, visual or data electronic equipment.

- b. Any device designed or used to detect speed-measuring equipment, such as radar or laser detectors, and any jamming apparatus intended to elude or disrupt speed-measuring equipment.

- c. Any electronic equipment, without regard to whether this equipment is permanently installed, that reproduces, receives or transmits audio, visual or data signals.

- d. Any accessories used with the electronic equipment described in Paragraph c. above.

5. Exclusions 4.c. and 4.d. do not apply to equipment designed to be operated solely by use of the power from the "auto's" electrical system that, at the time of "loss", is:

- a. Permanently installed in or upon the covered "auto";

- b. Removable from a housing unit which is permanently installed in or upon the covered "auto";

- c. An integral part of the same unit housing any electronic equipment described in Paragraphs a. and b. above; or

- d. Necessary for the normal operation of the covered "auto" or the monitoring of the covered "auto's" operating system.

6. We will not pay for "loss" to a covered "auto" due to "diminution in value".

C. Limits Of Insurance

1. The most we will pay for:

- a. "Loss" to any one covered "auto" is the lesser of:

- (1) The actual cash value of the damaged or stolen property as of the time of the "loss"; or

- (2) The cost of repairing or replacing the damaged or stolen property with other property of like kind and quality.

- b. All electronic equipment that reproduces, receives or transmits audio, visual or data signals in any one "loss" is \$1,000, if, at the time of "loss", such electronic equipment is:

- (1) Permanently installed in or upon the covered "auto" in a housing, opening or other location that is not normally used by the "auto" manufacturer for the installation of such equipment;

- (2) Removable from a permanently installed housing unit as described in Paragraph b.(1) above; or
 - (3) An integral part of such equipment as described in Paragraphs b.(1) and b.(2) above.
2. An adjustment for depreciation and physical condition will be made in determining actual cash value in the event of a total "loss".
 3. If a repair or replacement results in better than like kind or quality, we will not pay for the amount of the betterment.

D. Deductible

For each covered "auto", our obligation to pay for, repair, return or replace damaged or stolen property will be reduced by the applicable deductible shown in the Declarations. Any Comprehensive Coverage deductible shown in the Declarations does not apply to "loss" caused by fire or lightning.

SECTION IV – BUSINESS AUTO CONDITIONS

The following conditions apply in addition to the Common Policy Conditions:

A. Loss Conditions

1. Appraisal For Physical Damage Loss

If you and we disagree on the amount of "loss", either may demand an appraisal of the "loss". In this event, each party will select a competent appraiser. The two appraisers will select a competent and impartial umpire. The appraisers will state separately the actual cash value and amount of "loss". If they fail to agree, they will submit their differences to the umpire. A decision agreed to by any two will be binding. Each party will:

- a. Pay its chosen appraiser; and
- b. Bear the other expenses of the appraisal and umpire equally.

If we submit to an appraisal, we will still retain our right to deny the claim.

2. Duties In The Event Of Accident, Claim, Suit Or Loss

We have no duty to provide coverage under this policy unless there has been full compliance with the following duties:

- a. In the event of "accident", claim, "suit" or "loss", you must give us or our authorized representative prompt notice of the "accident" or "loss". Include:
 - (1) How, when and where the "accident" or "loss" occurred;

- (2) The "insured's" name and address; and
 - (3) To the extent possible, the names and addresses of any injured persons and witnesses.
- b. Additionally, you and any other involved "insured" must:
- (1) Assume no obligation, make no payment or incur no expense without our consent, except at the "insured's" own cost.
 - (2) Immediately send us copies of any request, demand, order, notice, summons or legal paper received concerning the claim or "suit".
 - (3) Cooperate with us in the investigation or settlement of the claim or defense against the "suit".
 - (4) Authorize us to obtain medical records or other pertinent information.
 - (5) Submit to examination, at our expense, by physicians of our choice, as often as we reasonably require.

c. If there is "loss" to a covered "auto" or its equipment, you must also do the following:

- (1) Promptly notify the police if the covered "auto" or any of its equipment is stolen.
- (2) Take all reasonable steps to protect the covered "auto" from further damage. Also keep a record of your expenses for consideration in the settlement of the claim.
- (3) Permit us to inspect the covered "auto" and records proving the "loss" before its repair or disposition.
- (4) Agree to examinations under oath at our request and give us a signed statement of your answers.

