SCOPE OF WORK

Energy Audit & Cogeneration (CHP) Feasibility Study

Albert C. Wagner and Garden State Youth Correctional Facilities
Chesterfield Township, Burlington County, N.J.

PROJECT NO. A1220-00

STATE OF NEW JERSEY

Honorable Chris Christie, Governor
Honorable Kim Guadagno, Lt. Governor

DEPARTMENT OF THE TREASURY
Ford M. Scudder, Acting Treasurer

DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

Steven Sutkin, Director

Date: December 22, 2015
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I. LIST OF BUILDINGS AT GARDEN STATE FACILITY TO BE INCLUDED IN THE STUDY
I. OBJECTIVE

The objective of this project is to conduct a comprehensive Energy Audit of Albert C. Wagner and Garden State Youth Correctional Facilities to identify potential Energy Conservation Measures (ECM’s), the projected savings of each ECM, and the cost to implement each ECM. The report will be the first phase of an Energy Savings Improvement Plan per N.J.S.A. 52:34-25.

In addition, the Consultant shall identify and evaluate any viable renewable/distributed energy technologies for the joint facilities including a comprehensive feasibility study for a new Cogeneration Combined Heat and Power (CHP) plant.

II. CONSULTANT QUALIFICATIONS

The Consultant shall be a firm pre-qualified with the Division of Property Management & Construction (DPMC) in the P051 Energy Auditing Discipline and have in-house capabilities or Sub-Consultants pre-qualified with DPMC in the P025 Estimating/Cost Analysis Discipline and all other Architectural, Engineering and Specialty Disciplines necessary to complete the project as described in this Scope of Work (SOW).

The firm shall also demonstrate that they have previous experience in conducting energy audits of other campus type facility infrastructure, similar in size and scope to this project.

III. PROJECT COST ESTIMATE

The Consultant shall estimate all costs associated with the recommendations made in the Energy Audit and Cogeneration (CHP) Feasibility Study, including but not limited to, construction costs, design and construction administration fees, affirmative action, DPMC management fees, construction management services, building commissioning, monitoring fees, testing and survey services, inspection fees, contingencies, permits, allowances, and escalation factors for the anticipated construction year(s) of the improvements.

The cost estimate shall be adjusted for items including, but not limited to premium time, construction phasing, regional location, site environmental factors, weather conditions, restrictions regarding the contractor’s use of the premises, imposed constraints caused by Client Agency program schedules or building occupants, temporary relocation and moving costs, demolition costs, removal of hazardous materials, location of work within the buildings, maximum security issues, utility interruption and shut down constraints caused by building use,
and concurrent construction activities with other projects at the facility. The estimate shall be prepared to show an estimated cost for each facility separately.

IV. PROJECT SCHEDULE

A. SCOPE OF WORK DESIGN & CONSTRUCTION SCHEDULE

The following schedule identifies the estimated design and construction phases for this project and the estimated durations.

<table>
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<th>ESTIMATED DURATION (Calendar Days)</th>
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<td>2. CHP Preliminary Study Phase (25% Completion)</td>
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<tr>
<td>• Project Team &amp; DPMC Review &amp; Comment</td>
<td>7</td>
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<td>3. CHP Draft (90% Completion)</td>
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<tr>
<td>• Project Team &amp; DPMC Review &amp; Comment</td>
<td>7</td>
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<td>4. CHP Final (100% Completion)</td>
<td>7</td>
</tr>
<tr>
<td>• Project Team &amp; DPMC Review &amp; Approval</td>
<td>7</td>
</tr>
<tr>
<td>5. Energy Audit Preliminary Phase (25% Completion)</td>
<td>14</td>
</tr>
<tr>
<td>• Project Team &amp; DPMC Review &amp; Comment</td>
<td>7</td>
</tr>
<tr>
<td>6. Energy Audit Draft Phase (90% Completion)</td>
<td>35</td>
</tr>
<tr>
<td>• Project Team &amp; DPMC Review &amp; Comment</td>
<td>14</td>
</tr>
<tr>
<td>7. Energy Audit Final Phase (100% Completion)</td>
<td>14</td>
</tr>
<tr>
<td>• Project Team &amp; DPMC Review &amp; Approval</td>
<td>7</td>
</tr>
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NOTE: The CHP and Energy Audit tasks can proceed concurrently.

B. CONSULTANT'S PROPOSED PROJECT SCHEDULE

The Consultant shall submit a Gantt chart schedule with their technical proposal that reflects their projected schedule to perform the Energy Audit and Cogeneration (CHP) Feasibility Study described in this Scope of Work. The schedule shall include overall task phases above including review and approval periods. Additional tasks should include at a minimum data logger installation, building survey, lighting survey, envelop survey, HVAC evaluation, motor
evaluation, process energy use survey, data logger collection, data analysis, ECM Evaluation, demand response evaluation, presentation of draft report, review of draft report, presentation of final report and approval of final report.

This schedule will be reviewed by the Consultant Selection Committee as part of the evaluation process and will be assigned a score commensurate with the information provided.

V. PROJECT SITE LOCATION & TEAM MEMBERS

A. PROJECT SITE ADDRESS

The location of the project sites are:

Albert C. Wagner Correctional Facility  Garden State Youth Correctional Facility
454 Ward Ave  55 Hogback Road
Chesterfield Twp., NJ 08505  Crosswicks, New Jersey 08515
GPS Coordinates: 40.154538, -74.670043  GPS Coordinates: 40.160653, -74.682203

See Exhibits ‘A’ and ‘B’ for the project site maps.

B. PROJECT TEAM MEMBER DIRECTORY

The following are the names, addresses, and phone numbers of the Project Team members.

1. DPMC Representative:

<table>
<thead>
<tr>
<th>Name:</th>
<th>William Golubinski, Manager – Energy Initiatives Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>Division of Property Management &amp; Construction</td>
</tr>
<tr>
<td></td>
<td>20 West State Street, 3rd Floor</td>
</tr>
<tr>
<td></td>
<td>Trenton, NJ 08608-1206</td>
</tr>
<tr>
<td>Phone No:</td>
<td>(609) 292-5210</td>
</tr>
<tr>
<td>E-Mail No:</td>
<td><a href="mailto:william.golubinski@treas.nj.gov">william.golubinski@treas.nj.gov</a></td>
</tr>
</tbody>
</table>

2. Department of Corrections:

<table>
<thead>
<tr>
<th>Name:</th>
<th>William Shipp, Project Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>Department of Corrections</td>
</tr>
<tr>
<td></td>
<td>P.O. Box 863</td>
</tr>
<tr>
<td></td>
<td>Trenton, New Jersey 08625</td>
</tr>
<tr>
<td>Phone No:</td>
<td>(609) 826-5645</td>
</tr>
<tr>
<td>E-Mail No:</td>
<td><a href="mailto:william.shipp@doc.nj.gov">william.shipp@doc.nj.gov</a></td>
</tr>
</tbody>
</table>
3. New Jersey Board of Public Utilities:

Name: Michael Thulen, ESIP Coordinator
Address: Board of Public Utilities
        44 South Clinton Avenue
        Trenton, New Jersey 08625-0350
Phone No: (609) 777-3338
E-Mail No: michael.thulen@bpu.state.nj.us

VI. PROJECT DEFINITION

A. BACKGROUND

Albert Wagner Youth Correctional Facility is a mixed custody prison for youthful offenders, and
has a minimum custody unit, a medium security unit and a close custody unit for administrative
segregation and maximum security. The main building is a minimum security facility housing
840 inmates, with 2 additional minimum security buildings housing 196 inmates. There is a 243
bed maximum security administrative facility on the campus.

