***All information requested in the instructions of this Scope of Work (SOW) Template must be included in this scope of work.***

*Update the document header above.*

***Please delete this instruction box before submitting the SOW***

# **Introduction:**

This scope of work describes the services and tasks that shall be performed by ***[Energy Service Provider Firm]*** “the Consultant” in conducting a ***[Type of Study (e.g., Energy Master Plan study)]*** through NYSERDA’s FlexTech Program for ***[Applicant Company]*** “the Customer”. ***[Describe the Intent of Study Here]***

***Introduction Instructions:***

*For this section, include the language and format below these instructions and any additional details you would like to add:*

* *Study type specific language*
* *A description of the intent of the study*

*Note: If the consultant is utilizing a sub-contractor, please indicate this in the introduction*

*Please note the following details when filling out the study type:*

* *Study Type* 
  + *Targeted or Comprehensive Energy Study*
  + *Targeted or Comprehensive RCx Study*
  + *Climate Action Plan or Sustainability Plan*
  + *Clean Heating and Cooling Study*
  + *Thermal Energy Network Study*
  + *Energy or Decarbonization Master Planning*
  + *Etc.*

***Please delete this instruction box before submitting the SOW***

# **Facility Description:**

***Facility Description Instructions:***

*For this section, complete and/or modify the Facility Description table below to meet your project.*

*For multibuilding projects, provide a table that lists each building to be analyzed through the study. The information included in the table below should be included for each building, to the extent possible.*

*For multifamily buildings please include the following additional rows in the table:*

* *Commercial Spaces – A summary of commercial space types in the building*
* *Commercial Space SQFT*

*For college & university and multifamily buildings, please also include:*

* *Unit Count (or Dorm Count for college & university projects, if dorms are included)*

***Please delete this instruction box before submitting the SOW***

|  |  |
| --- | --- |
| **Facility Description** | |
| Facility Name: |  |
| Facility Address (including zip code): |  |
| Building Use Type: | ***[e.g. Commercial, Industrial, Multifamily, Higher Education, etc.]*** |
| Year Built |  |
| Building Count: |  |
| Stories: |  |
| Gross SQFT: |  |
| Conditioned SQFT: |  |

# **Existing Conditions:**

Please see the below summary of the facilities major mechanical systems:

***Existing Conditions Instructions:***

*For this section, include the language and format below these instructions and any additional details you would like to add:*

*Note: The section below contains examples of building systems and language that could be included in a project scope of work. These summaries and descriptions should be modified to align with the intent of the study. For projects that include several buildings, please include the information below to the extent possible, focusing on major energy consuming equipment at minimum.*

* *Completed Building Operations table*
* *Summary of all systems related to the study; a sample layout has been provided in the body below and potential systems include but are not limited to:*
  + *Envelope*
  + *Heating Systems*
  + *Cooling Systems*
  + *Ventilation*
  + *Domestic Hot Water*
  + *Lighting*
  + *Controls*
  + *Process Equipment*
  + *Plug load*
  + *Etc.*

*Note: Process Equipment summaries are required for Industrial and Wastewater Treatment Plant Studies*

*Within the system summaries listed above, include the following applicable* *System Summary Details:*

* *Equipment Type*
* *Fuel source*
* *Capacity*
* *Efficiency*
* *Age*
* *Condition*
* *Service Area*

*Note: For RCx studies, the SOW should include an inventory of all equipment to be evaluated and/or tested as part of the study. The SOW should also indicate the sampling rate of all equipment to be evaluated and/or tested. NYSERDA may require a list of components contained within the system being retro commissioned.*

***Please delete this instruction box before submitting the SOW***

|  |  |
| --- | --- |
| **Building Operations** | |
| Schedule of Operation: |  |
| Hours of Operation: | X:XX AM – X:XX PM |
| Average occupants: |  |

## Envelope:

***[Enter system summary details here, including all applicable information listed in the*** [***instructions box***](#System_Summary_Details)***]***

## Heating Systems:

***[Enter system summary details here, including all applicable information listed in the*** [***instructions box***](#System_Summary_Details)***]***

## Cooling Systems:

***[Enter system summary details here, including all applicable information listed in the*** [***instructions box***](#System_Summary_Details)***]***

## Ventilation:

***[Enter system summary details here, including all applicable information listed in the*** [***instructions box***](#System_Summary_Details)***]***

## Domestic Hot Water (DHW):

***[Enter system summary details here, including all applicable information listed in the*** [***instructions box***](#System_Summary_Details)***]***