3. Legal Action Against Us

No one may bring a legal action against us under this Coverage Form until:

- a. There has been full compliance with all the terms of this Coverage Form; and
- b. Under Covered Autos Liability Coverage, we agree in writing that the "insured" has an obligation to pay or until the amount of that obligation has finally been determined by judgment after trial. No one has the right under this policy to bring us into an action to determine the "insured's" liability.

4. Loss Payment – Physical Damage Coverages

At our option, we may:

- a. Pay for, repair or replace damaged or stolen property;
- b. Return the stolen property, at our expense. We will pay for any damage that results to the "auto" from the theft; or
- c. Take all or any part of the damaged or stolen property at an agreed or appraised value.

If we pay for the "loss", our payment will include the applicable sales tax for the damaged or stolen property.

5. Transfer Of Rights Of Recovery Against Others To Us

If any person or organization to or for whom we make payment under this Coverage Form has rights to recover damages from another, those rights are transferred to us. That person or organization must do everything necessary to secure our rights and must do nothing after "accident" or "loss" to impair them.

B. General Conditions

1. Bankruptcy

Bankruptcy or insolvency of the "insured" or the "insured's" estate will not relieve us of any obligations under this Coverage Form.

2. Concealment, Misrepresentation Or Fraud

This Coverage Form is void in any case of fraud by you at any time as it relates to this Coverage Form. It is also void if you or any other "insured", at any time, intentionally conceals or misrepresents a material fact concerning:

- a. This Coverage Form;
- b. The covered "auto";
- c. Your interest in the covered "auto"; or
- d. A claim under this Coverage Form.

3. Liberalization

If we revise this Coverage Form to provide more coverage without additional premium charge, your policy will automatically provide the additional coverage as of the day the revision is effective in your state.

4. No Benefit To Bailee – Physical Damage Coverages

We will not recognize any assignment or grant any coverage for the benefit of any person or organization holding, storing or transporting property for a fee regardless of any other provision of this Coverage Form.

5. Other Insurance

a. For any covered "auto" you own, this Coverage Form provides primary insurance. For any covered "auto" you don't own, the insurance provided by this Coverage Form is excess over any other collectible insurance. However, while a covered "auto" which is a "trailer" is connected to another vehicle, the Covered Autos Liability Coverage this Coverage Form provides for the "trailer" is:

- (1) Excess while it is connected to a motor vehicle you do not own; or
- (2) Primary while it is connected to a covered "auto" you own.

b. For Hired Auto Physical Damage Coverage, any covered "auto" you lease, hire, rent or borrow is deemed to be a covered "auto" you own. However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".

c. Regardless of the provisions of Paragraph a. above, this Coverage Form's Covered Autos Liability Coverage is primary for any liability assumed under an "insured contract".

d. When this Coverage Form and any other Coverage Form or policy covers on the same basis, either excess or primary, we will pay only our share. Our share is the proportion that the Limit of Insurance of our Coverage Form bears to the total of the limits of all the Coverage Forms and policies covering on the same basis.

6. Premium Audit

a. The estimated premium for this Coverage Form is based on the exposures you told us you would have when this policy began. We will compute the final premium due when we determine your actual exposures. The estimated total premium will be credited against the final premium due and the first Named Insured will be billed for the balance, if any. The due date for the final premium or retrospective premium is the date shown as the due date on the bill. If the estimated total premium exceeds the final premium due, the first Named Insured will get a refund.

b. If this policy is issued for more than one year, the premium for this Coverage Form will be computed annually based on our rates or premiums in effect at the beginning of each year of the policy.

7. Policy Period, Coverage Territory

Under this Coverage Form, we cover "accidents" and "losses" occurring:

- a. During the policy period shown in the Declarations; and
- b. Within the coverage territory.

The coverage territory is:

- (1) The United States of America;
- (2) The territories and possessions of the United States of America;
- (3) Puerto Rico;
- (4) Canada; and
- (5) Anywhere in the world if a covered "auto" of the private passenger type is leased, hired, rented or borrowed without a driver for a period of 30 days or less,

provided that the "insured's" responsibility to pay damages is determined in a "suit" on the merits, in the United States of America, the territories and possessions of the United States of America, Puerto Rico or Canada, or in a settlement we agree to.