The campus has 25 mixed use structures including; inmate dormitories, kitchen and laundry
facilities, power house, water and sewage treatment plants and walk in freezer units. Most of
these buildings operate on a 24X7 basis. Most of the structures on campus are brick or masonry
and constructed around 1968.

The Garden State Youth Correctional Facility is a separate secure campus located adjacent to the
Albert Wagner Youth Correctional Facility. Opened in 1968, it houses a staff of 532 and an
inmate population of 1754. It is a mixed custody facility that has a dedicated minimum security
unit and a main facility that houses medium to maximum security youthful offenders. Offenders
at Garden State Youth Correctional Facility are required to participate in a full day of vocational
training, educational classes or work. The majority of the structures on campus are constructed of
concrete masonry.

Utilities for the Albert Wagner facility are provided from a central power plant location
including electrical service (from Public Service Electric & Gas), steam (high & low pressure)
from gas fired boilers (gas supply from PSE&G).

Some windows have recently been replaced at the Wagner facility, particularly in B, D and E
Wings. Some lights have been upgraded at both facilities. Existing documentation from past
studies and projects will be provided to the selected Consultant. See Exhibits ‘H’ and ‘I’ for a
list of buildings at each facility that are part of the project.
VII. CONSULTANT RESPONSIBILITIES

The information provided in this section of the Scope of Work is intended as a guide for the Consultant to understand the overall basic objective of the Energy Audit and Cogeneration (CHP) Feasibility Study for this project. The Consultant is expected to use their professional judgment to include items that may not be listed and that will demonstrate major energy savings for the facility and identify the technical, economic, and environmental benefits of a cogeneration combined heat and power plant.

A. PROJECT COMMENCEMENT

Prior to the start of the Energy Audit and Cogeneration (CHP) Feasibility Study, the Consultant shall meet with the members of the Project Team to obtain and/or coordinate the following information:

1. Scope of Work Review:

Conduct a meeting with the Project Team members and approved facility representatives to discuss the objective of the project scope of work, the project schedule, and the procedures that will be used by the Consultant to inspect the buildings, equipment, systems, and facility infrastructure for the Energy Audit and Cogeneration (CHP) Feasibility Study. Request necessary data (energy bills, maintenance records, major equipment inventory including which equipment specific data, building plans, list of maintenance staff (by titles and qualifications only). The State utilizes an energy tracking and bill management system from which this data can be retrieved.

2. Site Visit Policies:

Review the Albert C. Wagner and Garden State Youth Correctional Facility Contractor Rules with the Project Team and edit the documents so that they are specific to this project and add any additional special security and policy requirements that must be followed during all work conducted at the facility.


In addition, background checks and PREA (Prison Rape Elimination Act) training will be required. Refer to Exhibit ‘E’, “Application for Clearance and Issuance of Identification Cards”. This form shall be filled out for each facility with two original signatures. Include with each application a copy of a valid driver’s license or “naturalization papers”.
Develop a project directory that identifies the name and phone numbers of key designated representatives of the facility that must be contacted to arrange the project site visits and building inspections.

Review the contractor rules with all personnel that will be conducting the Energy Audit and Cogeneration Feasibility Study to ensure they comply with the rules and regulations of the facility.

3. Existing Documentation:

The following documentation will be provided to the awarded consultant:


Review these documents and any additional information that may be provided at a later date such as reports, studies, surveys, equipment manuals, as-built drawings, etc. The State does not attest to the accuracy of the information provided and accepts no responsibility for the consequences of errors by the use of any information and material contained in the documentation provided. It shall be the responsibility of the Consultant to verify the contents and assume full responsibility for any determination or conclusion drawn from the material used. If the information provided is insufficient, the Consultant shall take the appropriate actions necessary to obtain the additional information required.

All original documentation shall be returned to the provider at the completion of the project.
B. COGENERATION (CHP) FEASIBILITY STUDY

The objective of the Cogeneration Combined Heat & Power Feasibility Study is to assess the technical and economic viability of constructing and operating a new cogeneration facility onsite and determine if it meets the requirements of the NJ Energy Master Plan and Policy on Energy Resiliency strategy to increase energy efficiency and reduce energy consumption, cost and resiliency. Items to review shall include, but not be limited to the following:

1. Determine and Evaluate the Facilities Energy Profile:

   Compare current and projected electricity consumption, with and without implementation of the recommended ECM’s.

   Compare current and projected heating and cooling requirements, with and without implementation of the recommended ECM’s.

   Identify the facility thermal/electric load ratio throughout a typical year.

2. Optimal Cogeneration (CHP) Facility Design & Configuration:

   Describe the optimal cogeneration combined heat and power plant configuration to achieve N+1 redundancy and the ability to achieve and maintain “island mode” for electric generation, including prime mover type and specifications, design features, recommended fuel(s), heat recovery methods and use.

   Provide backup information supporting the recommendations made.

   Describe the required performance guarantees, warranties, efficiencies of the recommended cogeneration equipment and systems as well as the maintenance requirements.

   Determine the integration requirements of the new cogeneration facility equipment and systems with any existing facility equipment, systems and utility infrastructure.

   Investigate and quantify the environmental impacts of the cogeneration facility versus traditional utility-grade energy supply.

   Evaluate the facility energy requirements for one year of operation.

   Determine the spare parts and backup systems required for the cogeneration facility, including utility interconnection requirements and the annual cost of maintaining utility backup service.
Determine the requirements and costs for construction management, building commissioning firms during construction, measurement & verification and energy management software capable of retrieving energy use data via the internet.

3. **Regulatory Authority Coordination:**

Determine any required State regulating authority approvals, licenses, permits, and design coordination responsibilities required for the construction and operation of the new cogeneration facility.

Determine all potential State, Federal and Utility funded energy rebates, tax incentives, reimbursements, third party energy sharing or purchase agreements, cost savings, etc.

4. **Cogeneration (CHP) Facility Space Requirements:**

Determine the approximate physical size of the cogeneration (CHP) facility based on the space requirements of the equipment, systems, infrastructure, and any required operational components.

Analyze and recommend a facility location and the most efficient layout of the equipment and infrastructure in the new facility.

