SCOPE OF WORK

EV Charging Station Installation

Capitol Complex Parking Garage
Trenton, Mercer County, N.J.

Project No. A1367-00

STATE OF NEW JERSEY

Honorable Philip D. Murphy, Governor
Honorable Sheila Y. Oliver, Lt. Governor

DEPARTMENT OF THE TREASURY

Elizabeth Maher Muoio, Treasurer

DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

Christopher Chianese, Director

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I. OBJECTIVE

The objective of this project is to install five (5) level two chargers and one (1) level 3 charger on the second level of the New Jersey State House Parking Garage. Electrical infrastructure for future expansion will also be installed.

II. CONSULTANT QUALIFICATIONS

A. CONSULTANT & SUB-CONSULTANT PRE-QUALIFICATIONS

The Consultant shall be a firm pre-qualified with the Division of Property Management & Construction (DPMC) in the following discipline(s):

- **P002 Electrical Engineering**

As well as, **any and all** other Architectural, Engineering and Specialty Disciplines necessary to complete the project as described in this Scope of Work (SOW).

III. PROJECT BUDGET

A. CONSTRUCTION COST ESTIMATE (CCE)

The initial Construction Cost Estimate (CCE) for this project is $250,000.

The Consultant shall review this Scope of Work and provide a narrative evaluation and analysis of the accuracy of the proposed project CCE in its technical proposal based on its professional experience and opinion.

B. CURRENT WORKING ESTIMATE (CWE)

The Current Working Estimate (CWE) for this project is $386,750.

The CWE includes the construction cost estimate and all consulting, permitting and administrative fees.

The CWE is the Client Agency's financial budget based on this project Scope of Work and shall not be exceeded during the design and construction phases of the project unless DPMC approves the change in Scope of Work through a Contract amendment.

C. CONSULTANT'S FEES

The construction cost estimate for this project ***shall not*** be used as a basis for the Consultant's design and construction administration fees. The Consultant's fees shall be based on the information contained in this Scope of Work document and the observations made and/or the additional information received during the pre-proposal meeting.

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.

PROJECT PHASE	ESTIMATED DURATION (Calendar Days)
1. Site Access Approvals & Schedule Design Kick-off Meeting	**14**
2. Design Development Phase 50% (Minimum)	**42**
• *Project Team & DPMC Plan/Code Unit Review & Comment*	14
3. Final Design Phase 100%	**42**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	14
4. Final Design Re-Submission to Address Comments	**7**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	14
5. DCA Submission Plan Review	**30**
6. Permit Application Phase	**7**
• *Issue Plan Release*	
7. Bid Phase	**42**
8. Award Phase	**28**
9. Construction Phase	**90**

B. CONSULTANT'S PROPOSED DESIGN & CONSTRUCTION SCHEDULE

The Consultant shall submit a project design and construction bar chart schedule with its technical proposal that is similar in format and detail to the schedule depicted in **Exhibit 'A'**. The bar chart schedule developed by the Consultant shall reflect its recommended project phases, phase activities, activity durations.

The Consultant shall estimate the duration of the project Close-Out Phase based on the anticipated time required to complete each deliverable identified in Section XIV of this document entitled "Contract Deliverables - Project Close-Out Phase" and include this information in the bar chart schedule submitted.

A written narrative shall also be included with the technical proposal explaining the schedule submitted and the reasons why and how it can be completed in the time frame proposed by the Consultant.

This schedule and narrative will be reviewed by the Consultant Selection Committee as part of the evaluation process and will be assigned a score commensurate with clarity and comprehensiveness of the submission.

C. CONSULTANT DESIGN SCHEDULE

Based on the Notice to Proceed, Consultant shall update its approved schedule and shall distribute it at the design kickoff meeting. Note that this schedule shall be submitted in both paper format and on compact disk in a format compatible with *Microsoft Project*. This schedule will be binding for the Consultant's activities and will include the start and completion dates for each design activity. The Consultant and Project Team members shall use this schedule to ensure that all design milestone dates are being met for the project. The Consultant shall update the schedule to reflect performance periodically (minimally at each design phase) for the Project Team review and approval. Any recommendations for deviations from the approved design schedule must be explained in detail as to the causes for the deviation(s) and impact to the schedule.

D. BID DOCUMENT CONSTRUCTION SCHEDULE

The Consultant shall include a construction schedule in Division 1 of the specification bid document. This schedule shall contain, at minimum, the major activities and their durations for each trade specified for the project. This schedule shall be in "bar chart" format and will be used by the Contractors as an aid in determining their bid price. It shall reflect special sequencing or phased construction requirements including, but not limited to: special hours for building access, weather restrictions, imposed constraints caused by Client Agency program schedules, security

needs, lead times for materials and equipment, anticipated delivery dates for critical items, utility interruption and shut-down constraints, and concurrent construction activities of other projects at the site and any other item identified by the Consultant during the design phases of the project.

E. CONTRACTOR CONSTRUCTION PROGRESS SCHEDULE

The Contractor shall be responsible for preparing a coordinated combined progress schedule with the Sub-Contractors after the award of the contract. This schedule shall meet all of the requirements identified in the Consultant's construction schedule. The construction schedule shall be completed in accordance with the latest edition of the Instructions to Bidders and General Conditions and Bulletins that may be issued on the project.

The Consultant must review and analyze this progress schedule and recommend approval/disapproval to the Project Team until a satisfactory version is approved by the Project Team. The Project Team must approve the baseline schedule prior to the start of construction and prior to the Contractor submitting invoices for payment.

The Consultant shall note in Division 1 of the specification that the State will not accept the progress schedule until it meets the project contract requirements and any delays to the start of the construction work will be against the Contractor until the date of acceptance by the State.

The construction progress schedule shall be reviewed, approved, and updated by the Contractor, Consultant, and Project Team members at each regularly scheduled construction job meeting and the Consultant shall note the date and trade(s) responsible for project delays (as applicable).

V. PROJECT SITE LOCATION & TEAM MEMBERS

A. PROJECT SITE ADDRESS

The location of the project site is:

Capitol Complex Parking Garage
165 West State Street
Trenton, New Jersey 08625

See **Exhibit 'B'** for the project site location map.

B. PROJECT TEAM MEMBER DIRECTORY

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

1. DPMC Representative:

Name: Babatunde Ogunnubi, Project Manager
Address: Division of Property Management & Construction
20 West State Street, 3rd Floor
Trenton, NJ 08608-1206
Phone No: (609) 633-7061
E-Mail No: Babatunde.Ogunnubi@treas.nj.gov

2. Client Agency Representative:

Name: Steven Pietrzak, Building Manager
Address: Division of Property Management & Construction
New Jersey State House
PO Box 239
Trenton, New Jersey 08625-0239
Phone No: (609) 777-4411
E-Mail No: steven.pietrzak@treas.nj.gov

VI. PROJECT DEFINITION

A. BACKGROUND

On January 17, 2020, Governor Phil Murphy signed comprehensive legislation (S2252) that establishes goals and incentives for the increased use of plug-in electric vehicles and infrastructure in New Jersey. NJ law will require 25% of state-owned non-emergency light duty vehicles to be plug in electric vehicles by 2025 and for 100% of vehicles to be plug in EV's by 2035.

In 2021, the State procured the services of Gannett Fleming to perform a feasibility study to install electric vehicle charging stations in the Capitol Complex (State House) Parking Garage. Gannett Fleming provided three different options to install up to thirty-six (36) level 2 chargers and two (2) level 3 chargers (DC Fast Chargers) within the parking garage. All three options were deemed too expensive by the State Capitol Joint Management Commission (SCJMC). This project will follow the goals established in Option 2 of the Gannett Fleming report but with reduced numbers of chargers, while allowing for future expansion. The Gannett Fleming Study is shown in **Exhibit 'F'** at the end of this Scope of Work. A presentation in front of the SCJMC will be required by the Consultant for this project.

The chargers are being installed to serve the people who utilize the State House garage including visitors, legislators and Complex tenants. Public access to chargers will help qualify these chargers for many available programs. Chargers should be on a separate service out of the PSEG substation at the State House. When the EV tariffs become available in a couple of years, the charging will not negatively impact the performance of the entire State House billing structure. Type 3 chargers (DC fast chargers) will greatly impact the demand charges.

PSEG's Clean Energy Future-EV program will provide rebates toward the installation of the charging infrastructure. Available incentives can be found at: incentivesummary.pdf (nj.gov). A condition of the PSEG and DEP rebates is that the data be shared about the charger usage. These groups need this data to be able to better predict the effects of EV charging on the energy grid which is currently a big unknown. Project requirements include communications and Point of Sale networking.

The Division of Purchase and Property (DPP), under the State of New Jersey Treasury Department, is currently working on a contract for the purchase of equipment with associated service contracts. The service agreement that is being pursued as part of the term contract with DPP enables the sharing of data even if a state vehicle uses a commercial charger (like the ones by eVgo or Chargepoint located throughout the State). Chargers shall be networked together. "Dumb" chargers with no network capabilities will not be used. Chargepoint equipment will be the basis of design.

B. FUNCTIONAL DESCRIPTION OF THE BUILDING

The Capitol Complex Parking Garage was designed in 1995 and built in 1996. The north portion of the Garage extends two levels below grade and has an at-grade pedestrian plaza as its roof. The larger, south portion of the Garage extends three levels below the plaza. This area is only partially below grade because it was built into the side of a hill. On the west side of the facility is a high bay loading dock close to the project site location.

The parking garage is broken into 4 distinct structures, the Loading Dock, the Parking Garage North Side, the Parking Garage South Side, and the Mechanical Equipment Room (MER). The MER contains mechanical and electrical equipment for the lighting, heating, and cooling of both the garage and the adjacent State House. See **Exhibit 'C'** for a schematic plan showing the arrangement of the 4 parking garage structures. The chargers will be located on the western end of the second level of the Parking Garage South Side near the substation and switching station.

The project will install five (5) level 2 chargers and one (1) level 3 (DC Fast Charger) on level 2 of the Capitol Complex Parking Garage. According to Gannett Fleming, the charging stations will require a 600A 480V distribution panelboard, 480-208Y/120V 150 kVA transformer, and a 500A 208V distribution panelboard. An additional 150 kVA transformer and 500A 208V distribution panelboard will be shown as future. Charging stations shall be pedestal or wall mounted. Wall mounting may eliminate the need for protective bollards.

At least one of the parking spots to receive a level 2 charger shall be made accessible for people with disabilities. See **Exhibit 'G'** for guidance.

VII. CONSULTANT DESIGN RESPONSIBILITIES

A. DESIGN REQUIREMENTS

The Consultant shall provide construction documents to install five (5) dual head level 2 charging stations and one (1) dual head level 3 charging station in the Capitol Complex Parking Garage. This is expected to include a 600A 480V distribution panelboard, 480-208Y/120V 150 kVA Transformer, and a 500A 208V distribution panelboard. Verify and show, as applicable, additional 150 kVA transformer and a 500A 208V distribution panelboard as future on the drawings. Investigate the possibility of providing conduit infrastructure for future charging stations and provide as applicable.