We also cover "loss" to, or "accidents" involving, a covered "auto" while being transported between any of these places.

8. Two Or More Coverage Forms Or Policies Issued By Us

If this Coverage Form and any other Coverage Form or policy issued to you by us or any company affiliated with us applies to the same "accident", the aggregate maximum Limit of Insurance under all the Coverage Forms or policies shall not exceed the highest applicable Limit of Insurance under any one Coverage Form or policy. This condition does not apply to any Coverage Form or policy issued by us or an affiliated company specifically to apply as excess insurance over this Coverage Form.

SECTION V – DEFINITIONS

- A. "Accident" includes continuous or repeated exposure to the same conditions resulting in "bodily injury" or "property damage".
- B. "Auto" means:
 1. A land motor vehicle, "trailer" or semitrailer designed for travel on public roads; or

2. Any other land vehicle that is subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged.

However, "auto" does not include "mobile equipment".

- C. "Bodily injury" means bodily injury, sickness or disease sustained by a person, including death resulting from any of these.
- D. "Covered pollution cost or expense" means any cost or expense arising out of:
 1. Any request, demand, order or statutory or regulatory requirement that any "insured" or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants"; or
 2. Any claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of, "pollutants".

"Covered pollution cost or expense" does not include any cost or expense arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":

- a. That are, or that are contained in any property that is:
 - (1) Being transported or towed by, handled or handled for movement into, onto or from the covered "auto";
 - (2) Otherwise in the course of transit by or on behalf of the "insured"; or
 - (3) Being stored, disposed of, treated or processed in or upon the covered "auto";
- b. Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or
- c. After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".

Paragraph a. above does not apply to fuels, lubricants, fluids, exhaust gases or other similar "pollutants" that are needed for or result from the normal electrical, hydraulic or mechanical functioning of the covered "auto" or its parts, if:

- (1) The "pollutants" escape, seep, migrate or are discharged, dispersed or released directly from an "auto" part designed by its manufacturer to hold, store, receive or dispose of such "pollutants"; and
- (2) The "bodily injury", "property damage" or "covered pollution cost or expense" does not arise out of the operation of any equipment listed in Paragraph 6.b. or 6.c. of the definition of "mobile equipment".

Paragraphs b. and c. above do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:

- (a) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and
- (b) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.

- E. "Diminution in value" means the actual or perceived loss in market value or resale value which results from a direct and accidental "loss".
- F. "Employee" includes a "leased worker". "Employee" does not include a "temporary worker".
- G. "Insured" means any person or organization qualifying as an insured in the Who Is An Insured provision of the applicable coverage. Except with respect to the Limit of Insurance, the coverage afforded applies separately to each insured who is seeking coverage or against whom a claim or "suit" is brought.
- H. "Insured contract" means:
1. A lease of premises;
 2. A sidetrack agreement;
 3. Any easement or license agreement, except in connection with construction or demolition operations on or within 50 feet of a railroad;
 4. An obligation, as required by ordinance, to indemnify a municipality, except in connection with work for a municipality;

5. That part of any other contract or agreement pertaining to your business (including an indemnification of a municipality in connection with work performed for a municipality) under which you assume the tort liability of another to pay for "bodily injury" or "property damage" to a third party or organization. Tort liability means a liability that would be imposed by law in the absence of any contract or agreement; or
6. That part of any contract or agreement entered into, as part of your business, pertaining to the rental or lease, by you or any of your "employees", of any "auto". However, such contract or agreement shall not be considered an "insured contract" to the extent that it obligates you or any of your "employees" to pay for "property damage" to any "auto" rented or leased by you or any of your "employees".