5. **Cogeneration (CHP) Facility Operation:**

Determine the manpower required to operate the facility and all related costs.

Describe the experience, licenses, training, and any other related requirements for the facility operators.

Determine the capability of the facility staff to operate the facility.

Determine recommended/required manufacturer servicing agreements

6. **Cost Analysis:**

Determine the construction costs of the cogeneration facility based on a minimum of three design configurations and operating options.

Investigate the purchase, lease, or other potential funding options available to finance the project.

Determine the operating and maintenance costs of the cogeneration facility.
Perform an economic evaluation and simple payback of the cogeneration facility to determine if the project is financially viable, using fuel and grid electricity price projection that are provided state contract rates in effect through the NJ Consolidated Energy Savings Program.

Assess the economic and financial risks associated with the proposed new cogeneration facility.

7. Evaluation of Cogeneration (CHP) Facility Performance:

Describe the methods to evaluate the cogeneration plant performance after construction to ensure it meets the guarantees of the design specifications. Recommend measurement and verification protocol options best suited to evaluate specific technology determined to be the best fit for these facilities (IPMVP options A thru D).

C. COGENERATION (CHP) FEASIBILITY STUDY REPORT

Based on the results of the Cogeneration (CHP) Feasibility Study findings, the Consultant shall prepare a bound 8 ½” x 11” Cogeneration (CHP) Feasibility Study Report that incorporates the following elements:

1. Table of Contents:

Provide a table of contents and page numbers for the Cogeneration (CHP) Feasibility Study Report.

2. Executive Summary:

Include a brief description of the Cogeneration (CHP) Feasibility Study objective and the overall conclusions and recommendations for each item reviewed in the outline above including justifications for the selections made.

3. Building & Equipment Information:

Provide a general description of the cogeneration (CHP) facility and the prime mover, electricity generator, heat recovery system, control automation systems, operational profiles, and schedules of all mechanical and electrical equipment to be installed and how they will operate. Include a schematic one line diagram showing the mechanical & electrical equipment, system infrastructure, etc. in the cogeneration facility.

Describe the coordination requirements needed to construct the new cogeneration facility, tie into the existing or new infrastructure, and operate the existing powerhouse equipment, systems and infrastructure during construction.
Describe redundancy capabilities and requirements for plant downtime (incorporated n+1 redundancy, grid power, rental generators/boilers or other solutions as recommended)

4. Energy Savings Summary:

Provide an economic analysis of the new cogeneration (CHP) facility including all appropriate accounting information, selected charts and graphs, etc. that will demonstrate the anticipated overall life cycle cost savings of the new facility. Items shall include, but not be limited to:

Estimated construction costs, including cost of all equipment and materials, and source of cost estimate.

Estimated energy savings (in energy specific volume units and total MMBTU’s).

Estimated annual energy cost savings based on historical energy costs of the facility and projected fuel costs, which will be determined in consultation with DPMC.

Estimate of any rebates/financial incentives available through New Jersey’s Clean Energy Program, the NJ Economic Development Authority, the federal government, or from other sources.

Estimated annual operating cost savings, including reductions in maintenance expenses, demand reduction/management as well as demand response revenue.

Estimated lifetime energy cost savings.

Simple payback and return on investment.

Options for funding the installation of recommended measures.

5. Cost Estimates:

All costs shall be estimated and presented in CSI format (2004) in an appendix of the report. Each cost estimate shall include:

Narrative explanation of the work, including diagrammatic sketches if required to explain the work.

List of assumptions made in compiling the estimate.

Cost of demolition of existing systems (if required).
Cost of impact of facility operations on the construction of the new cogeneration (CHP) facility (work restrictions).

See Section III of this Scope of Work for additional cost estimating information.

6. Cogeneration (CHP) Feasibility Study Report Copies:

Provide 6 copies of the Cogeneration (CHP) Feasibility Study Report at each phase of the project to the Project Manager. Also provide 2 CD disks of the final approved report in .PDF format, the contents with any drawings in “.dwg” (native file format for AutoCAD) and ‘.pdf” (Adobe Portable Document Format) file formats for photos.

D. ENERGY AUDIT

1. Data Gathering Coordination:

The Consultant shall meet with the Project Team members and approved representatives of the facility to develop an approved schedule and times to access each building, identify the areas and equipment that will be inspected, describe the methods and equipment that will be used to acquire needed data, the number of interviews to be conducted, and the duration of each building inspection.

Surveys, measurements, photographs and other data collection methods shall be performed in such a way as to minimize disruption to the building occupants. Consider the use of aerial infrared photography to survey underground steam and chilled water lines and building envelopes. A structured interview process shall be used to determine existing equipment, utilities, maintenance, and operation issues for the building.

The consultant will be responsible to provide baseline energy data on a per-building basis. Where electrical meters do not exist, sub-meters w/data logging capability are to be installed to gather necessary data per the unit cost on the fee proposal form. (Install, monthly rental rate, multiple types of meters?)

**Note:** Provide a unit cost per sub-meter including installation, removal and monthly rental rate for all energy utilities including but not limited to electrical, heating hot water, chilled water and steam.

It may be in the State’s best interest to install permanent sub-metering on some utilities, including but not limited to electrical, heating hot water, chilled water and steam. Consultant shall prepare the necessary plans and specifications to have these installations competitively bid by DPMC. Consultant shall provide a cost estimate for the sub-metering installations with the plans and specifications for review prior to bids being solicited. The cost to prepare the
necessary plans and specifications and cost estimate shall be included in the consultants lump sum bid.

A one week “look ahead” schedule shall be provided to the facility representatives for review and approval prior to each building inspection.

Note: The Consultant is responsible for protecting the images and information collected and preventing its’ disclosure to unauthorized personnel. Individual site requirements will be discussed at the Consultant Pre-bid meeting.

2. Building, Equipment and Systems Profile:

Provide the name and number for each building, the year of original building construction and any building additions, and building square footage.

Characterize the building usage, type of construction, occupancy profiles, construction features including a description of the building envelope.

Provide a detailed inventory and descriptive narrative for all building energy consuming equipment including an estimate of their energy consumption, efficiency, and remaining useful life. Items shall include, but not be limited to boilers and furnaces, cooling systems, chillers, energy recovery systems, heating systems, ventilation systems, domestic hot water heaters, meters, automatic control systems, energy management systems, electrical systems and lighting, data centers, motors, manual controls, etc.

Review all aspects of interdependency or contingency of equipment and/or controls so that recommended ECM’s are assured of compatibility with other elements of the structure and systems.

Assess how the various building systems and equipment are set-up, their actual operating conditions, and the control methods used to manage the systems. Provide colored photographs of the equipment and systems inspected.

Evaluate the building envelope for energy consumption, including but not limited to the roof and walls, insulation, external windows, and doors.

Evaluate the operation, maintenance, and testing programs for the building equipment.