At least one of the twelve parking spots served by the new EV chargers shall be accessible for people with disabilities.

Chargers shall be wall or pedestal mounted. If pedestal mounted, provide the design for bollard protection.

Investigate an alternative tie-in with PSE&G to determine if a new meter on the existing service would qualify as a dedicated utility service. This may allow for additional incentives by PSE&G.

Provide appropriate signage and restriping of parking spaces as necessary.

B. CONTRACTORS USE OF THE PREMISES

Work with the Project Team to determine any security and policy requirements that must be followed during all work conducted at the facility and include this information in Division 1 of the specification.

Develop procedures for personnel to access the project site and construction areas, and provide the names and phone numbers of approved escorts when needed, see **Exhibit 'E'**, Building Security and Contractor Use of the Premises.

Describe the Contractor security requirements when working in the parking garage and any coordination with the State Police. It shall be noted that all Contractors will be subjected to a

background check by the State Police before being allowed to work the Capitol Complex Parking Garage premises.

C. SPECIAL PRESENTATION

The Consultant shall be required to make an oral presentation, utilizing appropriate graphical tools, describing the work to be completed to the State Capitol Joint Management Commission (SCJMC) at a monthly meeting at the completion of the Final Design Phase (total of one 4 hour meeting).

D. GENERAL DESIGN OVERVIEW

1. Design Detail:

Section VII of this Scope of Work is intended as a guide for the Consultant to understand the overall basic design requirements of the project and is not intended to identify each specific design component related to code and construction items. The Consultant shall provide those details during the design phase of the project ensuring that they are in compliance with all applicable codes, regulating authorities, and the guidelines established in the DPMC Procedures for Architects and Engineers Manual.

The Consultant shall understand that construction documents submitted to DPMC shall go beyond the basic requirements set forth by the Uniform Construction Code N.J.A.C. 5:23-2.15(f). Drawings and specifications shall provide detail beyond that required to merely show the nature and character of the work to be performed. The construction documents shall provide sufficient information and detail to illustrate, describe and clearly delineate the design intent of the Consultant and enable all Contractors to uniformly bid the project.

The Consultant shall review and comply with the DPMC "Plan Review Instructions" which can be found on DPMC's web site at:

http://www.state.nj.us/treasury/dpmc/lists_and_publications.shtml

The Consultant shall ensure that all of the design items described in this scope of work are addressed and included in the project drawings and specification sections where appropriate.

It shall be the Consultant's responsibility to provide all of the design elements for this project. Under no circumstance may they delegate the responsibility of the design; or portions thereof, to the Contractor unless specifically allowed in this Scope of Work.

2. Specification Format:

The Consultant shall prepare the construction specifications in the Construction Specifications Institute (CSI) format entitled MasterFormat©, latest edition.

The project construction specifications shall include only those CSI MasterFormat© specification sections and divisions applicable to this specific project.

3. Submittal Schedule:

The Consultant shall include a submittal schedule in Division 1 of the specifications. The schedule (list of required submittals) shall identify the general conditions and/or specification section (number and name) and the type of submittal required (material data, product data, test results, calculations, etc.). The submittal schedule is a compilation of the submittals required on the project and is provided as an aid to the contractor.

4. Construction Cost Estimates:

The Consultant shall include with each design submittal phase identified in Paragraph IV.A, including the Permit Application Phase and Bid Phase, a detailed construction cost estimate itemized and summarized by the divisions and sections of the Construction Specification Institute (CSI) MasterFormat© latest edition applicable to the project.

The detailed breakdown of each work item shall include labor, equipment, material and total costs.

The construction estimate shall include all alternate bid items and all unit price items itemized and summarized by the divisions and sections of the specifications.

All cost estimates shall be adjusted for regional location, site factors, construction phasing, premium time, building use group, location of work within the building, temporary swing space, security issues, and inflation factors based on the year in which the work is to be performed.

The cost estimate shall include descriptions of all allowances and contingencies noted in the estimate.

All cost estimates must be submitted on a DPMC-38 Project Cost Analysis form at each design phase of the project supported by the detailed construction cost estimate. The Project Manager will provide cost figures for those items which may be in addition to the CCE such as art inclusion, CM services, etc. and must be included as part of the CWE. This cost analysis must be submitted for all projects regardless of the Construction Cost Estimate amount.

E. PROJECT COMMENCEMENT

A pre-design meeting shall be scheduled with the Consultant and the Project Team members at the commencement of the project to obtain and/or coordinate the following information:

1. Project Directory:

Develop a project directory that identifies the name and phone number of key designated representatives who may be contacted during the design and construction phases of this project.

2. Site Access:

Develop procedures to access the project site and provide the names and phone numbers of approved escorts when needed. Obtain copies of special security and policy procedures that must be followed during all work conducted at the facility and include this information in Division 1 of the specification.

3. Project Coordination:

Review and become familiar with any current and/or future projects at the site that may impact the design, construction, and scheduling requirements of this project. Incorporate all appropriate information and coordination requirements in Division 1 of the specification.

4. Existing Documentation:

Copies of the following documents will be provided to each Consulting firm at the pre-proposal meeting to assist in the bidding process.

- **New Jersey State House Complex Parking Garage**, 8/1/95, Torcon, Inc.

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.

5. Scope of Work:

Review the design and construction administration responsibilities and the submission requirements identified in this Scope of Work with the Project Team members. Items such as: contract deliverables, special sequencing or phased construction requirements, special hours for construction based on Client Agency programs or building occupancy, security needs, delivery dates of critical and long lead items, utility interruptions or shut down constraints for tie-ins,

weather restrictions, and coordination with other project construction activities at the site shall be addressed.

This information and all general administrative information; including a narrative summary of the work for this project, ***shall be included in Division 1*** of the specification. The Consultant shall assure that there are no conflicts between the information contained in Division 1 of the specification and the DPMC General Conditions.

6. Project Schedule:

Review and update the project design and construction schedule with the Project Team members.

F. BUILDING & SITE INFORMATION

The following information shall be included in the project design documents.

1. Building Classification:

Provide the building Use Group Classification and Construction Type on the appropriate design drawing.

2. Building Block & Lot Number:

Provide the site Block and Lot Number on the appropriate design drawing.

3. Building Site Plan:

Only when the project scope involves site work, or when the design triggers code issues that require site information to show code compliance, shall a site plan be provided that is drawn in accordance with an accurate boundary line survey. The site plan shall include, but not be limited to, the following as may be applicable:

- The size and location of new and existing buildings and additions as well as other structures.
- The distance between buildings and structures and to lot lines.
- Established and new site grades and contours as well as building finished floor elevations.
- New and existing site utilities, site vehicular and pedestrian roads, walkways and parking areas.

4. Site Location Map:

Provide a site location map on the drawing cover sheet that identifies the vehicular travel routes from major roadways to the project construction site and the approved access roads to the Contractor's worksite staging area.

G. DESIGN MEETINGS & PRESENTATIONS

1. Design Meetings:

Conduct the appropriate number of review meetings with the Project Team members during each design phase of the project so they may determine if the project meets their requirements, question any aspect of the contract deliverables, and make changes where appropriate. The Consultant shall describe the philosophy and process used in the development of the design criteria and the various alternatives considered to meet the project objectives. Selected studies, sketches, cost estimates, schedules, and other relevant information shall be presented to support the design solutions proposed. Special considerations shall also be addressed such as: Contractor site access limitations, utility shutdowns and switchover coordination, phased construction and schedule requirements, security restrictions, available swing space, material and equipment delivery dates, etc.

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

Record the minutes of each design meeting and distribute within seven (7) calendar days to all attendees and those persons specified to be on the distribution list by the Project Manager.

2. Design Presentations:

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

Design Development Phase: One (1) oral presentation at phase completion.

Final Design Phase: One (1) oral presentation at phase completion.

H. CONSTRUCTION BID DOCUMENT SUBMITTAL

In addition to submitting construction bid documents as defined in Section XIV Contract Deliverables, Consultant shall submit both specifications and drawings on compact disk (CD) in *Adobe Portable Document Format (.pdf).*

VIII. CONSULTANT CONSTRUCTION RESPONSIBILITIES

A. GENERAL CONSTRUCTION ADMINISTRATION OVERVIEW

This section of the Scope of Work is intended as a guide for the Consultant to understand its overall basic construction administration responsibilities for the project and does not attempt to identify each specific activity or deliverable required during this phase. The Consultant shall obtain that information from the current publication of the DPMC Procedures for Architects and Engineers Manual and any additional information provided during the Consultant Selection Process.

B. PRE-BID MEETING

The Consultant shall attend, chair, record and distribute minutes of the Contractor pre-bid meetings. When bidders ask questions that may affect the bid price of the project, the Consultant shall develop a Bulletin(s) to clarify the bid documents in the format described in the Procedures for Architects and Engineers Manual, Section 9.2 entitled "Bulletins." These Bulletins must be sent to DPMC at least seven (7) calendar days prior to the bid opening date. DPMC will then distribute the document to all bidders.

C. POST BID REVIEW MEETING, RECOMMENDATION FOR AWARD

The Consultant; in conjunction with the Project Manager, shall review the bid proposals submitted by the various Contractors to determine the low responsible bid for the project. The Consultant, in conjunction with the Project Manager and Project Team members, shall develop a post bid questionnaire based on the requirements below and schedule a post bid review meeting with the Contractor's representative to review the construction costs and schedule, staffing, and other pertinent information to ensure they understand the Scope of the Work and that their bid proposal is complete and inclusive of all requirements necessary to deliver the project in strict accordance with the plans and specifications.

1. Post Bid Review:

Review the project bid proposals including the alternates, unit prices, and allowances within seven (7) calendar days from the bid due date. Provide a bid tabulation matrix comparing all bids submitted and make a statement about the high, low, and average bids received. Include a comparison of the submitted bids to the approved current construction cost estimate. When applicable, provide an analysis with supporting data, detailing why the bids did not meet the construction cost estimate.

2. Review Meeting:

Arrange a meeting with the apparent low bid Contractor to discuss its bid proposal and other issues regarding the award of the contract. Remind the Contractor that this is a Lump Sum bid. Request the Contractor to confirm that its bid proposal does not contain errors. Review and confirm Alternate pricing and Unit pricing and document acceptance or rejection as appropriate.

Comment on all omissions, qualifications and unsolicited statements appearing in the proposals. Review any special circumstances of the project. Ensure the Contractor's signature appears on all post bid review documents.