## Lighting:

***[Enter system summary details here, including all applicable information listed in the*** [***instructions box***](#System_Summary_Details)***]***

## Controls:

***[Enter system summary details here, including all applicable information listed in the*** [***instructions box***](#System_Summary_Details)***]***

## Plug Load:

***[Enter system summary details here, including all applicable information listed in the*** [***instructions box***](#System_Summary_Details)***]***

## Process Equipment:

***[Enter system summary details here, including all applicable information listed in the*** [***instructions box***](#System_Summary_Details)***]***

# **Tasks and Deliverables:**

***Tasks & Deliverables Instructions:***

*Project tasks should be itemized, and a corresponding deliverable should be identified for each task. For each task, include the language, tables, and requested detailed information indicated in each section. This section contains examples of tasks and language that could be included in a project scope of work. These tasks should be modified to align with the intent and nature of the study:*

*Note: If the consultant is utilizing a sub-contractor(s) please indicate which party (Prime Contractor, Sub Contractor(s)) will be completing each indicated task.*

*Optional for Clean Green Campuses (CGC) Members Only:*

* *Student Intern Bonus (optional, CGC members only)*
  + *Include a specific task for student intern engagement that describes the anticipated activities to be completed by the student intern(s) in support of the scope of work.*
  + *A deliverable that meets requirements stated in PON 4192 Section IV is required for student intern tasks. Include a description of the student intern deliverable(s) to be submitted to NYSERDA.*
* *Develop Curriculum/Student Clean Energy Engagement (optional, CGC members only)*
  + *Include additional task(s) that describe the activities to be completed by faculty for developing curriculum/student clean energy engagements.*
  + *A deliverable that meets requirements stated in PON 4192 Section IV is required for these tasks. Include a description of the deliverable(s) to be submitted to NYSERDA.*

***Please delete this instruction box before submitting the SOW***

## Example Task 1: Documentation Collection

***Tasks 1 Instructions:***

*For this section, include the language and format below these instructions and all additional details with regards to the data you will be collecting:*

***Please delete this instruction box before submitting the SOW***

*Scope:* Collect a minimum of 12 months of utility statements including rates and usage, ***… [Enter other documentation to be collected and collection methodology here]***

*Deliverable:* Summarize findings in the study report.

## Example Task 2: Utility Bill Analysis

*Scope:* Analyze at least 12 months of utility bills to identify annual heating, cooling, and base load energy usage, rates, current EUI, target EUI, and energy end use breakdown.

***Tasks 2 Instructions:***

*For this section, include the language and format below these instructions and any addition details you would like to add:*

***Please delete this instruction box before submitting the SOW***

*Deliverable:* ***[Enter Deliverable Here]***

## Example Task 3: Site Walkthrough

*Scope:* The site visits for this project are expected to take ***[# of Days]*** days to complete and include the review and completion of following systems/tasks as part of the scope:

***Tasks 3 Instructions:***

*For this section, include the language and format below these instructions and any addition details you would like to add:*

***Please delete this instruction box before submitting the SOW***

* ***[System/Task 1]***
* ***[System/Task X…]***

*Deliverable:* Collect information from site and summarize in the study report including ***… [Enter Walkthrough Details to be Presented in the Study Here]***

## Example Task 4: Measures to be Evaluated

***Tasks 4 Instructions:***

*For this section, include the language and format below these instructions and any addition details you would like to add. Please note that the sub task provided are* ***examples*** *and should be tailored to the specific project:*

*For each of the sub-sections below provide the following detailed information, if applicable to the study:*

* *Scope:*
  + *Subject systems*
  + *Problem statement*
  + *List of Energy Efficiency Measures*
  + *Expected Results*

*Note: For multifamily projects, measures with the potential to transfer cost burden to a tenant must include information on the potential impact.*

* *Data Collection Method:*
  + *E.g. data logging, BMS, nameplate data, etc.*
* *Feasibility Review*
  + *Explain the method used to determine if a measure is feasible or not*
* *Calculation Method:*
  + *Scopes of work must indicate and be very clear about the method of analysis*
  + *Rule of thumb assumptions and percentage savings calculations are* ***NOT*** *allowed*
  + *Must be based on site specific existing conditions and utility data*
  + *Comprehensive studies must account for the following:*
    - *Bin weather analysis for all weather dependent measures*
    - *Interactivity between recommended measures*