3. Measurements & Observations:

Provide specific measurements such as temperature, relative humidity, light levels, air flows, etc. where appropriate. Also, relevant observations shall be noted such as damper positions, operating deficiencies, control settings, damaged equipment, maintenance shortfalls, etc.
4. Facility Energy Profile:

The annual facility energy use and peak demand for each energy type shall be reported. This shall include annual consumption, cost, and greenhouse gas emissions associated with each energy type. This information shall be supplied in the sample Facility Energy Profile Table format provided in Exhibit ‘F’.

E. ENERGY AUDIT REPORT

Based on the results of the Energy Audit findings, the Consultant shall prepare for each facility a bound 8 ½” x 11” Energy Audit Report that incorporates the following elements:

1. Table of Contents:

Provide a table of contents and page numbers for the Energy Audit Report.

2. Executive Summary:

Include a brief introduction to the facility and a description of the project objective and overall conclusions and recommendations of the Energy Audit.

3. Building/Facility Information:

Provide a general background description of the facility, building components, mechanical systems, electrical systems, automation systems, and operational profiles and schedules. A description of the building envelope (windows, doors, insulation, etc.), age and construction history, number of employees, occupancy patterns, and a discussion of the O&M program shall be included.

The building information section shall also contain relevant photos of the facility, buildings, and mechanical systems, a description of energy types used, and a description of the primary mechanical systems and controls.

4. Equipment List:

Provide a detailed inventory of equipment, which contains pertinent information for all energy consuming equipment including estimate of equipment efficiency and remaining useful life. For example, for lighting, for each area of each building, provide existing fixture type, existing lamp type, existing lamp count and existing ballast type, current watts per fixture and current energy cost per room/building. Similar detail should be provided for other equipment.
5. Utility Summary:

Provide energy accounting information for a minimum of one year, as well as selected charts and graphs that will demonstrate the overall energy demand trend and usage patterns of the facility or building. Provide site plan indicating one-line utility distribution and meter locations.

6. Historic Energy Consumption:

Compile energy usage and costs for each facility/building for the 24 months prior to the audit including kW, kWh, BTUs, therms, etc. and shall include billing meter readings that corroborate usage.

Identify the utility rate schedule under which services are provided to each meter.

Enter the required building and utility data into the U.S. Environmental Protection Agency's (EPA) Portfolio Manager energy benchmarking system. Note the EPA Score for each building, and provide the information necessary to access the Portfolio Manager account.

7. Energy Conservation Measures:

Provide a narrative summary for each recommended ECM that meets the objective of this project scope of work. Clearly document the key assumptions made in analyzing each measure and describe the method of analysis.

Provide the estimated cost, estimated savings, simple payback, and other data for each ECM in the required Energy Conservation Measure Summary Format Table depicted in Exhibit ‘G’. The description of each ECM shall also include the following information following this Energy Conservation Measure Summary Format Table:

A one or two page description of each ECM and supporting calculations. Identify complimentary measures that when combined produce a result more beneficial than if either is employed independently.

No-cost measures such as adjusting equipment, control systems, or schedules shall be addressed first.

Energy use and savings calculations and economic analysis.

Assumptions that were made regarding operation or equipment efficiency.
Estimated installation cost, including cost of all equipment and materials, and source of cost estimate.

Estimated energy savings (in energy specific volume units and total MMBTU’s).

Estimated annual energy cost savings based on current historical energy costs of the facility.

Estimate of any rebates/financial incentives available through New Jersey’s Clean Energy Program or from other sources.

Estimated annual operating cost savings, including reductions in maintenance expense.

Estimated lifetime energy cost savings.

Simple payback.

Options for funding the installation of recommended measures.

Identify minimum and suggested equipment standards that must be used in the design, procurement, and installation of all ECM’s such as ASHRAE 90.1, ASHRAE 155P for Commercial Boiler Efficiency, etc.

8. **Renewable/Distributed Energy Measures:**

Recommend any viable renewable/distributed energy technologies, including solar power, wind power, geothermal systems, etc. which could be cost effectively implemented for the facility. Identify available grants, incentives and/or sources of funding. Prove an analysis of costs and savings comparing current and future costs of electric and thermal energy with and without each technology assessed.

9. **Energy Purchasing and Procurement Strategies:**

For each facility develop a load profile for each electric and natural gas account. Provide an analysis of the utility tariff under which the facility is currently served. Assess potential savings from purchasing from third party suppliers.

10. **Energy Audit Report Copies:**

Provide 6 copies of the Energy Audit Report at each phase of the project to the Project Manager. Also provide 2 CD disks of the final approved report (.pdf) and all of the contents with any drawings in “.dwg” (native file format for AutoCAD) and “.pdf” (Adobe Portable Document Format) file formats.
F. MEETINGS & PRESENTATIONS

1. Meetings:

Conduct the appropriate number of review meetings with the Project Team members during each phase of the project so they may determine if the project meets their requirements and make changes where appropriate. Selected studies, sketches, cost estimates, schedules, and other relevant information shall be presented to support the recommendations proposed.

It shall also be the responsibility of the Consultant to arrange and require all critical Sub-Consultants to be in attendance at the meetings.

2. Presentations:

The minimum number of presentations required for each phase of this project is identified below for reference:

Cogeneration CHP Feasibility Study Phase (25% Completion): One (1) oral presentation at the phase completion.

Cogeneration CHP Feasibility Study Phase (90% Completion): One (1) oral presentation at the phase completion.

Cogeneration CHP Feasibility Study Phase (100% Completion): One (1) oral presentation at the phase completion.

Preliminary Energy Audit Phase (25% Completion): One (1) oral presentation at the phase completion.

Draft Energy Audit Phase (90% Completion): One (1) oral presentation at the phase completion.

Final Energy Audit Phase (100% Completion): One (1) oral presentation at the phase completion.

G. SUB-CONSULTANT PARTICIPATION

It is the responsibility of the Consultant to ensure that they have provided adequate hours and/or time allotted in their technical and fee proposal so that their Sub-Consultants may participate in all appropriate phases and activities of this project. This includes the pre-proposal site visit and the various meetings and site visits described in this Scope of Work. All costs associated with such services shall be included in the base bid of the Consultant’s fee proposal.
VIII. GENERAL REQUIREMENTS

A. SCOPE CHANGES

The Consultant must request any changes to this Scope of Work in writing. An approved DPMC 9d Consultant Amendment Request form reflecting authorized scope changes must be received by the Consultant prior to undertaking any additional work. The DPMC 9d form must be approved and signed by the Director of DPMC and written authorization issued from the Project Manager prior to any work being performed by the Consultant. Any work performed without the executed DPMC 9d form is done at the Consultant’s own financial risk.
IX. SOW SIGNATURE APPROVAL SHEET

This Scope of Work shall not be considered a valid document unless all signatures appear in each designated area below.

The Client Agency approval signature on this page indicates that they have reviewed the design criteria and construction schedule described in this project Scope of Work and verifies that the work will not conflict with the existing or future construction activities of other projects at the site.