3. Substitutions:

Inquire about any potential substitutions being contemplated by the Contractor and advise them of the State's guidelines for the approval of substitutions and the documentation required. Review the deadline and advise the Contractor that partial submissions are not acceptable. Submission after the deadline may be rejected by the State.

Equal substitutions that are proposed by the Contractor that are of lesser value must have a credit change order attached with the submittal (See Article 4.7.5 "Substitutions" of the General Conditions). The State has the right to reject the submission if there is no agreement on the proposed credit. Contractor will be responsible to submit a specified item.

4. Schedule:

Confirm that the Contractor is aware of the number of calendar days listed in the contract documents for the project duration and that the Contractor's bid includes compliance with the schedule duration and completion dates. Particular attention shall be given to special working conditions, long lead items and projected delivery dates, etc. Review project milestones (if applicable). This could give an indication of Contractor performance, but not allow a rejection of the bid.

Review the submittal timeframes per the Contract documents. Ask the Contractor to identify what products will take over twenty-eight (28) calendar days to deliver from the point of submittal approval.

If a CPM Schedule is required, review the provisions and have Contractor acknowledge the responsibility. Ask for the name of the CPM Scheduler and the "ballpark" costs.

5. Performance:

Investigate the past performance of Contractor by contacting Architects and owners (generally three of each) that were listed in the DPMC pre-qualification package or other references that may have been provided. Inquire how the Contractor performed with workmanship, schedule, project management, change orders, cooperation, paper work, etc.

6. Letter of Recommendation:

The Consultant shall prepare a Letter of Recommendation for contract award to the Contractor submitting the lowest responsible bid within three (3) calendar days from the post bid review meeting. The document shall contain the project title, DPMC project number, bid due date and expiration date of the proposal. It shall include a detailed narrative describing each post bid meeting agenda item identified above and a recommendation to award the contract to the apparent low bid Contractor based on the information obtained during that meeting. Describe any acceptance or rejection of Alternate pricing and Unit pricing.

Comment on any discussion with the Contractor that provides a sense of its understanding of the project and any special difficulties that they see, and how they might approach those problems.

Attach all minutes of the Post bid meeting and any other relevant correspondence with the Letter of Recommendation and submit them to the Project Manager.

7. Conformed Drawings:

The Consultant shall prepare and distribute two (2) sets of drawings stamped "Conformed Drawings" to the Project Manager that reflect all Bulletins and/or required changes, additions, and deletions to the pertinent drawings within fourteen (14) calendar days of the construction contract award date.

Any changes made in Bulletins, meeting minutes, post bid review requirements shall also be reflected in the specification.

D. DIRECTOR'S HEARING

The Consultant must attend any Director's hearing(s) if a Contractor submits a bid protest. The Consultant shall be present to interpret the intent of the design documents and answer any technical questions that may result from the meeting. In cases where the bid protest is upheld, the Consultant shall submit a new "Letter of Recommendation" for contract award. The hours required to attend the potential hearings and to document the findings shall be estimated by the Consultant and the costs will be included in the base bid of its fee proposal.

E. CONSTRUCTION JOB MEETINGS, SCHEDULES, LOGS

The Consultant shall conduct all of the construction job meetings, to be held bi-weekly for the duration of construction, in accordance with the procedures identified in the A/E manual and those listed below.

1. Meetings:

The Consultant and Sub-Consultant(s) shall attend the pre-construction meeting and all construction job meetings during the construction phase of the project. The Consultant shall chair the meeting, transcribe and distribute the job-meeting minutes for every job meeting to all attendees and to those persons specified to be on the distribution list by the Project Manager. The Agenda for the meeting shall include, but not be limited to the items identified in the Procedures for Architects and Engineers Manual, Section 10.3.1, entitled "Agenda."

Also, the Consultant is responsible for the preparation and distribution of minutes within three (3) working days of the meeting. The format to be used for the minutes shall comply with those identified in the "Procedures for Architects and Engineers Manual," Section 10.3.4, entitled, "Format of Minutes." All meeting minutes are to have an "action" column indicating the party that is responsible for the action indicated and a deadline to accomplish the assigned task. These tasks must be reviewed at each job progress meeting until it is completed and the completion date of each task shall be noted in the minutes of the meeting following the task completion.

2. Schedules:

The Consultant; with the input from the Client Agency Representative and Project Manager, shall review and recommend approval of the project construction schedule prepared by the Contractor. The schedule shall identify all necessary start and completion dates of construction, construction activities, submittal process activities, material deliveries and other milestones required to give a complete review of the project.

The Consultant shall record any schedule delays, the party responsible for the delay, the schedule activity affected, and the original and new date for reference.

The Consultant shall ensure that the Contractor provides a two (2) week "look ahead" construction schedule based upon the current monthly updated schedule as approved at the bi-weekly job meetings and that identifies the daily planned activities for that period. This Contractor requirement must also be included in Division 1 of the specification for reference.

3. Submittal Log:

Based on the Submittal Schedule in Division 1 of the specifications, the Consultant shall develop and implement a submittal log that includes all of the required project submittals as identified in the general conditions and technical specifications. The submittal log shall be provided to the

contractor at the pre-construction meeting. The dates of submission shall be determined and approved by all affected parties during the pre-construction meeting.

Examples of the submissions to be reviewed and approved by the Consultant and Sub-Consultant (if required) include: project schedule, schedule of values, shop drawings, equipment and material catalog cuts, spec sheets, product data sheets, MSDS material safety data sheets, specification procedures, color charts, material samples, mock-ups, etc. The submittal review process must be conducted at each job progress meeting and shall include the Consultant, Sub-Consultant, Contractor, Project Manager, and designated representatives of the Client Agency.

The Consultant shall provide an updated submittal log at each job meeting that highlights the status of all required submissions.

F. CONSTRUCTION SITE ADMINISTRATION SERVICES

The Consultant and Sub-Consultant(s) shall provide construction site administration services during the duration of the project. The Consultant and Sub-Consultant(s) do not necessarily have to be on site concurrently if there are no critical activities taking place that require the Sub-Consultant's participation.

The services required shall include, but not be limited to; field observations sufficient to verify the quality and progress of construction work, conformance and compliance with the contract documents, and to attend/chair meetings as may be required by the Project Manager to resolve special issues.

Consultant and Sub-Consultant(s) shall conduct weekly site inspection/field observation visits. Site inspection/field observation visits may be conducted in conjunction with regularly scheduled bi-weekly construction job meetings, depending on the progress of work, for weeks that construction job meetings are scheduled. The Consultant and its Sub-Consultant(s) shall submit a field observation report for each site inspection to the Project Manager within three (3) calendar days of the site visit. Also, they shall conduct inspections during major construction activities including, but not limited to the following examples: concrete pours, steel and truss installations, code inspections, final testing of systems, achievement of each major milestone required on the construction schedule, and requests from the Project Manager. The assignment of a full time on-site Sub-Consultant does not relieve the Consultant of its site visit obligation.

The Consultant shall refer to Section XIV. Contract Deliverables of this Scope of Work subsection entitled "Construction Phase" to determine the extent of services and deliverables required during this phase of the project.

G. SUB-CONSULTANT PARTICIPATION

It is the responsibility of the Consultant to ensure that they have provided adequate hours and/or time allotted in its technical proposal so that Sub-Consultants may participate in all appropriate phases and activities of this project or whenever requested by the Project Manager. This includes the various design meetings and construction job meetings, site visits, and close-out activities described in this Scope of Work. Field observation reports and/or meeting minutes are required to be submitted to the Project Manager within three (3) calendar days of the site visit or meeting. All costs associated with such services shall be included in the base bid of the Consultant's fee proposal.

H. DRAWINGS

1. Shop Drawings:

Each Contractor shall review the specifications and determine the numbers and nature of each shop drawing submittal. Five (5) sets of the documents shall be submitted with reference made to the appropriate section of the specification. The Consultant shall review the Contractor's shop drawing submissions for conformity with the construction documents within seven (7) calendar days of receipt. The Consultant shall return each shop drawing submittal stamped with the appropriate action, i.e. "Approved", "Approved as Noted", "Approved as Noted Resubmit for Records", "Rejected", etc. The Consultant shall provide an updated shop drawing log at each job meeting that highlights the status of all required shop drawings.

2. As-Built & Record Set Drawings:

The Contractor(s) shall keep the contract drawings up-to-date at all times during construction and upon completion of the project, submit AS-BUILT drawings to the Consultant with the Contractor(s) certification as to the accuracy of the information prior to final payment. All AS-BUILT drawings submitted shall be entitled AS-BUILT above the title block and dated.

The Consultant shall review the Contractor(s)' AS-BUILT drawings at each job progress meeting to ensure that they are up-to-date. Any deficiencies shall be noted in the progress meeting minutes.

The Consultant shall acknowledge acceptance of the AS-BUILT drawings by signing a transmittal indicating they have reviewed them and that they reflect the AS-BUILT conditions as they exist.

Upon receipt of the AS-BUILT drawings from the Contractor(s), the Consultant shall obtain the original reproducible drawings from DPMC and transfer the AS-BUILT conditions to the

original full sized signed reproducible drawings to reflect RECORD conditions within fourteen (14) calendar days of receipt of the AS-BUILT information.

The Consultant shall note the following statement on the original RECORD-SET drawings. "The AS-BUILT information added to this drawing(s) has been supplied by the Contractor(s). The Architect/Engineer does not assume the responsibility for its accuracy other than conformity with the design concept and general adequacy of the AS-BUILT information to the best of the Architect's/Engineer's knowledge."

Upon completion, The Consultant shall deliver the RECORD-SET original reproducible drawings to DPMC who will acknowledge receipt in writing. This hard copy set of drawings and two (2) sets of current release AUTO CAD discs shall be submitted to DPMC. The discs shall contain all AS-BUILT drawings in both ".dwg" (native file format for AUTO CAD) and ".pdf" (*Adobe* portable document format) file formats.

I. CONSTRUCTION DEFICIENCY LIST

The Consultant shall prepare, maintain and continuously distribute an on-going deficiency list to the Contractor, Project Manager, and Client Agency Representative during the construction phase of the project. This list shall be separate correspondence from the field observation reports and shall not be considered as a punch list.

J. INSPECTIONS: SUBSTANTIAL & FINAL COMPLETION

The Consultant and Sub-Consultant(s) accompanied by the Project Manager, Code Inspection Group, Client Agency Representative and Contractor shall conduct site inspections to determine the dates of substantial and final completion. The Project Manager will issue the only recognized official notice of substantial completion. The Consultant shall prepare and distribute the coordinated punch list, written warranties and other related DPMC forms and documents, supplied by the Contractor, to the Project Manager for review and certification of final contract acceptance.

If applicable, the punch list shall include a list of attic stock and spare parts.