*Note: NYSERDA must be able to review assumptions used in the calculation methodology. If using proprietary software or spreadsheets, please divulge and discuss with NYSERDA an appropriate solution to sharing assumptions and results.*

***Please delete this instruction box before submitting the SOW***

***Tasks 4 Instructions Cont.:***

* *Economic analysis:*
  + *All studies should contain at a minimum RS Means or equivalent standard estimates for measure costs*
  + *All studies must also account for the following:*
    - At minimum, equipment, labor, and demolition cost
    - Be analyzed with Incremental/marginal utility rates (energy consumption and demand should be broken out and applied to measures where applicable)
  + Provide thorough economic evaluation to include, at minimum, all parameters required for simple payback analysis. Life-cycle cost or other more detailed analyses (e.g. ROI, IRR, etc.) may also be included, if desired or if required by the Scope of Work.
* *Deliverable*
  + *Provide all deliverables that will be provided for each sub task*

***Please delete this instruction box before submitting the SOW***

Identified below is a preliminary list of potential measures to be evaluated. All evaluated measures will be reviewed for feasibility. In accordance with program guidelines, this is a preliminary list of measures and may be modified, pending pre-approval from NYSERDA, based on information gathered during the course of this study.

## Example Task 4.1 Envelope Solutions

*Scope:* ***[Enter Scope Here]***

The following EEMs will be studied as part of this scope:

Measure 1: ***[Enter Measure Name Here]***

Measure ***[X]***: ***[Enter Measure Name Here]***

*Data Collection:* ***[Enter Data Collection Method Here]***

*Feasibility Review:* ***[Enter Feasibility Review Method Here]***

*Calculation Method:* ***[Enter Calculation Method Here]***

*Economic Analysis:* ***[Enter Economic Analysis Here]***

*Deliverable:* ***[Enter Deliverable Here]***

## Example Task 4.2 HVAC Solutions

*Scope:* ***[Enter Scope Here]***

The following EEMs will be studied as part of this scope:

Measure ***[X]***: ***[Enter Measure Name Here]***

*Data Collection:* ***[Enter Data Collection Method Here]***

*Feasibility Review:* ***[Enter Feasibility Review Method Here]***

*Calculation Method:* ***[Enter Calculation Method Here]***

*Economic Analysis:* ***[Enter Economic Analysis Here]***

*Deliverable:* ***[Enter Deliverable Here]***

## Example Task 4.3 Domestic Hot Water Solutions

*Scope:* ***[Enter Scope Here]***

The following EEMs will be studied as part of this scope:

Measure ***[X]***: ***[Enter Measure Name Here]***

*Data Collection:* ***[Enter Data Collection Method Here]***

*Feasibility Review:* ***[Enter Feasibility Review Method Here]***

*Calculation Method:* ***[Enter Calculation Method Here]***

*Economic Analysis:* ***[Enter Economic Analysis Here]***

*Deliverable:* ***[Enter Deliverable Here]***

## Example Task 4.4 Lighting Solutions

*Scope:* ***[Enter Scope Here]***

The following EEMs will be studied as part of this scope:

Measure ***[X]***: ***[Enter Measure Name Here]***

*Data Collection:* ***[Enter Data Collection Method Here]***

*Feasibility Review:* ***[Enter Feasibility Review Method Here]***

*Calculation Method:* ***[Enter Calculation Method Here]***

*Economic Analysis:* ***[Enter Economic Analysis Here]***

*Deliverable:* ***[Enter Deliverable Here]***

## Example Task 4.5 Control Solutions

*Scope:* ***[Enter Scope Here]***

The following EEMs will be studied as part of this scope:

Measure ***[X]***: ***[Enter Measure Name Here]***

*Data Collection:* ***[Enter Data Collection Method Here]***

*Feasibility Review:* ***[Enter Feasibility Review Method Here]***

*Calculation Method:* ***[Enter Calculation Method Here]***

*Economic Analysis:* ***[Enter Economic Analysis Here]***

*Deliverable:* ***[Enter Deliverable Here]***

## Example Task 4.6 Process Solutions

*Scope:* ***[Enter Scope Here]***

The following EEMs will be studied as part of this scope:

Measure ***[X]***: ***[Enter Measure Name Here]***

*Data Collection:* ***[Enter Data Collection Method Here]***

*Feasibility Review:* ***[Enter Feasibility Review Method Here]***

*Calculation Method:* ***[Enter Calculation Method Here]***

*Economic Analysis:* ***[Enter Economic Analysis Here]***

*Deliverable:* ***[Enter Deliverable Here]***

## Example Task 5: Study Report Generation

Upon completion of the study, copies of the following deliverables will be submitted to NYSERDA for their review and comment.