**SOW APPROVED BY:**

JAMES MCKENNA, MANAGER  
DPMC PROJECT PLANNING & INITIATION

**DATE:** 12/28/15

**SOW APPROVED BY:**

WILLIAM GOLUBINSKI, MANAGER  
DPMC ENERGY INITIATIVES UNIT

**DATE:** 1/4/16

**SOW APPROVED BY:**

WILLIAM SHIPPI, PROJECT MANAGER  
DEPARTMENT OF CORRECTIONS

**DATE:** 1/5/16

**SOW APPROVED BY:**

MICHAEL THULEN, ESIP COORDINATOR  
NEW JERSEY BOARD OF PUBLIC UTILITIES

**DATE:** 1/5/2016

**SOW APPROVED BY:**

RICHARD FLODMAND, DEPUTY DIRECTOR  
DIV PROPERTY MGT & CONSTRUCTION

**DATE:** 1/6/16
X. CONTRACT DELIVERABLES

The following is a listing of Contract Deliverables that are required at the completion of each phase of this project.

PROJECT COMMENCEMENT

Meetings & Minutes (Minutes within 5 working days of meeting)

Correspondence

Project Commencement

SOW Review
Site Visit Policies, Contractors Use of the Premises, Project Directory
Collect Existing Documentation

COGENERATION CHP FEASIBILITY STUDY (ALL PHASES)

Meetings & Minutes (Minutes within 5 working days of meeting)

Correspondence

Cogeneration CHP Feasibility Study Submission Requirements

Determine and Evaluate the Energy Consumption Profile
Optimal Cogeneration Facility Design & Configuration
Regulation Authority Coordination
Cogeneration Facility Space Requirements
Cogeneration Facility Operation
Cost Analysis
Evaluation of Cogeneration Facility Performance

Cogeneration CHP Feasibility Study Report

Table of Contents
Executive Summary
Building & Equipment Information
Energy Savings Summary
Cost Estimates in CSI Format & Cost Analysis 38 Form
Cogeneration CHP Feasibility Study Report: 6 sets each submission
  Diagrammatic Sketches/Drawings if appropriate: 6 hardcopy sets and on disc in “.dwg” (native file format for AutoCAD and “.pdf” (Adobe Portable Document Format) file formats.
Bar Chart of Cogeneration Feasibility Study Schedule
  Oral Presentation of Submission to Project Team (Oral Presentation @25%, 90%, 100% w/6 sets of Cogeneration Feasibility Study each submission)

SOW Compliance Statement
This Submission Checklist
Deliverables Submission in Booklet Form: 6 sets

Approval of Submission

  Respond to Submission Comments

ENERGY AUDIT (ALL PHASES)

Energy Audit Submission Requirements

  Data Gathering Coordination
  Building, Equipment & Systems Profile
  Measurements & Observations
  Facility Energy Profile

Energy Audit Report Submission Requirements for each Facility

  Table of Contents
  Executive Summary
  Building/Facility Information
  Equipment Lists
  Utility Summary
  Historic Energy Consumption
  Energy Conservation Measures
  Renewable/Distributed Energy Measures
  Energy Purchasing and Procurement Strategies
  Cost Estimates in CSI Format & Cost Analysis 38 Form
  Energy Audit Report: 6 sets each submission
  Diagrammatic Sketches/Drawings if appropriate: 6 hardcopy sets and on disc in “.dwg” (native file format for AutoCAD and “.pdf” (Adobe Portable Document Format) file formats.
Bar Chart of Energy Audit Schedule
  Oral Presentation of Submission to Project Team (Oral Presentation @25%, 90%, 100% w/6 sets of Energy Audit each submission)
SOW Compliance Statement
This Submission Checklist
Deliverables Submission in Booklet Form: 6 sets

Approval of Submission

Respond to Submission Comments

PROJECT CLOSE-OUT PHASE

Responsibilities: Plan, Schedule and Execute Close-Out Activities

Commencement: Initiate Close-Out w/DPMC 20A Project Close-Out Form

Determination of Substantial Completion

Initiation of Final Contract Acceptance Process

Final Payment

A/E Invoice and Close-Out Forms for Final Payment

Final Performance Evaluation of the A/E

XI. EXHIBITS

The attached exhibits in this section will include a sample project schedule, and any supporting documentation to assist the Consultant in the design of the project such as maps, drawings, photographs, floor plans, studies, reports, etc.

END OF SCOPE OF WORK
EXHIBIT 'A'
DIRECTIONS: Take Route 130 North to Bordentown until you reach the Town and Country Diner and Ground Round intersection, (Ward Avenue). Turn right onto Ward Avenue, proceed down Ward Avenue take the first left after Hogback Road. Garden State Correctional Facility is on the right.
RULES AND REGULATIONS REGARDING OUTSIDE CONTRACTORS

Albert C. Wagner Youth Correctional Facility administration is charged with the responsibility of the custody of their inmates. All non-state employees must comply with the below listed Rules and Regulations as a condition of their employment and access to state property.

1. Drivers' License or other approved photo ID is to be used, as identification for work crews. 
   **NOTE:** If Temporary IDs are used the contractors Identification will be turned in at the beginning of the day and a temporary ID card will be issued to the escort officer. At the end of the day, the temporary ID will be turned in and the Identification submitted will be returned to each worker. **No temporary ID cards will leave the Institution.**

2. Work crews will enter through __________________ as scheduled. They will be escorted to the work site unless special arrangements have been made through the area supervisor.

3. If Restricted Visitor's Badges are issued by the Front House Lobby Control they must be worn on the outer most garment at all times.

4. A custody escort will be required to and from the job site. No contractor will walk anywhere on the compound without a proper escort.

5. All workers and vehicles will be subject to search prior to entry into the Institution. Furthermore, any worker or vehicle is subject to a search at any time while on State property.

6. All workers are to read, sign, and receive a set of Albert C. Wagner Youth Correctional Facility outside contractor regulations.

7. If any workers have any relatives or friends incarcerated at ACWYCF, they are to notify administrative officials.

8. No workmen are to fraternize or argue with inmates. Any difficulties with inmates and / or employees must be reported to the escorting officer immediately. The officer will then inform his area supervisor of any problems.

9. Do not give anything to, or take anything from inmates.

10. Lock all personal vehicles and demobilize construction vehicles and equipment when left unattended. All tools stored outside the security perimeter will be secured in locked vehicles. Ladders will be firmly secured to the roof or side of construction vehicles.

11. Photographs are prohibited. Cameras are not permitted on the grounds.

12. All tools and equipment will be locked in the contractor's trailer or onsite toolbox overnight. Equipment, such as ladders and scaffolding, will be chained and locked (contractors supply these items) before leaving. Any scaffolding will be removed at the end of each workday and locked.