An "insured contract" does not include that part of any contract or agreement:

- a. That indemnifies a railroad for "bodily injury" or "property damage" arising out of construction or demolition operations, within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, roadbeds, tunnel, underpass or crossing;
 - b. That pertains to the loan, lease or rental of an "auto" to you or any of your "employees", if the "auto" is loaned, leased or rented with a driver; or
 - c. That holds a person or organization engaged in the business of transporting property by "auto" for hire harmless for your use of a covered "auto" over a route or territory that person or organization is authorized to serve by public authority.
- I. "Leased worker" means a person leased to you by a labor leasing firm under an agreement between you and the labor leasing firm to perform duties related to the conduct of your business. "Leased worker" does not include a "temporary worker".
- J. "Loss" means direct and accidental loss or damage.
- K. "Mobile equipment" means any of the following types of land vehicles, including any attached machinery or equipment:
1. Bulldozers, farm machinery, forklifts and other vehicles designed for use principally off public roads;
 2. Vehicles maintained for use solely on or next to premises you own or rent;
 3. Vehicles that travel on crawler treads;

4. Vehicles, whether self-propelled or not, maintained primarily to provide mobility to permanently mounted:
 - a. Power cranes, shovels, loaders, diggers or drills; or
 - b. Road construction or resurfacing equipment such as graders, scrapers or rollers;
5. Vehicles not described in Paragraph 1., 2., 3. or 4. above that are not self-propelled and are maintained primarily to provide mobility to permanently attached equipment of the following types:
 - a. Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well-servicing equipment; or
 - b. Cherry pickers and similar devices used to raise or lower workers; or
6. Vehicles not described in Paragraph 1., 2., 3. or 4. above maintained primarily for purposes other than the transportation of persons or cargo. However, self-propelled vehicles with the following types of permanently attached equipment are not "mobile equipment" but will be considered "autos":
 - a. Equipment designed primarily for:
 - (1) Snow removal;
 - (2) Road maintenance, but not construction or resurfacing; or
 - (3) Street cleaning;
 - b. Cherry pickers and similar devices mounted on automobile or truck chassis and used to raise or lower workers; and
 - c. Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting or well-servicing equipment.

However, "mobile equipment" does not include land vehicles that are subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged. Land vehicles subject to a compulsory or financial responsibility law or other motor vehicle insurance law are considered "autos".

- L. "Pollutants" means any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.
- M. "Property damage" means damage to or loss of use of tangible property.
- N. "Suit" means a civil proceeding in which:
 1. Damages because of "bodily injury" or "property damage"; or
 2. A "covered pollution cost or expense";
 to which this insurance applies, are alleged.
 "Suit" includes:
 - a. An arbitration proceeding in which such damages or "covered pollution costs or expenses" are claimed and to which the "insured" must submit or does submit with our consent; or
 - b. Any other alternative dispute resolution proceeding in which such damages or "covered pollution costs or expenses" are claimed and to which the insured submits with our consent.
- O. "Temporary worker" means a person who is furnished to you to substitute for a permanent "employee" on leave or to meet seasonal or short-term workload conditions.
- P. "Trailer" includes semitrailer.

Insured: Guttman & Blaevoet
 Policy Number: 648863360

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BUSINESS AUTO ENHANCEMENT ENDORSEMENT

Coverage provided under this policy is modified by the attachment of this endorsement. If there is any conflict in coverage provisions between this form and any state specific endorsement also attached to this policy, the provision(s) of the state specific form shall apply.

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

In **SECTION I - COVERED AUTOS**, the following changes are made:

The following is added:

D. Physical Damage Coverage for Temporary Substitute and Leased Autos

If Physical Damage Coverage is provided by this policy, the following kinds of "autos" are covered "autos" for the same coverages provided by the policy:

1. Any private passenger "auto", or other than private passenger vehicle with gross vehicle weight of 20,000 lbs. or less, you do not own while used with the permission of the owner as a temporary substitute for a covered "auto" you own that is out of service because of its:
 - a. Breakdown;
 - b. Repair;
 - c. Servicing;
 - d. "Loss"; or
 - e. Destruction.
2. Private passenger "autos" and other than private passenger vehicles with gross vehicle weight of 10,000 lbs. or less, leased, hired, rented, or borrowed for a period of 30 days or less. This does not include any vehicle you lease, hire, rent, or borrow from any of your "employees" or partners or members of their households.