K. CLOSE-OUT DOCUMENTS

The Consultant shall review all project close-out documents as submitted by the Contractors to ensure that they comply with the requirements listed in the "Procedure for Architects and Engineers' Manual." The Consultant shall forward the package to the Project Manager within fourteen (14) calendar days from the date the Certificate of Occupancy/Certificate of Approval is issued. The Consultant shall also submit a letter certifying that the project was completed in accordance with the contract documents, etc.

L. CLOSE-OUT ACTIVITY TIME

The Consultant shall provide all activities and deliverables associated with the "Close-Out Phase" of this project as part of its Lump Sum base bid. The Consultant and/or Sub-Consultant(s) may not use this time for additional job meetings or extended administrative services during the Construction Phase of the project.

M. TESTING, TRAINING, MANUALS AND ATTIC STOCK

The Consultant shall ensure that all equipment testing, training sessions and equipment manuals required for this project comply with the requirements identified below.

1. Testing:

All equipment and product testing conducted during the course of construction is the responsibility of the Contractor. However, the Consultant shall ensure the testing procedures comply with manufacturers recommendations. The Consultant shall review the final test reports and provide a written recommendation of the acceptance/rejection of the material, products or equipment tested within seven (7) calendar days of receipt of the report.

2. Training:

The Consultant shall include in the specification that the Contractor shall schedule and coordinate all equipment training with the Project Manager and Client Agency representatives. It shall state that the Contractor shall submit the Operation and Maintenance (O&M) manuals, training plan contents, and training durations to the Consultant, Project Manager and Client Agency Representative for review and approval prior to the training session.

The Consultant shall ensure that the training session is video recorded by the Contractor. A copy of the recording shall be transmitted to the Project Manager on compact disk who will forward the material to the Client Agency for future reference.

All costs associated with the training sessions shall be borne by the Contractor installing the equipment. A signed letter shall be prepared stating when the training was completed and must be accompanied with the training session sign-in sheet as part of the project close-out package.

3. Operation & Maintenance Manuals:

The Consultant shall coordinate and review the preparation and issuance of the equipment manuals provided by the Contractor(s) ensuring that they contain the operating procedures, maintenance procedures and frequency, cut sheets, parts lists, warranties, guarantees, and detailed drawings for all equipment installed at the facility.

A troubleshooting guide shall be included that lists problems that may arise, possible causes with solutions, and criteria for deciding when equipment shall be repaired and when it must be replaced.

Include a list of the manufacturer's recommended spare parts for all equipment being supplied for this project.

A list of names, addresses and telephone numbers of the Contractors involved in the installations and firms capable of performing services for each mechanical item shall be included. The content of the manuals shall be reviewed and approved by the Project Manager and Client Agency Representative.

The Consultant shall include in the specification that the Contractor must provide a minimum of ten (10) "throwaway" copies of the manual for use at the training seminar and seven (7) hardbound copies as part of the project close-out package.

4. Attic Stock:

The Consultant shall determine and recommend whether "attic stock" should be included for all aspects of the project. If required, the Consultant shall specify attic stock items to be included in the project.

Prior to project close-out, the Consultant must prepare a comprehensive listing of all items for delivery by the Contractor to the Owner and in accordance with the appropriate specification/plan section. Items shall include, but not be limited to: training sessions, O&M manuals, as-built drawings, itemized attic stock requirements, and manufacturer guarantees/warranties.

N. CHANGE ORDERS

The Consultant shall review and process all change orders in accordance with the contract documents and procedures described below.

1. Consultant:

The Consultant shall prepare a detailed request for Change Order including a detailed description of the change(s) along with appropriate drawings, specifications, and related documentation and submit the information to the Contractor for the change order request submission. This will require the use of the current DPMC 9b form.

2. Contractor:

The Contractor shall submit a DPMC 9b Change Order Request form to the Project Manager within seven (7) calendar days after receiving the Change Order from the Consultant. The

document shall identify the changed work in a manner that will allow a clear understanding of the necessity for the change. Copies of the original design drawings, sketches, etc. and specification pages shall be highlighted to clarify and show entitlement to the Change Order.

Copies shall be provided of job minutes or correspondence with all relative information highlighted to show the origin of the Change Order. Supplementary drawings from the Consultant shall be included if applicable that indicate the manner to be used to complete the changed work. A detailed breakdown of all costs associated with the change, i.e. material, labor, equipment, overhead, Sub-Contractor work, profit and bond, and certification of increased bond shall be provided.

If the Change Order will impact the time of the project, the Contractor shall include a request for an extension of time. This request shall include a copy of the original approved project schedule and a proposed revised schedule that reflects the impact on the project completion date. Documentation to account for the added time requested shall be included to support entitlement of the request such as additional work, weather, other Contractors, etc. This documentation shall contain dates, weather data and all other relative information.

3. Recommendation for Approval:

The Consultant shall evaluate the reason for the change in work and provide a detailed written recommendation for approval or disapproval of the Change Order Request including backup documentation of costs in CSI format and all other considerations to substantiate that decision.

4. Code Review:

The Consultant shall determine if the Change Order request will require Code review and shall submit six (6) sets of signed and sealed modified drawings and specifications to the DPMC Plan & Code Review Unit for approval or the Department of Community Affairs (DCA), if required. The Consultant must also determine and produce a permit amendment request if required.

5. Cost Estimate:

The Consultant shall provide a detailed cost estimate of the proposed Change Order Request, as submitted by the Contractor, in CSI format (latest edition) for all appropriate divisions and sub-divisions using a recognized estimating formula. The estimate shall then be compared with that of the Contractor's estimate. If any line item in the Consultant's estimate is lower than the corresponding line item in the Contractor's estimate, the Consultant in conjunction with the Project Manager is to contact the Contractor by telephone and negotiate the cost differences. The Consultant shall document the negotiated agreement on the Change Order Request form. If the Contractor's total dollar value changes based on the negotiations, the Consultant shall identify the changes on the Change Order Request form accordingly.

When recommending approval or disapproval of the change order, the Consultant shall be required to prepare and process a Change Order package that contains at a minimum the following documents:

- DPMC 9b Change Order Request
- DPMC 10 Consultant's Evaluation of Contractor's Change Order Request
- Consultant's Independent Detailed Cost Estimate
- Notes of Negotiations

6. Time Extension:

When a Change Order Request is submitted with both cost and time factors, the Consultant's independent cost estimate is to take into consideration time factors associated with the changed work. The Consultant is to compare its time element with that of the Contractor's time request and if there is a significant difference, the Consultant in conjunction with the Project Manager is to contact the Contractor by telephone and negotiate the difference.

When a Change Order Request is submitted for time only, the Consultant is to do an independent evaluation of the time extension request using a recognized scheduling formula.

Requests for extension of contract time must be done in accordance with the General Conditions Article 10.1 "Changes in the Work".

7. Submission:

The Consultant shall complete all of the DPMC Change Order Request forms provided and submit a completed package to the Project Manager with all appropriate backup documentation within seven (7) calendar days from receipt of the Contractor's change order request. The Consultant shall resubmit the package at no cost to the State if the change order package contents are deemed insufficient by the Project Manager.

8. Meetings:

The Consultant shall attend and actively participate at all administrative hearings or settlement conferences as may be called by Project Manager in connection with such Change Orders and provide minutes of those meetings to the Project Manager for distribution.

9. Consultant Fee:

All costs associated with the potential Contractor Change Order Requests shall be anticipated by the Consultant and included in the base bid of its fee proposal.

If the Client Agency Representative requests a scope change; and it is approved by the Project Manager, the Consultant may be entitled to be reimbursed through an amendment and in accordance with the requirements stated in paragraph 10.01 of this Scope of Work.

IX. PERMITS & APPROVALS

A. NJ UNIFORM CONSTRUCTION CODE PERMIT

The project construction documents must comply with the latest adopted edition of the NJ Uniform Construction Code (NJUCC).

The latest NJUCC Adopted Codes and Standards can be found at:

http://www.state.nj.us/dca/divisions/codes/codreg/

1. NJ Uniform Construction Code (NJUCC) Plan Review

Consultant shall estimate the cost of the NJUCC Plan Review by DCA and include that amount in their fee proposal line item entitled **"Plan Review and Permit Fee Allowance"**, refer to paragraph XI.A.

Upon approval of the Final Design Phase Submission by DPMC, the Consultant shall submit the construction documents to the Department of Community Affairs (DCA), Bureau of Construction Project Review to secure a complete plan release.

Procedures for submission to the DCA Plan Review Unit can be found at:

https://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_app_guide.pdf

Consultant shall complete the "Project Review Application" and include the following on Block 5 as the "Owner's Designated Agent Name":

Joyce Spitale, DPMC
PO Box 235
Trenton, NJ 08625-0235
Joyce.Spitale@treas.nj.gov 609-943-5193

The Consultant shall complete the NJUCC "Plan Review Fee Schedule", determine the fee due and pay the NJUCC Plan Review fees, refer to Paragraph XI.A.

The NJUCC "Plan Review Fee Schedule" can be found at:

http://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_fees.pdf

2. NJ Uniform Construction Code Permit

Upon receipt of a complete plan release from the DCA Bureau of Construction Project Review, the Consultant shall complete the NJUCC permit application and all applicable technical sub-code sections. The "Agent Section" of the application and certification section of the building sub-code section shall be signed. These documents, with **six (6) sets of DCA approved, signed and sealed construction documents** shall be forwarded to the DPMC Project Manager.

The Consultant may obtain copies of all NJUCC permit applications at the following website:

http://www.state.nj.us/dca/divisions/codes/forms/

All other required project permits shall be obtained and paid for by the Consultant in accordance with the procedures described in Paragraph IX.B.

3. Prior Approval Certification Letters:

The issuance of a construction permit for this project may be contingent upon acquiring various "prior approvals" as defined by N.J.A.C. 5:23-1.4. It is the Consultant's responsibility to determine which prior approvals, if any, are required. The Consultant shall submit a general certification letter to the DPMC Plan & Code Review Unit Manager during the Permit Phase of this project that certifies all required prior approvals have been obtained.

In addition to the general certification letter discussed above, the following specific prior approval certification letters, where applicable, shall be submitted by the Consultant to the DPMC Plan & Code Review Unit Manager: Soil Erosion & Sediment Control, Water & Sewer Treatment Works Approval, Coastal Areas Facilities Review, Compliance of Underground Storage Tank Systems with N.J.A.C. 7:14B, Pinelands Commission, Highlands Council, Well Construction and Maintenance; Sealing of Abandoned Wells with N.J.A.C. 7:9D, Certification that all utilities have been disconnected from structures to be demolished, Board of Health Approval for Potable Water Wells, Health Department Approval for Septic Systems. It shall be noted that in accordance with N.J.A.C. 5:23-2.15(a)5, a permit cannot be issued until the letter(s) of certification is received.

4. Multi-building or Multi-site Permits:

A project that involves many buildings and/or sites requires that a separate permit shall be issued for each building or site. The Consultant must determine the construction cost estimate for *each* building and/or site location and submit that amount where indicated on the permit application.