13. Warning lights must be displayed at all dangerous areas at night.

14. No firearms, ammunition, hunting knives, personal knives of any size or type, or other articles of this nature are permitted on State Property or stored in vehicles.

15. No alcoholic beverages, controlled substances, or prescription medication (drugs) are permitted on the grounds with the exception of rescue medications as listed below:

EXHIBIT 'C'
g. Nitroglycerin tablets and nitroglycerin paste;
h. Asthma inhalers;
i. Injectable glucagons (must be sealed in prefilled syringe);
j. Oral Instant glucose;
k. Injectable epinephrine (must be sealed in prefilled syringe); and
f. Any other "rescue" medication properly authorized and deemed necessary

16. Smoking is prohibited in ALL State Buildings.

17. Institutional Fire Regulations shall be strictly adhered to; you may contact the Institutional Fire
Marshall through the Escort Officer.

18. Obey speed limit and all NO PARKING and designated parking areas.

19. Lock personal items in your vehicle outside the security perimeter of the prison.

20. All excavations will be protected as directed by the Engineer-in-charge of Maintenance and
those across main roads must be covered with plates.

21. It is the responsibility of each contractor to know that his tools and equipment are secured in a
locked trailer or onsite toolbox at the end of every workday.

22. All workers will be photographed and his/her picture kept on file at the Front House for
identification purposes.

23. Each contractor with a gang box will submit an inventory tool list. All power tools must be
inspected and required tool inventory submitted at the end of each workday. Tools will not be
permitted inside the security perimeter if not job specified. All gang boxes will be searched upon
entering and leaving the Institution.

24. Equipment and tools are to be kept away from the bars and fence surrounding the job site.

25. Each contractor is responsible for any damage done as a result of their work.

26. All acetylene torch heads, regulators, and hoses will be removed from the Institution on a daily
basis. All tanks will be secured in locked trailers or containers outside the security perimeter.

27. Tools will be inventoried on a daily basis, secured in gang boxes, and sealed with tamper proof
seals. The seal numbers will be logged on the Daily Inventory Sheet.

28. All blades, regardless of nature, will be inventoried. When a blade wears out or breaks, it will be
taken off the inventory and taken out of the Institution.

29. Unacceptable Clothing – The following clothing should not be worn when entering any part of
the prison.

- Tank Tops, Mesh Tops, or Tube Tops
- Low-Cut, Shoulder less, Halter Tops, or Sheer Clothing
- Shorts
- Sweatpants
- Leggings or Tights (Unless covered by a long top, skirt, etc.)
- Bike Pants, Ragged jeans (No patches or holes)
- Skirts with high slits, mini styled skirts, mini dresses, or mini culottes

EXHIBIT 'C'
- Thong sandals or beach footwear
- Clothing with inappropriate or offensive inscriptions

30. In the event of an emergency, you will be directed to a secured area of the institution. You are to follow the direction of your escort officer at ALL times.

Albert C. Wagner Youth Correctional Facility
450 Ward Avenue
Bordentown, NJ 08505
609-298-0500

I have reviewed the above rules and regulations pertaining to outside contractors working in Albert C. Wagner Youth Correctional Facility. I understand that any violation of these rules and regulations could result in me no longer being permitted to work within this institution and its grounds.

Name

Signature

Escort Officer's Name

Company Name

Date

Escort Officer's Signature

EXHIBIT 'C'
Garden State Youth Correctional Facility
Box 11401 Highbridge Road
Yardville, New Jersey 08620
609-298-6300

RULES AND REGULATIONS REGARDING OUTSIDE CONTRACTORS

Garden State Youth Correctional Facility administration is charged with the responsibility of the custody of their inmates. All non-state employees must comply with the below listed Rules and Regulations as a condition of their employment and access to state property.

1. Driver’s License or other approved photo ID is to be used, as identification for work crews. NOTE: If temporary IDs are used, the contractor’s Identification will be turned in at the beginning of the day and a temporary ID card will be issued to the escort officer. At the end of the day, the temporary ID will be turned in and the Identification submitted will be returned to each worker. No temporary ID cards will leave the Institution.

2. Work crews will enter through front lobby as scheduled. They will be escorted to the work site unless special arrangements have been made through the area supervisor.

3. If Restricted Visitor’s Badges are used by the Lobby LCP, they must be worn on the outer most garment at all times.

4. An escort will be required to and from the job site. No contractor will walk anywhere on the compound without a proper escort.

5. All workers and vehicles will be subject to search prior to entry into the Institution. Furthermore, any worker on vehicle is subject to search at any time while on state property.

6. All workers are to read, sign, and receive a set of Garden State Youth Correctional Facility Outside contractor regulations.

7. If any workers have any relatives or friends incarcerated at GSYCF, they are to notify administrative officials.

8. No workman is to fraternize or argue with inmates. Any difficulties with inmates and/or employees must be reported to the escorting officer immediately. The officer will then inform his area supervisor of any problems.

9. Do not give anything to, or take anything from inmates.

EXHIBIT ‘D’
10. Lock all personal vehicles and demobilize construction vehicles and equipment when left unattended. All tools stored outside the security perimeter will be secured in locked vehicles. Ladders will be firmly secured and locked to the roof or side of construction vehicles.

11. Cell phones and cameras are prohibited. Photos are taken on a permit basis.

12. All tools and equipment will be locked in the contractor's trailer overnight. Equipment, such as ladders and scaffolding (contractors supply these items), will be chained and locked before leaving. Any scaffolding will be removed at the end of each workday and locked.

13. Warning lights must be displayed at all dangerous areas at night.

14. No firearms, ammunition, hunting knives, personal knives of any size or type, or other articles of this nature are permitted on state property or stored in vehicles.

15. No alcoholic beverages, controlled substances, or prescription medication (drugs) are permitted on the grounds. Smoking is prohibited in ALL state buildings.

16. Institutional Fire Regulations shall be strictly adhered to; you may contact the Institutional Fire Marshall through the Escort Officer.

17. Obey speed limit and all NO PARKING and designated parking areas.

18. Lock personal items in your vehicle outside the security perimeter of the prison.

19. All excavations will be protected as directed by the Engineer-in-charge of Maintenance and those across main roads must be covered with plates.

20. It is the responsibility of each contractor to know that his tools and equipment are secured in a locked trailer at the end of every workday.

21. All workers for jobs over 3 days must have a security background check.

22. Each contractor with a gang box will submit an inventory tool list. All power tools must be inspected and required tool inventory submitted at the end of each workday. Tools will not be permitted inside the security perimeter if not job specified. A gang boxes will be searched upon entering and leaving the Institution.

23. Equipment and tools are to be kept away from the bars and fence surrounding the job site.

24. Each contractor is responsible for any damage done as a result of their work.

25. All acetylene torch heads, regulators, and hoses will be removed from the Institution on a daily basis. All tanks will be secured in locked trailers or containers outside the security perimeter.