In **SECTION II - LIABILITY COVERAGE**, the following changes are made:

Under **A. Coverage, Who Is An Insured**, the following is added:

- d. Any organization, other than a partnership or joint venture, over which you maintain ownership or in which you hold a majority interest. This provision applies only if there is no similar insurance provided to that organization.
- e. Any organization you acquire or form after policy inception, other than a partnership or joint venture, over which you maintain ownership, or in which you hold a majority interest. Coverage under this provision does not apply;
 - (1) If there is similar insurance provided to that organization; or
 - (2) To "bodily injury" or "property damage" that occurred before you acquired or formed the organization.
- f. Any person or organization that you are required to name as an additional insured under the terms of a written job contract, or by written insurance requirements executed prior to any covered "loss" or claim. This protection applies only if the person or organization is liable for the conduct of an "insured" and only to the extent of that liability.

Under **A. Coverage, Coverage Extensions, Supplementary Payments**, subparagraphs (2) and (4) are replaced with the following:

- (2) Up to \$5,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

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- (4) All reasonable expenses incurred by the "insured" at our request, including loss of earnings up to \$500 a day because of time off from work.

Under **B. Exclusions, Fellow Employee**, the following paragraph is added:

But this exclusion does not apply to "bodily injury" to a fellow "employee" caused by any person whose position within the insured organization is at or above the level of manager or supervisor.

Coverage afforded by this provision is excess over any other collectible insurance.

In **SECTION III - PHYSICAL DAMAGE COVERAGE**, the following changes are made:

Under **A. Coverage, Glass Breakage - Hitting A Bird Or Animal - Falling Objects Or Missiles**, the following is added:

If damage to glass is repaired in lieu of being replaced, no deductible will apply for repair only.

Under **A. Coverage, Coverage Extensions**, the following is added:

c. Personal Effects Coverage

In the event of a total theft of your covered "auto", for which you carry either Comprehensive or Specified Causes of Loss coverage, we will pay up to \$500 for the personal effects which are:

1. owned by you; and
2. in your covered "auto" at the time of the total theft of such "auto".

No deductible applies to Personal Effects Coverage.

Under **A. Coverage**, the following is added:

5. Lease and Loan Gap Coverage

In the event of a total "loss" to a covered "auto" shown in the Schedule or Declarations for which a specific premium charge indicates that physical damage coverage applies, we will pay any unpaid amount due on the lease or loan for a covered "auto", less:

- a. The amount paid under the Physical Damage Coverage section of the policy; and
- b. Any:
 - (1) Overdue lease/loan payments at the time of the "loss";
 - (2) Financial penalties imposed under a lease for excessive use, abnormal wear and tear or high mileage;
 - (3) Security deposits not returned by the lessor;

- (4) Costs for extended warranties, Credit Life Insurance, Health, Accident or Disability Insurance purchased with the loan or lease; and

- (5) Carry-over balances from previous loans or leases.

Under **D. Deductible**, the following paragraph is added:

When Collision Coverage is provided by this policy, the deductible amount will not be subtracted from the loss payment in collisions involving your covered "auto" and another auto covered by Allstate Insurance Company or any of its affiliates.

In **SECTION IV - BUSINESS AUTO CONDITIONS**, the following changes are made:

Under **A. Loss Conditions, Duties In The Event Of Accident, Claim, Suit Or Loss Condition**, the following is added under subpart a:

Knowledge of an "accident" or "loss" by any of your agents, servants or "employees" shall not in itself constitute knowledge by you, unless you or one of your corporate officers or managers, or any assignee, shall have received such notice from the agent, servant or "employee".

When you report an occurrence of any "accident" or "loss" to a Worker's Compensation carrier or self insured plan providing the named insured's Worker's Compensation insurance which later develops into a claim submitted under this policy, failure to report such "accident" or "loss" to us at the same time shall not be deemed a violation of this condition. After you become aware of such liability claim arising from the "accident" or "loss", you must give us prompt notice.

Under **A. Loss Conditions, Transfer of Rights of Recovery Against Others To Us**, the following is added:

We waive any right of recovery we may have against any person or organization because of payments we make for injury or damage arising out of work you perform under a contract with such person or organization, in which you have agreed to waive your right of such recovery.

Waiver of Subrogation

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Under **B. General Conditions, Concealment, Misrepresentation Or Fraud**, the following is added:

This condition does not apply to any omission or failure to provide material facts if the omission or failure was unintentional.

Insured: Guttman and Blaevoet

Policy Number: 648863360

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PW Energy SW MEA: 23-701 Guttman & Blaevoet

Final Audit Report

2023-10-31

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