5. Special Inspections:

In accordance with the requirements of the New Jersey Uniform Construction Code N.J.A.C. 5:23-2.20(b), Bulletin 03-5 and Chapter 17 of the International Building Code, the Consultant shall be responsible for the coordination of all special inspections during the construction phase of the project.

Bulletin 03-5 can be found at:

http://www.state.nj.us/dca/divisions/codes/publications/pdf_bulletins/b_03_5.pdf

a. Definition:

Special inspections are defined as an independent verification by a certified Special Inspector for **Class I buildings and smoke control systems in any class building**. The special inspector is to be independent from the Contractor and responsible to the Consultant so that there is no possible conflict of interest.

Special inspectors shall be certified in accordance with the requirements in the New Jersey Uniform Construction Code.

b. Responsibilities:

The Consultant shall submit with the permit application, a list of special inspections and the agencies or special inspectors that will be responsible to carry out the inspections required for the project. The list shall be a separate document, on letter head, signed and sealed.

B. OTHER REGULATORY AGENCY PERMITS, CERTIFICATES AND APPROVALS

The Consultant shall identify and obtain all other State Regulatory Agency permits, certificates, and approvals that will govern and affect the work described in this Scope of Work. An itemized list of these permits, certificates, and approvals shall be included with the Consultant's Technical Proposal and the total amount of the application fees should be entered in the Fee Proposal line item entitled, **"Permit Fee Allowance."**

The Consultant may refer to the Division of Property Management and Construction "Procedures for Architects and Engineers Manual", Section 6.4.8, which presents a compendium of State permits, certificates, and approvals that may be required for this project.

The Consultant shall determine the appropriate phase of the project to submit the permit application(s) in order to meet the approved project milestone dates.

Where reference to an established industry standard is made, it shall be understood to mean the most recent edition of the standard unless otherwise noted. If an industry standard is found to be revoked, or should the standard have undergone substantial change or revision from the time that the Scope of Work was developed, the Consultant shall comply with the most recent edition of the standard.

C. STATE INSURANCE APPROVAL

If requested by the using agency or DPMC design management, plans and specifications shall be submitted to the State insurance underwriter for review and comment. The plans shall be sent directly by the consultant and a copy of the comments, if any, shall be provided to the DPMC Plan & Code Review Unit for its information. The Consultant shall review all the comments and, with agreement of the Project Team, modify the documents while adhering to the project's SOW requirements, State code requirements, schedule, budget, and Consultant fee.

D. PUBLIC EMPLOYEES OCCUPATIONAL SAFETY & HEALTH PROGRAM

A paragraph shall be included in the design documents, if applicable to this project that states: The Contractor shall comply with all the requirements stipulated in the Public Employees Occupational Safety & Health Program (PEOSHA) document, paragraph 12:100-13.5 entitled "Air quality during renovation and remodeling". The Contractor shall submit a plan demonstrating the measures to be utilized to confine the dust, debris, and air contaminants in the renovation or construction area of the project site to the Project Team prior to the start of construction.

The link to the document is:

http://www.nj.gov/health/workplacehealthandsafety/peosh/peosh-health-standards/iaq.shtml

E. PERMIT MEETINGS

The Consultant shall attend and chair all meetings with Permitting Agencies necessary to explain and obtain the required permits.

F. MANDATORY NOTIFICATIONS

The Consultant shall include language in Division 1 of the specification that states the Contractor shall assure compliance with the New Jersey "One Call" Program (1-800-272-1000) if any excavation is to occur at the project site.

The One Call Program is known as the "New Jersey Underground Facility Protection Act", refer to N.J.A.C. 14:2.

G. CONSULTANT FEE

The Consultant shall determine the efforts required to complete and submit all permit applications, obtain and prepare supporting documentation, attend meetings, etc., and include the total cost in the base bid of its fee proposal under the "Permit Phase".

X. GENERAL REQUIREMENTS

A. SCOPE CHANGES

The Consultant must request any changes to this Scope of Work in writing. An approved DPMC 9c Consultant Amendment Request form reflecting authorized scope changes must be received from the Consultant prior to undertaking any additional work. The DPMC 9c 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 9c form is done at the Consultant's own financial risk.

B. ERRORS AND OMISSIONS

The errors and omissions curve and the corresponding sections of the "Procedures for Architects and Engineers Manual" are eliminated. All claims for errors and omissions will be pursued by the State on an individual basis. The State will review each error or omission with the Consultant and determine the actual amount of damages, if any, resulting from each negligent act, error or omission.

C. ENERGY INCENTIVE PROGRAM

The Consultant shall review the programs described on the "New Jersey's Clean Energy Program" website at: http://www.njcleanenergy.com as well as New Jersey electric and gas utility websites to determine if any proposed upgrades to the mechanical and/or electrical

equipment and systems for this project qualify for "New Jersey Clean Energy Program" or utility approved rebates and incentives.

The Consultant shall be responsible to complete the appropriate registration forms and applications, provide any applicable worksheets, manufacturer's specification sheets, calculations, attend meetings, and participate in all activities with designated representatives of the programs and utility companies to obtain the entitled financial incentives and rebates for this project. All costs associated with this work shall be estimated by the Consultant and the amount included in the base bid of its fee proposal.

XI. ALLOWANCES

A. PLAN REVIEW AND PERMIT FEE ALLOWANCE

The Consultant shall obtain and pay for all of the project permits in accordance with the guidelines identified below.

1. Permits:

The Consultant shall determine the various permits, certificates, and approvals required to complete this project.

2. Permit Costs:

The Consultant shall estimate the application fee costs for all of the required plan reviews, permits, certificates, and approvals (excluding the NJ Uniform Construction Code permit) and include that amount in their fee proposal line item entitled **"Plan Review and Permit Fee Allowance",** refer to Paragraph IX.A. A breakdown of each permit and application fee shall be attached to the fee proposal for reference.

NOTE: The NJ Uniform Construction Code permit is excluded since it will be paid by the State.

3. Applications:

The Consultant shall complete and submit all permit applications to the appropriate permitting authorities and the costs shall be paid from the Consultant's permit fee allowance. A copy of the application(s) and the original permit(s) obtained by the Consultant shall be given to the DPMC Project Manager for distribution during construction.

4. Consultant Fee:

The Consultant shall determine what is required to complete and submit the permit applications, obtain supporting documentation, attend meetings, etc., and include the total cost in the base bid of its fee proposal under the "Permit Phase" column.

Any funds remaining in the permit allowance will be returned to the State at the close of the project.

XII. SUBMITTAL REQUIREMENTS

A. CONTRACT DELIVERABLES

All submissions shall include the Contract Deliverables identified in Section XIV of this Scope of Work and described in the DPMC Procedures for Architects and Engineers Manual.

B. CATALOG CUTS

The Consultant shall provide catalog cuts as required by the DPMC Plan & Code Review Unit during the design document review submissions. Examples of catalog cuts include, but are not limited to: mechanical equipment, hardware devices, plumbing fixtures, fire suppression and alarm components, specialized building materials, electrical devices, etc.

C. PROJECT DOCUMENT BOOKLET

The Consultant shall submit all of the required Contract Deliverables to the Project Manager at the completion of each phase of the project. All reports, meeting minutes, plan review comments, project schedule, cost estimate in CSI format (latest edition), correspondence, calculations, and other appropriate items identified on the Submission Checklist form provided in the A/E Manual shall be presented in an 8½" x 11" bound "booklet" format.

D. DESIGN DOCUMENT CHANGES

Any corrections, additions, or omissions made to the submitted drawings and specifications at the Permit Phase of the project must be submitted to DPMC Plan & Code Review Unit as a complete document. Corrected pages or drawings may not be submitted separately unless the Consultant inserts the changed page or drawing in the original documents. No Addendums or Bulletins will be accepted as a substitution to the original specification page or drawing.

E. SINGLE-PRIME CONTRACT

All references to "separate contracts" in the Procedures for Architects and Engineers Manual, Chapter 8, shall be deleted since this project will be advertised as a "Single Bid" (Lump Sum All

Trades) contract. The single prime Contractor will be responsible for all work identified in the drawings and specifications.

The drawings shall have the required prefix designations and the specification sections shall have the color codes as specified for each trade in the DPMC Procedure for Architects and Engineers Manual.

The Consultant must still develop the Construction Cost Estimate (CCE) for each trade and the amount shall be included on the DPMC-38 Project Cost Analysis form where indicated. This document shall be submitted at each design phase of the project and updated immediately prior to the advertisement to bid.

XIII. 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 W. Wright 4/13/2022

JAMES WRIGHT, MANAGER — DATE
DPMC PROJECT PLANNING & INITIATION

SOW APPROVED BY: Steven R Pietrzak 4-20-22

STEVEN PIETRZAK, BUILDING MANAGER STATE — DATE
HOUSE BUILDING MANAGEMENT OFFICE

SOW APPROVED BY: 04/20/2022

BABATUNDE OGUNNUBI, PROJECT MANAGER — DATE
DPMC PROJECT MANAGEMENT GROUP

SOW APPROVED BY: Richard S Flodmand 4/20/22

RICHARD FLODMAND, DEPUTY DIRECTOR — DATE
DIV PROPERTY MGT & CONSTRUCTION

XIV. CONTRACT DELIVERABLES

The following is a listing of Contract Deliverables that are required at the completion of each phase of this project. The Consultant shall refer to the DPMC publication entitled, "Procedures for Architects and Engineers," Volumes I and II, 2nd Edition, dated January, 1991 to obtain a more detailed description of the deliverables required for each item listed below.

The numbering system used in this "Contract Deliverables" section of the scope of work corresponds to the numbering system used in the "Procedures for Architects and Engineers" manual and some may have been deleted if they do not apply to this project.

DESIGN DEVELOPMENT PHASE: 50% Complete Design Documents (Minimum)

7.1 Project Schedule (Update Bar Chart Schedule)

7.2 Meetings & Minutes (Minutes within seven (7) calendar days of meeting)

7.3 Correspondence

7.4 Submission Requirements

7.4.1 A/E Statement of Site Visit, As-Built Drawing Verification (if available)
7.4.2 Space Analysis & Program Requirements
7.4.3 Special Features Description: communications, security, special structural features, etc.
7.4.4 Site Evaluation
7.4.8 Regulatory Agency Approvals
7.4.9 Confirm Utility Availability (On Site & Public)
Electric Service
7.4.10 Drawings: 6 sets
Cover Sheet (See A/E Manual for format)
Site Plan
Site Utility Plan
Floor Plans
Elevations
Sections/Details
Electrical Drawings, Riser Diagram, Panel Schedules, Service Size
7.4.11 Specifications: 6 sets (See A/E Manual for format, include Division 1 and edit to describe the administrative and general requirements of the project)
7.4.12 Current Working Estimate in CSI Format & Cost Analysis 38 Form
7.4.13 Bar Chart of Design and Construction Schedule

7.4.14 Oral Presentation of Submission to Project Team
7.4.15 SOW Compliance Statement
7.4.16 This Submission Checklist (See A/E Manual, Figure 6.4.16 for format)
7.4.17 Deliverables Submission in Booklet Form: 7 sets

7.5 Approval

7.5.1 Respond to Submission Comments

7.6 Submission Forms

Figure 7.4.12 Current Working Estimate/Cost Analysis
Figure 7.4.16 Submission Checklist

FINAL DESIGN PHASE 100% Complete Construction Documents

This Final Design Phase may require more than one submission based on the technical quality and code conformance of the design documents.