EXHIBIT 'D'
26. Tools will be inventoried on a daily basis, secured in gang boxes, and sealed with tamper proof seals. The seal numbers will be logged on the Daily Inventory Sheet.

27. All blades, regardless of nature, will be inventoried. When a blade wears out or breaks, it will be taken off the inventory and taken out of the Institution.

28. Unacceptable Clothing – The following clothing should not be worn when entering any part of the prison:
   - Tank tops, mesh tops, or tube tops
   - Low-cut tops, shoulderless tops, halter tops, or sheer clothing
   - Shorts
   - Sweat pants
   - Leggings or tights (unless covered by a long top, skirt, etc.)
   - Bike pants, ragged jeans (no patches or holes)
   - Skirts with high slits, mini styled skirts, mini dresses, or mini culottes
   - Proper foot wear is required. No thong sandals, beach footwear, or open toed shoes
   - Clothing with inappropriate or offensive inscriptions

29. In the event of an emergency, you will be directed to a secured area of the Institution. You are to follow the direction of your Escort Officer at ALL times.

I have reviewed the above rules and regulations pertaining to outside contractors working in Garden State Youth Correctional Facility. I understand that any violation of these rules and regulations could result in me no longer being permitted to work within this institution and its grounds.

NAME

COMPANY NAME

SIGNATURE

DATE

ESCORT OFFICER’S NAME

ESCORT OFFICER’S SIGNATURE

EXHIBIT 'D'
APPLICATION FOR CLEARANCE AND ISSUANCE OF IDENTIFICATION CARDS

CIRCLE ONE: TEMPORARY OR VOLUNTEER   CIRCLE ONE: NEW RENEWAL

(PLEASE PRINT LEGIBLY)

NAME: ____________________________________________  SS #: ____________________________

(LAST)  (FIRST)  (M.I.)

AKA: ____________________________________________ / ________________________________________

(OTHER NAMES USED SUCH AS MAIDEN NAME, ADOPTIONAL, RELIGIOUS, ETC.)  (MARKS, SCARS AND TATTOOS)


PLACE OF BIRTH: ____________________________________  Driver’s Lic. #:  ___________________________________________________

(State Only)  (State)  (Number)

HOME ADDRESS:  _____________________________________________________________________________________________________

(State Only)  (CITY)  (STATE)  (ZIP CODE)

Name of your Department/Agency: ____________________________________________  Phone # ______________________________

ADDRESS: ____________________________________________  ________________________________

(STREET)  (CITY)  (STATE)  (ZIP CODE)

PURPOSE OF VISITATION TO INSTITUTIONS:

Have you ever been convicted of any violation of the Criminal Code in this State or in any other Jurisdiction? (Violations include offenses, crimes, misdemeanors, and felonies).

(Circle one) YES NO  If “YES”, explain on reverse side.

Do you presently have any pending criminal charges? YES ______  NO ______  If “YES”, explain on reverse side.

APPLICANT MUST LIST EXPUNGED CONVICTION(s) INFORMATION, SIGN AND DATE THE “AUTHORIZATION TO RELEASE INFORMATION” FORM LOCATED IN THIS APPLICATION. FALSIFICATION OF APPLICATION MAY RESULT IN THE TERMINATION OF YOUR EMPLOYMENT.

Have you ever engaged in sexual abuse in a prison, jail, lockup, community facility, juvenile facility, or other institution (as defined in 42 U.S.C. 1997)? YES ______  NO ______

If “YES”, explain: (Please note the date of incident, date of adjudication and the name and location of the prison, jail, lockup community, facility or institution where the incident occurred).

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

Have you ever been civilly or administratively adjudicated of engaging or attempting to engage in sexual activity in the community facilitated by force, overt or implied threats of force, or coercion, or if the victim did not consent or was unable to consent or refuse? YES_______  NO_______

If “YES”, explain: ________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

EXHIBIT 'E'
**EXHIBIT 'E'**

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**Applicant Section Continued**

<table>
<thead>
<tr>
<th>NATURE OF CONVICTION</th>
<th>DATE OF CONVICTION</th>
<th>AGE AT TIME OF INCIDENT</th>
<th>NAME &amp; ADDRESS OF POLICE AGENCY OR COURT</th>
<th>DISPOSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS / EXPLANATIONS:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
AUTHORIZATION TO RELEASE INFORMATION:

I hereby authorize the release of any and all information regarding me, to the NJ Department of Corrections, at their request, in order that they may determine my suitability for employment.

SIGNATURE OF APPLICANT: ____________________________________________ DATE: ________________

THE ABOVE NAMED APPLICANT’S CRIMINAL HISTORY RECORD INDICATES:

<table>
<thead>
<tr>
<th>ARREST &amp; CONVICTION</th>
<th>ARREST AND NO CONVICTION</th>
<th>NO RECORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>TITLE</td>
<td>DATE</td>
</tr>
</tbody>
</table>

EXHIBIT 'E'
## FACILITY ENERGY PROFILE (REQUIRED SUMMARY FORMAT WITH SAMPLE DATA)

<table>
<thead>
<tr>
<th>Energy Type</th>
<th>Annual Volume (with relevant units)</th>
<th>Energy Conversion Factor</th>
<th>Annual Energy Consumption (Site kBtu's)</th>
<th>Annual Energy Cost ($)</th>
<th>Average Cost per Unit Volume</th>
<th>Average Cost per MMBTU</th>
<th>CO2 Conversion Factor</th>
<th>Equivalent CO2 Emissions (Metric Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>7,000,000 kWh</td>
<td>3.412 kBtu/kWh</td>
<td>23,884,000</td>
<td>$560,000</td>
<td>$0.14/kWh</td>
<td>$23.45</td>
<td>1.1 lb/kWh</td>
<td>1,995</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>200,000 therms</td>
<td>100 kBtu/th</td>
<td>20,000,000</td>
<td>$170,000</td>
<td>$0.85/therm</td>
<td>$8.50</td>
<td>120.6 lb/MMBTU</td>
<td>273</td>
</tr>
<tr>
<td>#2 Oil (Diesel)</td>
<td>3,000 gallons</td>
<td>138 kBtu/gal</td>
<td>414,000</td>
<td>$5,400</td>
<td>$1.80/gal</td>
<td>$13.04</td>
<td>22.4 lb/gal</td>
<td>30</td>
</tr>
<tr>
<td>#4 Oil</td>
<td>3,000 gallons</td>
<td>144 kBtu/gal</td>
<td>432,000</td>
<td>$5,010</td>
<td>$1.67/gal</td>
<td>$11.60</td>
<td>22.4 lb/gal</td>
<td>30</td>
</tr>
<tr>
<td>#6 Oil (LS)</td>
<td>3,000 gallons</td>
<td>144 kBtu/gal</td>
<td>432,000</td>
<td>$5,010</td>
<td>$1.67/gal</td>
<td>$11.60</td>
<td>26 lb/gal</td>
<td>35</td>
</tr>
<tr>
<td>Propane</td>
<td>100 gallons</td>
<td>91.6 kBtu/gal</td>
<td>9,160</td>
<td>$90</td>
<td>$0.90/gal</td>
<td>$9.83</td>
<td>12.7 lb/gal</td>
<td>1</td>
</tr>
<tr>
<td>Chilled Water</td>
<td>6,000 ton-hours</td>
<td>12 kBtu/ton-hr</td>
<td>72,000</td>
<td>$900</td>
<td>$0.15/ton-hr</td>
<td>$12.50</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Hot Water</td>
<td>15,000 CF</td>
<td>7.3 kBtu/CF</td>
<td>109,500</td>
<td>$1,369</td>
<td>$0.09/CF</td>
<td>$12.50</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Steam</td>
<td>80 Mlbs</td>
<td>1,000 kBtu/MLb</td>
<td>80,000</td>
<td>$1,216</td>
<td>$15.20/MLb</td>
<td>$15.20</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