***Tasks 5 Instructions:***

*For this section, include the language and format below these instructions and any addition details you would like to add:*

*For Retro-commissioning (RCx) studies, reports must meet the following requirements:*

* *List each identified deficiency on the Project Summary Sheet (Attachment B-2).*

*Note: The content in the project summary sheet summary table is required in all project reports (see* [Attachment B-2](https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/FlexTech/Project-Summary-Sheet.xlsm)*). The table provides an overview of the project metrics by identifying the payback, costs, and savings in dollars, mmBtus, and kWh, kW (where appropriate), current energy consumption at the facility, costs/rates used in the analysis and the status of each evaluated recommendation.*

***Please delete this instruction box before submitting the SOW***

*Study Report:* Will present the results of all tasks as outlined in the approved scope of work and will be prepared to adhere to NYSERDA’s Study Report Requirements presented in [Attachment B-1](https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/FlexTech/Attachment-B-1-Study-Report-Requirements.pdf).

*Project Summary Spreadsheet:* A summary that includes all the information presented in [Attachment B-2](https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/FlexTech/Project-Summary-Sheet.xlsm). This will provide an overview of the project metrics by identifying the payback, costs, and savings in dollars, mmBtus, and kWh, kW (where appropriate), current energy consumption at the facility, costs/rates used in the analysis and the status of each evaluated recommendation.

*Supporting documentation:* Will include all relevant supporting documentation for the evaluated measures including but not limited to: Historical energy Costs (minimum 12 months), Energy savings calculations, carbon savings calculations (if applicable), Energy simulation model input and output files (if applicable), Measured data logs (if applicable), itemized project implementation costs, and cost estimate sources.

Revisions will be made to the Study Report, Project Summary Sheet, and Supporting documentation until deemed satisfactory by NYSERDA.

## Example Task 6: Interim Report Development (as applicable)

***Tasks 6 Instructions:***

*For this section, include the language and format below these instructions and any addition details you would like to add:*

*For Retro-commissioning (RCx) studies, reports must meet the following requirements:*

* *Include a current facilities requirement (CFR) and a RCx Plan as interim deliverables to establish a baseline for the RCx effort.*
  + *At a minimum, the CFR must include: Setpoints – Heating and cooling, Setpoints – occupied and unoccupied, ventilation, schedule, space pressurization, expected occupancy, and filtration requirements.*
  + *At a minimum, the RCx Plan must include: general description of the building, operations, equipment to be tested, schedule for testing (accounting for testing of seasonal equipment), means and methods for testing, expected support from the site and/or additional contractors.*

*Optional: Add sub-task 6.1 to Indicating progress reports will be provided. Long-term energy management plans, or other expansive studies may require progress reports to ensure project direction and results are in line with NYSERDA cost-share eligibility.*

*For sub-task 6.1:*

* *Explain the nature of the intended progress updates. Examples include:*
  + *Monthly or quarterly emails to customer and NYSERDA for review and approval,*
  + *Interim task additions for review and approval,*
  + *Scheduled in person updates with customer and NYSERDA, and*
  + *Interim draft reports to be reviewed, approved, and finalized with customer and NYSERDA.*

***Please delete this instruction box before submitting the SOW***

*Scope:* ***[Enter Text Here]***

*Deliverable:* ***[Enter Text Here]***

# **Assumptions:**

It is assumed that there will be an active partnership between building management/operations staff and the Consultant for the duration of the study. Building management/operations staff will be asked to be available to assist our engineering staff during the site visits and will be responsible for providing the following:

***Assumptions Instructions:***

*Provide a list of assumptions relevant to project completion. Note any information the customer has agreed to provide the consultant for the completion of the study. For this section, include the language and format below these instructions and any addition details you would like to add:*

*Examples of other assumptions include but are not limited to:*

* *Access to the site common spaces including mechanical rooms, roof, basement, utility meters, and attics will be provided.*
* *Access to and accompaniment by facility staff to tenant spaces will be provided. For multifamily projects, access to a sample of at least 8% or 24 dwelling units as per ASHRAE guidelines.*
* *Access to building management software systems will be provided.*
* *Minimum of 1 year of preceding utility bill rates and usage will be required and utilized.*
* *Access to all available construction and design documentation including as-builts, MEP drawings, blueprints, schematics, specifications, etc.*
* *Operations and maintenance procedures and logbooks for systems present at the building.*
* *Previous engineering studies/energy analysis performed either in-house or by 3rd party service providers will be shared with the consultant.*