8.1 Schedule (Update Bar Chart Schedule)

8.2 Meeting & Minutes (Minutes within seven (7) calendar days of meeting)

8.3 Correspondence

8.4 Submission Requirements

8.4.1 A/E Statement of Site Visit
8.4.2 Space Analysis
8.4.3 Special Features Description: communications, security, special structural features, etc.
8.4.4 Site Evaluation
8.4.8 Regulatory Agency Approvals (Include itemized list specific to this project)
8.4.10 Drawings: 6 sets
8.4.11 Specifications: 6 sets
8.4.12 Current Working Estimate in CSI Format & Cost Analysis 38 Form
8.4.13 Bar Chart of Design and Construction Schedule
8.4.14 Oral Presentation of this Submission to Project Team
8.4.15 Plan Review/SOW Compliance Statement
8.4.16 This Submission Checklist
8.4.17 Deliverables Submission in Booklet Form: 7 sets

8.5 Approvals

8.5.1 Respond to Submission Comments

PERMIT APPLICATION PHASE

This Permit Application Phase should not include any additional design issues. Design documents shall be 100% complete at the Final Design Phase.

8.6 Permit Application Submission Requirements

8.6.1 - 8.6.7: If all of the deliverables of these sections have been previously submitted to DPMC and approved there are no further deliverables due at this time
8.6.8 Regulatory Agency Approvals
(a) UCC Permit Application & Technical Sub-codes completed by A/E
8.6.9 Utility Availability Confirmation
8.6.10 Signed and Sealed Drawings: 6 sets
8.6.11 Signed and Sealed Specifications: 6 sets
8.6.12 Current Working Estimate/Cost Analysis
8.6.13 Bar Chart Schedule
8.6.14 Project Presentation (N/A this Project)
8.6.15 Plan Review/SOW Compliance Statement
8/6.16 Submission Checklist

8.7 Approvals

8.8 Submission Forms

Figure 8.4.12 Current Working Estimate/Cost Analysis
Figure 8.4.16 Submission Checklist (Final Review Phase)
Figure 8.6.12-b Bid Proposal Form (Form DPMC -3)
Figure 8.6.12-c Notice of Advertising (Form DPMC -31)
Figure 8.6.16 Submission Checklist (Permit Phase)
Figure 8.7 Bid Clearance Form (Form DPMC -601)

BIDDING AND CONTRACT AWARD

9.0 Bidding Phase Requirements

9.01 Original Drawings signed & sealed by A/E and drawings on compact disk (CD) in *Adobe Portable Document Format (.*pdf)
9.02 One Unbound Specification Color Coded per A/E Manual Section 8.4.11 and specifications on compact disk (CD) in *Adobe Portable Document Format (.*pdf)
` 9.03 Bid Documents Checklist

9.04 Bid Proposal Form
9.05 Notice for Advertising

9.1 Chair Pre-Bid Conference/Mandatory Site Visit

9.2 Prepare Bulletins

9.3 Attend Bid Opening

9.4 Recommendation for Contract Award

9.4.1 Prepare Letter(s) of Recommendation for Award & Cost Analysis

9.5 Attend Post Bid Review Meeting(s)

9.6 Submission Checklist

9.7 Submission Forms

Figure 9.4.1 Cost Analysis
Figure 9.6 Submission Checklist

CONSTRUCTION PHASE

10.1 Site Construction Administration

10.2 Pre-Construction Meeting

10.3 Construction Job Meetings

10.3.1 Agenda: Schedule and Chair Construction Job Meetings
10.3.2 Minutes: Prepare and Distribute Minutes within 3 working days of meeting
10.3.3 Schedules; Approve Contractors' Schedule & Update
10.3.4 Minutes Format: Prepare Job Meeting Minutes in approved format, figure 10.3.4-a

10.4 Correspondence

10.5 Prepare and Deliver Conformed Drawings

10.7 Approve Contractors Invoicing and Payment Process

10.8 Approve Contractors 12/13 Form for Subs, Samples and Materials

10.10 Approve Test Reports

10.11 Approve Shop Drawings

10.12 Construction Progress Schedule

10.12.1 Construction Progress Schedule

10.13 Review & Recommend or Reject Change Orders

10.13.1 Scope Changes
10.13.2 Construction Change Orders
10.13.3 Field Changes

10.14 Construction Photographs

10.15 Submit Field Observation Reports

10.16 Submission Forms

Figure 10.3.4-a Job Meeting Format of Minutes
Figure 10.3.4-b Field Report
Figure 10.6 DPMC Insurance Form-24
Figure 10.6-a Unit Schedule Breakdown
Figure 10.6-b Monthly Estimate for Payment to Contractor DPMC 11-2
Figure 10.6-c Monthly Estimate for Payment to Contractor DPMC 11-2A
Figure 10.6-d Invoice DPMC 11
Figure 10.6-e Prime Contractor Summary of Stored Materials DPMC 11-3
Figure 10.6-f Agreement & Bill of Sale certificate for Stored Materials DPMC 3A
Figure 10.7-a Approval Form for Subs, Samples & Materials DPMC 12
Figure 10.7-b Request for Change Order DPMC 9b
Figure 10.9 Transmittal Form DPMC 13
Figure 10.10 Submission Checklist

PROJECT CLOSE-OUT PHASE

11.1 Responsibilities: Plan, Schedule and Execute Close-Out Activities

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

11.3 Develop Punch List & Inspection Reports

11.4 Verify Correction of Punch List Items

11.5 Determination of Substantial Completion

11.6 Ensure Issuance of "Temporary Certificate of Occupancy or Approval"

11.7 Initiation of Final Contract Acceptance Process

11.8 Submission of Close-Out Documentation

11.8.1 As-Built & Record Set Drawings, 3 sets AUTOCAD Discs Delivered to DPMC
11.8.2 (a) Maintenance and Operating manuals, Warranties, etc.: 7 sets each
(b) Guarantees
(c) Testing and Balancing Reports
(d) Boiler Inspection Certificates
(e) Elevator Inspection Report
(f) Shop Drawings
(g) Letter of Contract Performance
11.8.3 Final Cost Analysis-Insurance Transfer DPMC 25
11.8.4 This Submission Checklist

11.9 Final Payment

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

11.10 Final Performance Evaluation of the A/E and the Contractors

11.11 Ensure Issuance of a "Certificate of Occupancy or Approval"

11.12 Submission Forms

Figure 11.2 Project Close-Out Documentation List DPMC 20A
Figure 11.3-a Certificate of Substantial Completion DPMC 20D
Figure 11.3-b Final Acceptance of Consultant Contract DPMC 20C
Figure 11.5 Request for Contract Transition Close-Out DPMC 20X
Figure 11.7 Final Contract Acceptance Form DPMC 20
Figure 11.8.3-a Final Cost Analysis
Figure 11.8.3-b Insurance Transfer Form DPMC 25
Figure 11.8.4 Submission Checklist

XV. 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.

A. SAMPLE PROJECT SCHEDULE FORMAT
B. PROJECT SITE LOCATION MAP
C. PARKING GARAGE LAYOUT
D. PHOTOS
E. BUILDING SECURITY AND CONTRACTOR USE OF THE PREMISES
F. ELECTRIC VEHICLE CHARGING STATIONS FEASIBILITY STUDY
G. COMPLIANCE AND BEST PRACTICES GUIDLEINES FOR ACCESSIBLE EV CHARGER INSTALLATION