| Total Annual Energy Consumption (Site kBtu) | 45,432,660 |
| Total Area of Facility Conditioned Space (sq. ft.) | 250,000 |
| Facility Energy Use Intensity (Site kBtu/sq ft) | 182 |

1. Should only list primary energy types for this summary (ex: including natural gas fuel for boiler but not the boiler steam production)
2. Should only include secondary energy types in this table if they are purchased from a separate entity (ex: third party CHP supply)
3. For CO2 emissions, 2205 lbs = 1 metric ton
4. Actual energy conversion factors for secondary energy types to be determined by consultant based on relevant metrics (ex: temp, pressure, metered units, etc)
5. CO2 conversion factors for secondary energy types should be based on fuel and efficiency of provider, if known
6. When reporting #2 fuel oil or diesel, only count what is used for facility purposes. Do not include diesel consumption for vehicle fueling.

**EXHIBIT 'F'**
## ENERGY CONSERVATION MEASURE SUMMARY (REQUIRED SUMMARY FORMAT WITH SAMPLE DATA)

(List in order of simple payback)

<table>
<thead>
<tr>
<th>ECM No.</th>
<th>ECM Description</th>
<th>Annual Electricity Use Reduction (kWh)</th>
<th>Annual Electricity Cost Savings ($)</th>
<th>Annual Fuel Use Reduction (MMBTU)</th>
<th>Annual Fuel Cost Reduction ($)</th>
<th>Annual Water Savings (gal)</th>
<th>Annual O&amp;M Cost Savings ($)</th>
<th>ECM Gross Cost ($)</th>
<th>Rebates or Incentives ($)</th>
<th>Annual SREC or DR Revenue ($)</th>
<th>ECM Net Cost ($)</th>
<th>Annual Energy Reduction (MMBTU)</th>
<th>Total Annual Cost Savings ($)</th>
<th>Total Annual CO2 Reduction (metric tons)</th>
<th>Simple Payback (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water conserving fixtures</td>
<td>0</td>
<td>0</td>
<td>82</td>
<td>$698</td>
<td>142,800</td>
<td>$571</td>
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<td>1,269</td>
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<tr>
<td>2</td>
<td>Lighting upgrade with sensors</td>
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<td>$75,072</td>
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<td>1,830</td>
<td>$84,597</td>
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<tr>
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<td>VFD's and motors¹</td>
<td>338,884</td>
<td>$47,444</td>
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<td>HVAC Controls Upgrade</td>
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<td>$30,422</td>
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<td>$0</td>
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<td>1,156</td>
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<tr>
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<td>Demand-Controlled Ventilation¹</td>
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<td>415</td>
<td>$15,500</td>
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<td>$0</td>
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<td>415</td>
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</tr>
</tbody>
</table>

1 ECMs should be summarized in a way that avoids overlap and double counting (ex: claiming the same electricity use reduction from VFDs and Demand-Controlled Ventilation)

2 Should represent total energy reduction for each measure, expressed in million Btu's (MMBTU)

---

**EXHIBIT 'G'**
<table>
<thead>
<tr>
<th>IDN BLDG</th>
<th>BUILDING NAME - ALBERT C. WAGNER FACILITY</th>
<th>BLDG AREA (SF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ADMINISTRATIVE CLOSE SUPERVISION UNIT - ACSU</td>
<td>43,533</td>
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<tr>
<td>2</td>
<td>INDUSTRIAL / VOCATIONAL TRAINING SCHOOL</td>
<td>33,988</td>
</tr>
<tr>
<td>3</td>
<td>WING E</td>
<td>32,956</td>
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<tr>
<td>4</td>
<td>WING D</td>
<td>31,935</td>
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<tr>
<td>5</td>
<td>WING G</td>
<td>29,957</td>
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<td>6</td>
<td>WING A</td>
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<tr>
<td>7</td>
<td>WING B</td>
<td>28,600</td>
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<td>8</td>
<td>ADMINISTRATION WING C</td>
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<td>9</td>
<td>WING F</td>
<td>21,590</td>
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<td>10</td>
<td>GYMNASIUM</td>
<td>20,252</td>
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<tr>
<td>11</td>
<td>Wing C Kitchen</td>
<td>20,000</td>
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<tr>
<td>12</td>
<td>I WING DORMITORY</td>
<td>15,701</td>
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<td>MAINTENANCE BUILDING</td>
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<tr>
<td>16</td>
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<tr>
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<td>WATER TREATMENT PLANT</td>
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<td>POWER HOUSE</td>
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<td>19</td>
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<td>VISITORS CENTER</td>
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<td>FILTER BUILDING</td>
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<td>23</td>
<td>SID TRAILERS (3)</td>
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<td>WALK-IN FREEZER BOXES (2) (b/w Wings C&amp;E)</td>
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<td>25</td>
<td>Walk -In Freezer Box- Cold Storage</td>
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<td>STORAGE GARAGE #2 - YARDVILLE SUPPORT</td>
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<td>27</td>
<td>LAUNDRY RECLAMATION ROOM</td>
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<td>PUMP HOUSE # 6</td>
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<td>TRANSFORMER BLDG</td>
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<td>31</td>
<td>Utility Building (Water Tower)</td>
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<td>PUMP HOUSE # 3</td>
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34 Buildings | 418,279
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<thead>
<tr>
<th>IDN BUILDING</th>
<th>BUILDING NAME - GARDEN STATE FACILITY</th>
<th>SQUARE FOOTAGE</th>
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<td>RECEPTION &amp; CLASSIFICATION-R HOUSE</td>
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<td>PRU BUILDING</td>
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<td>GYMNASIUM &amp; AUDITORIUM</td>
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<td>READJUSTMENT BUILDING - NORTH 3</td>
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<td>HOUSING WEST</td>
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<tr>
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<td>HOUSING SOUTH</td>
<td>24,833</td>
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<tr>
<td>11</td>
<td>HOUSING EAST</td>
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| 18 BUILDINGS | 559,378 |