***Please delete this instruction box before submitting the SOW***

* Minimum of 12 months (24 is preferred) of utility bills including rates and usage will be provided. Utility statements are essential to the analysis of the building.
* ***[Assumption X…]***

# **Schedule and Site Visits:**

***Schedule and Site Visits Instructions:***

*Provide an anticipated schedule for completing tasks in a “weeks from Purchase Order” format. Each SOW task item (including each potential EEM) must be listed as a separate schedule line item. Deliverables to NYSERDA must be listed as separate schedule line items. For this section, include the language, format, and tables below these instructions and add the following detailed information:*

* *Fill in project specific data when indicated*
* *Complete detailed deliverable schedule Table*
  + *Note: The table below contains examples of task and should be modified to align with the intent of the study. please break out all applicable EEMs*
  + *Note: The dates listed in the schedule are deliverable dates for the tasked listed*

*NYSERDA must be notified as soon as possible if the deliverable dates in the schedule change.*

***Please delete this instruction box before submitting the SOW***

It is expected that this energy study and report will take ***[# of weeks]*** weeks to complete, this timeframe will begin once the Contract Letter and Purchase Order (PO)is received from NYSERDA.

Below is a detailed deliverable schedule based in weeks after receipt of the PO:

|  |  |  |
| --- | --- | --- |
| ***Task #*** | ***Task*** | ***Schedule***  *(in weeks from PO)* |
| 1 | Documentation Collection |  |
| 2 | Utility Bill Analysis |  |
| 3 | Site Walkthrough |  |
| 4.1 | Envelope EEMs |  |
| 4.2 | HVAC EEMs |  |
| 4.3 | DHW EEMs |  |
| 4.4 | Lighting EEMs |  |
| 4.5 | Controls EEMs |  |
| 4.6 | Process EEMs |  |
| 5 | Study Report Generation |  |
| 6 | Interim Report Development |  |

# **Budget:**

***Budget Instructions:***

*Provide a detailed budget breakdown using the* [*Budget Template*](https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/FlexTech/Energy-Study-Budget-Template.xlsm)*, or equivalent that includes all the information identified in the Budget Template. For this section, include the language and tables below these instructions and add the following detailed information:*

* *Import of budget table (preferred) or budget table as separate attachment*
  + *Note: Please break out all applicable EEMs separately in the budget*
* *Each SOW task item (including each potential EEM) must be listed as a separate budget line item*

***Sub-Consultant Language:*** *For consultants utilizing a sub-consultant, please use the following language in addition to the consultant type below:*

* The consultant will be utilizing ***[Sub-Consultant Name]*** as a sub-consultant to complete the following tasks, ***[Enter Sub-Consultant Tasks Here]***.

***Project Cost Share Information:*** *Include the following language:*

* The total cost to complete the tasks associated with this scope of work is $***[Total Study Cost]***. The Customer will contribute $***[Customer Cost]*** and NYSERDA will contribute $***[NYSERDA Cost]***, as specified in the NYSERDA Purchase Order and summarized in the table below

*For the cost share percent and cap information, please reference the cost share table from* [*PON 4192*](https://portal.nyserda.ny.gov/CORE_Solicitation_Detail_Page?SolicitationId=a0rt000000kXV1yAAG&_gl=1*9c2fgq*_ga*MjEwNDAwOTIwMC4xNjk5Mjk3NDE2*_ga_DRYJB34TXH*MTY5OTQ3Mzk3NS45LjEuMTY5OTQ3NDI0MC4wLjAuMA..*_gcl_au*MzA0MzU4NjM0LjE2OTkyOTc0MTY.)*.*

*Note: For FlexTech projects expected to move through the utility AMEEP program, the following language should be utilized in the FlexTech Scope of Work:*

*“The estimated eligible cost-share reimbursement amount based on the final approved scope of work and budget is XX% of the total project cost, or $X,XXX. All requirements of the comprehensive pathway of the [Insert Utility Name] Affordable Multifamily Energy Efficiency Program must be met to be eligible for this program.“*

***Please delete this instruction box before submitting the SOW***

***[Enter Sub-Consultant Language here]***

***[Enter Project Cost Share Information]***

***[Insert Image or Table Here or submit a separate budget document]***