END OF SCOPE OF WORK

February 7, 1997
Rev.: January 29, 2002

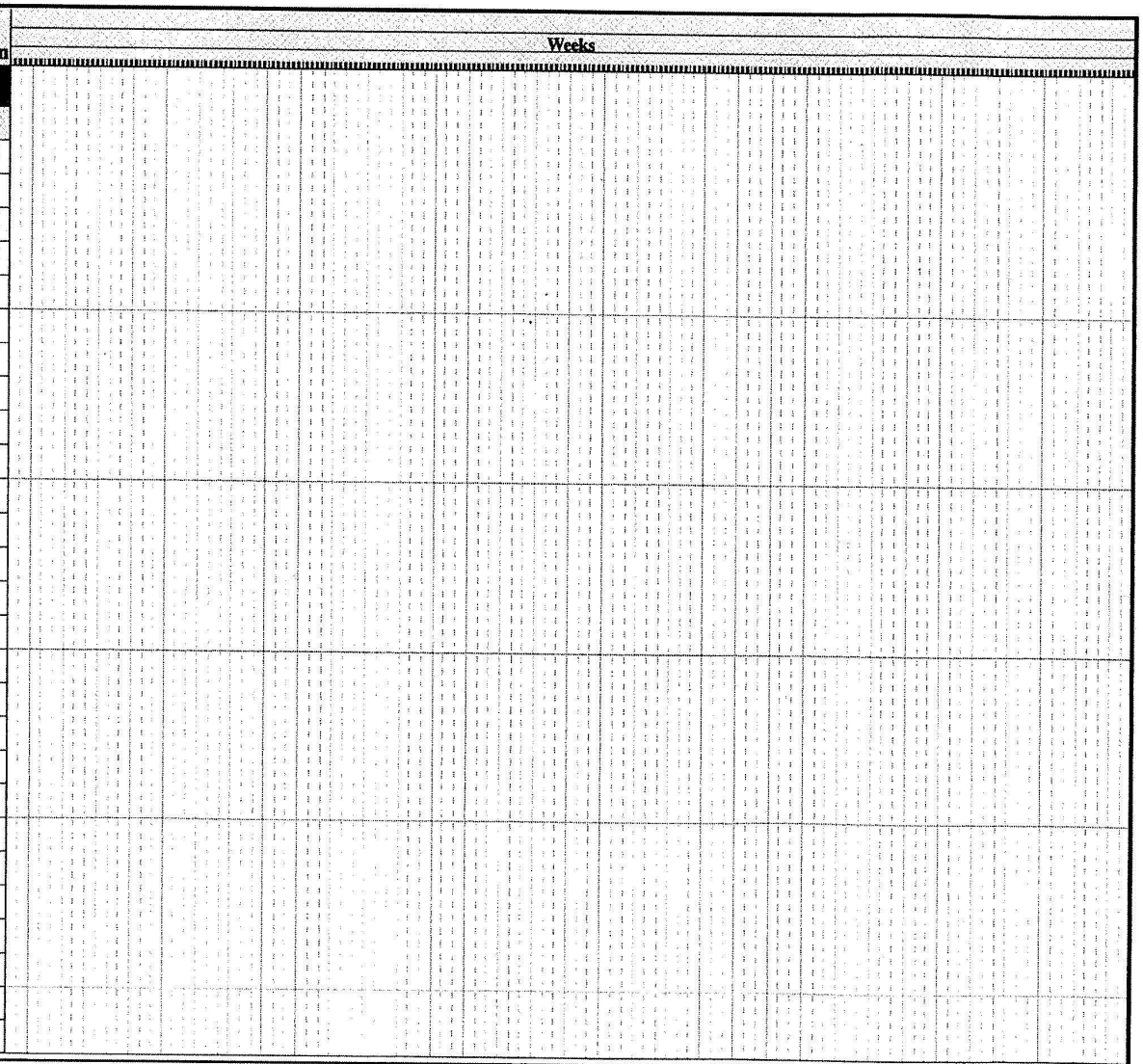
Responsible Group Code Table

The codes below are used in the schedule field "GRP" that identifies the group responsible for the activity. The table consists of groups in the Division of Property Management & Construction (DPMC), as well as groups outside of the DPMC that have responsibility for specific activities on a project that could delay the project if not completed in the time specified. For reporting purposes, the groups within the DPMC have been defined to the supervisory level of management (i.e., third level of management, the level below the Associate Director) to identify the "functional group" responsible for the activity.

CODE	DESCRIPTION	REPORTS TO ASSOCIATE DIRECTOR OF:
CM	Contract Management Group	Contract Management
CA	Client Agency	N/A
CSP	Consultant Selection and Prequalification Group	Technical Services
A/E	Architect/Engineer	N/A
PR	Plan Review Group	Technical Services
CP	Construction Procurement	Planning & Administration
CON	Construction Contractor	N/A
FM	Financial Management Group	Planning & Administration
OEU	Office of Energy and Utility Management	N/A
PD	Project Development Group	Planning & Administration

EXHIBIT 'A'

Activity ID	Description	Rspn
<PROJ>		
Design		
CV3001	Schedule/Conduct Predesign/Project Kick-Off Mtg.	CM
CV3020	Prepare Program Phase Submittal	AE
CV3021	Distribute Program Submittal for Review	CM
CV3027	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3022	Review & Approve Program Submittal	CA
CV3023	Review & Approve Program Submittal	PR
CV3024	Review & Approve Program Submittal	CM
CV3025	Consolidate & Return Program Submittal Comments	CM
CV3030	Prepare Schematic Phase Submittal	AE
CV3031	Distribute Schematic Submittal for Review	CM
CV3037	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3032	Review & Approve Schematic Submittal	CA
CV3033	Review & Approve Schematic Submittal	PR
CV3034	Review & Approve Schematic Submittal	CM
CV3035	Consolidate & Return Schematic Submittal Comment	CM
CV3040	Prepare Design Development Phase Submittal	AE
CV3041	Distribute D. D. Submittal for Review	CM
CV3047	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3042	Review & Approve Design Development Submittal	CA
CV3043	Review & Approve Design Development Submittal	PR
CV3044	Review & Approve Design Development Submittal	CM
CV3045	Consolidate & Return D.D. Submittal Comments	CM
CV3050	Prepare Final Design Phase Submittal	AE
CV3051	Distribute Final Design Submittal for Review	CM
CV3052	Review & Approve Final Design Submittal	CA
CV3053	Review & Approve Final Design Submittal	PR
CV3054	Review Final Design Submitl for Constructability	OCS



NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

DBCA - TEST

Sheet 1 of 3

Bureau of Design & Construction Services

EXHIBIT 'A'

Activity ID	Description	Rspn	Weeks
CV3055	Review & Approve Final Design Submittal	CM	
CV3056	Consolidate & Return Final Design Comments	CM	
CV3060	Prepare & Submit Permit Application Documents	AE	
CV3068	Prepare & Submit Bidding Cost Analysis (DPMC-38)	CM	
Plan Review-Permit Acquisition			
CV4001	Review Constr. Documents & Secure UCC Permit	PR	
CV4010	Provide Funding for Construction Contracts	CA	
CV4020	Secure Bid Clearance	CM	
Advertise-Bid-Award			
CV5001	Advertise Project & Bid Construction Contracts	CP	
CV5010	Open Construction Bids	CP	
CV5011	Evaluate Bids & Prep. Recommendation for Award	CM	
CV5012	Evaluate Bids & Prep. Recommendation for Award	AE	
CV5014	Complete Recommendation for Award	CP	
CV5020	Award Construction Contracts/Issue NTP	CP	
Construction			
CV6000	Project Construction Start/Issue NTP	CM	
CV6001	Contract Start/Contract Work (25%) Complete	CON	
CV6002	Preconstruction Meeting	CM	
CV6003	Begin Preconstruction Submittals	CON	
CV6004	Longest Lead Procurement Item Ordered	CON	
CV6005	Lead Time for Longest Lead Procurement Item	CON	
CV6006	Prepare & Submit Shop Drawings	CON	
CV6007	Complete Construction Submittals	CON	
CV6011	Roughing Work Start	CON	
CV6012	Perform Roughing Work	CON	
CV6010	Contract Work (50%+) Complete	CON	
CV6013	Longest Lead Procurement Item Delivered	CON	
CV6020	Contract Work (75%) Complete	CON	

NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

Bureau of Design & Construction Services

EXHIBIT 'A'

Activity ID	Description	Rspn	Weeks
CV6014	Roughing Work Complete	CON	
CV6021	Interior Finishes Start	CON	
CV6022	Install Interior Finishes	CON	
CV6030	Contract Work to Substantial Completion	CON	
CV6031	Substantial Completion Declared	CM	
CV6075	Complete Deferred Punch List/Seasonal Activities	CON	
CV6079	Project Construction Complete	CM	
CV6080	Close Out Construction Contracts	CM	
CV6089	Construction Contracts Complete	CM	
CV6090	Close Out A/E Contract	CM	
CV6092	Project Completion Declared	CM	

NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

DBCA - TEST

Sheet 3 of 3

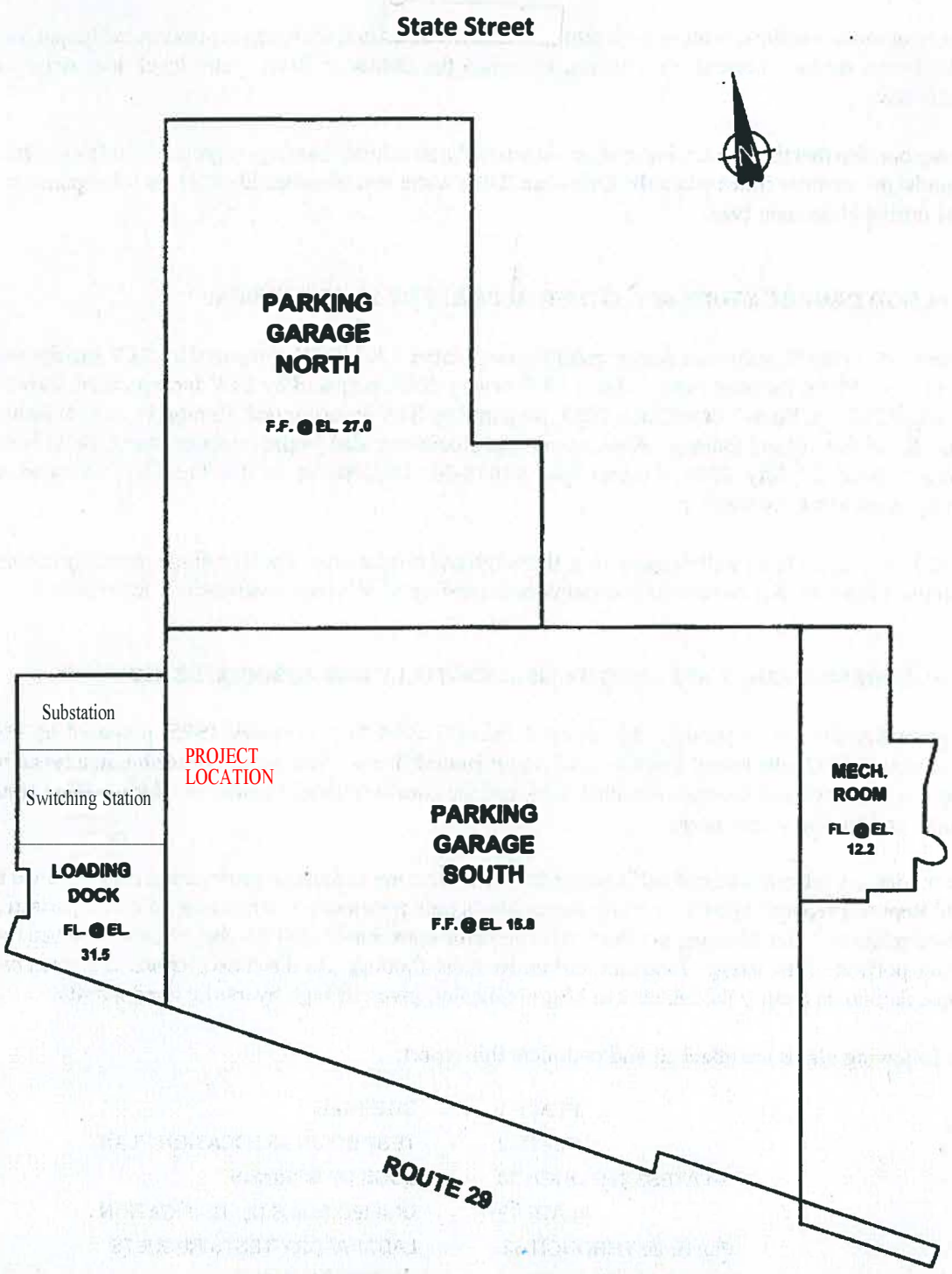
Bureau of Design & Construction Services

EXHIBIT 'A'

Project Site Location Map

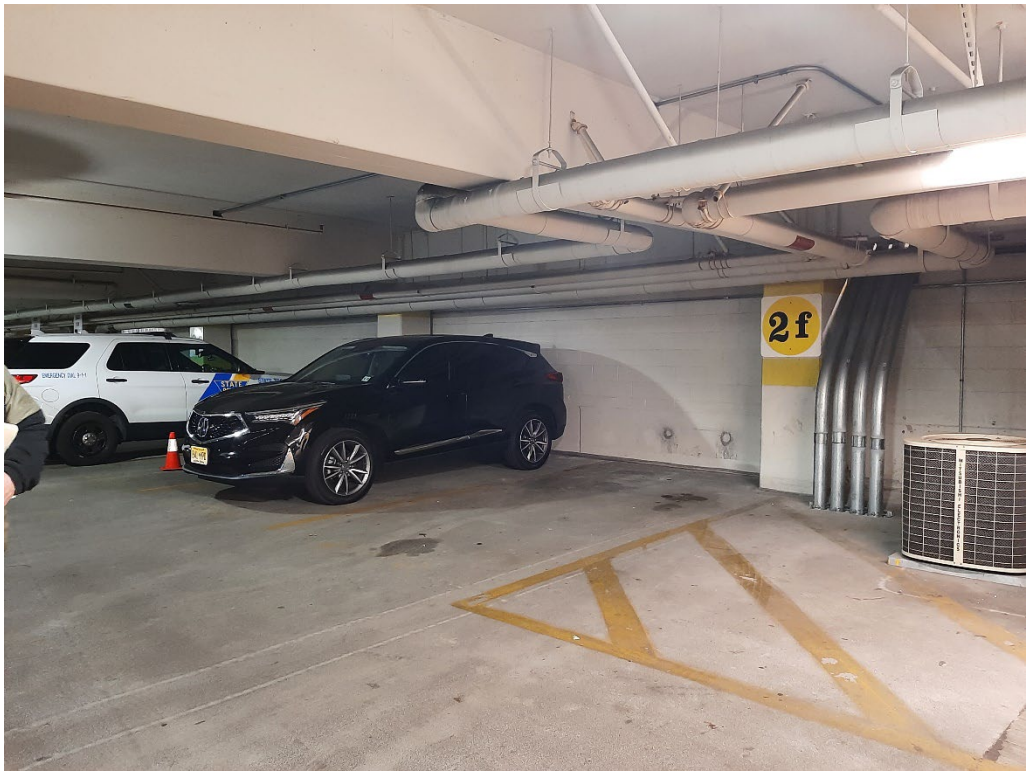
Capitol Complex Parking Garage

EXHIBIT 'B'



Parking Garage Layout

EXHIBIT 'C'



EV Chargers to be located in this area at Capitol Complex Parking Garage.

EXHIBIT ‘D’

Substation Room.

EXHIBIT ‘D’

Existing Electrical Equipment.

EXHIBIT ‘D’

BUILDING SECURITY AND CONTRACTOR USE OF THE PREMISES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Coordination, site and building access, parking, deliveries and storage
B. Availability and use of utilities
C. Contractor work areas, working conditions, and equipment storage regulations
D. Noise and odor restrictions, material approvals and working hours
E. Security issues
F. Protection of interior finishes

The following items describe the allowed use of the N.J. State House LSB building and grounds by the contractor, the availability and use of utilities, contractor equipment storage regulations, noise and odor restrictions, security issues, parking restrictions, material deliveries, working hours and protection of interior finishes. This list shall not be considered all-inclusive and may be extended by the Consultant or Project Manager. The content of this section shall not relieve the contractor from complying with the terms of the DPMC "Instructions to Bidders and General Conditions" and "Supplementary Instructions To Bidders And General Conditions" included in the project specifications.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 COORDINATION, SITE ACCESS, PARKING, DELIVERIES, AND STORAGE

A. The contractor shall provide a verbal daily Progress Report to the Project Manager, Building Manager and State Police identifying the construction work to be performed.

B. It should be noted that other projects may be in progress concurrently with this project within the Capitol Complex area. Site access, deliveries, traffic control, parking, heavy equipment parking, material storage and trailer locations must be coordinated with the Project Manager, State Police, and Building Manager.

C. Demonstrations may be held in front of or adjacent to the State House, State House Annex, or at other sites at the Capitol Complex. The contractor shall not block access to these areas.

D. The public and building's tenants must have free and safe access to, from, and within all State Capitol Complex buildings including the parking garage at all times.

E. Contractor access to the building's interiors will be limited to approved routes. Under absolutely NO circumstances will the contractor's personnel, materials or equipment gain access

EXHIBIT 'E'

or use routes except as authorized herein. Routes may be modified by Building Management, the State Police or Project Manager as may be necessary.

F. The Contractor must coordinate in advance with the Project Manager, Building Management and the State Police regarding protection of facilities, equipment and people.

3.02 AVAILABILITY AND USE OF UTILITIES

A. Use of the building elevators for the transportation of construction materials or equipment will NOT be allowed.

B. Electric and water are available at the site. The Building Manager and Project Manager will approve, in advance, specific usage.

3.03 CONTRACTOR WORK AREAS, WORKING CONDITIONS AND EQUIPMENT STORAGE REGULATIONS

A. The contractor shall not unreasonably encumber the facilities with its equipment or work to be performed. The contractor shall be responsible for clean up every day.

B. The contractor shall, at all times during the progress of the work, keep the site free from the accumulation of all rubbish and debris caused by its performance. The Contractor shall remove all equipment, tools, debris and rubbish from or related to its work to the satisfaction of the Building Manager, and the Project Manager.

C. The contractor shall adequately secure and protect its equipment, materials and vehicles. The State assumes no liability for any damage to, or theft of, the contractor's property. The contractor shall have the use of a designated area for storage and staging of construction materials and equipment. If outdoors, items stored in this area shall be screened from view by the public. The contractor shall install a six foot high fence with screening material to surround the area. The location of the area, type fence and screening material to be used shall be approved by the Project Engineer, Project Manager, the Building Manager and State Police. The contractor shall be responsible for adhering to security procedures outlined by the Building Manager and the State Police and any specific needs of the complex occupants.

D. The contractor is responsible for all safety precautions for all of its employees and property while performing its services.

E. The contractor shall strictly limit its employees' use of the facilities for lunch, smoking or rest time usage to only those areas designated by the Building Manager. Use of State telephones will not be allowed. Use of toilet facilities within the building shall not be permitted. Smoking is not allowed inside any of the buildings within the Complex.

F. The contractor shall, at all times, enforce strict discipline and good order among its employees and shall not employ any unfit person or any non-skilled person in the task assigned to him. The contractor shall supervise and direct the work using its best skill and attention.

The contractor shall employ a competent, full-time supervisor to appropriately supervise the work and protect people and the facilities. The contractor must maintain a person on the site who represents the firm and can make immediate decisions when required.

G. The contractor agrees that, upon request by the Project Manager, it will remove from services hereunder any of its employees who are incompetent, prone to tardiness, absenteeism or theft, are improper in conduct, or are not qualified or needed to perform the work assigned.

H. The Consultant, in cooperation with the contractor, Project Manager, State Police, and Building Management representatives, shall develop a "Project Directory" which identifies key designated representatives who may make decisions. Phone and cell phone numbers and pagers must be identified for immediate problem resolution.

I. If a construction dumpster is used by the contractor, it shall be placed in a location approved by the Building Manager, Project Manager and State Police. Any dumpster shall be properly secured during the project and promptly removed at the end of the project and emptied regularly so as not to allow trash to be spewn about the grounds or to cause odors.

3.04 NOISE AND ODOR RESTRICTIONS, MATERIAL APPROVALS AND WORKING HOURS

A. WE HAVE TO DISCUSS WHEN CONTRACTOR SHALL PERFORM THE WORK.

B. Consideration shall be given by the contractor regarding odors, adhesives, noise, etc. If the odors or noise are such that they may disturb the building tenants and/or public in any way, then such work shall be performed while the building is not occupied. This determination shall be at the sole discretion of the Project Manager and Building Manager.

C. Construction work shall be performed adjacent to other State offices in full and continuous use during the course of the project. Therefore, the contractor shall coordinate all operations with the Project Manager, and the Building Manager to minimize disturbances to the occupants of these offices. The playing of radios and other unnecessary noise will not be permitted.

D. All material safety data sheets shall be submitted to and approved by, the Project Manager prior to use of the material. A set will be provided to the Building Manager.

3.05 SECURITY ISSUES

A. Prior to working on site, the contractor and his/her employees are subject to a security clearance by the State Police. The contractor and all employees must wear badges issued by the State Police and sign in and out each day, if expected to be in the Building.

3.06 PROTECTION OF INTERIOR AND EXTERIOR FINISHES

A. Because of the historic nature of the State House LSB, the contractor shall take extra care to avoid damage or soiling to any part of the facility. The contractor is responsible for all damages or destruction caused directly or indirectly by its performance to any part of the building or adjoining property. Any damage or destruction caused by the contractor or its employees will be repaired as the Building Manager, and the Project Manager direct and to their satisfaction

with all costs charged to the contractor. The costs may be deducted from any and all amounts due to the contractor.

B. Any of the contractor's employees found defacing, damaging or marring the buildings or its finishes shall be immediately removed by the contractor. The contractor shall be charged for all remedial work to restore the damaged area to its original condition to the satisfaction of the State.

C. The contractor shall take all necessary steps to ensure adequate protection of all building furniture, equipment and building finishes, including but not limited to: floors, walls, windows, draperies, blinds, fan coil unit millwork, carpeting, doors and doorways. In this endeavor, all workers are to take precautions to protect rugs and floors. The contractor shall be charged for all remedial work to clean, repair and/or replace items damaged by the contractor to the satisfaction of the State.

D. The contractor is responsible for the cost of cleanup of dust, dirt and stains caused by the work to the satisfaction of the Building Manager, OLS and the Project Manager. The contractor shall take all necessary precautions to keep dust, dirt and debris to a minimum within the construction area.

EXHIBIT 'E'

Submitted to:

New Jersey Department of Treasury
Division of Property Management and Construction

NJDPMC No. J0369-00
Electric Vehicle Charging Stations Feasibility Study

State House Parking Garage

Trenton, NJ

Submitted by:

Gannett Fleming

*Excellence Delivered **As Promised***

February 2021

EXHIBIT 'F'

February 2021

EXHIBIT 'F'

TABLE OF CONTENTS

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5.0 Cost Estimate....4
6.0 Conclusions....4

APPENDICES

Appendix A – Drawings

SK-1 ELECTRIC VEHICLE CHARGING - SINGLE LINE DIAGRAM
SK-2 ELECTRIC VEHICLE CHARGING – ELECTRICAL ROOM LAYOUT
SK-3 ELECTRIC VEHICLE CHARGING – PANEL SCHEDULE AND LOAD SUMMARY
SK-4 ELECTRIC VEHICLE CHARGING – PANEL SCHEDULES
SK-5 ELECTRIC VEHICLE CHARGING LAYOUT, LEVEL 2 - OPTION 1
SK-6 ELECTRIC VEHICLE CHARGING LAYOUT, LEVEL 1 - OPTION 3
SK-7 ELECTRIC VEHICLE CHARGING LAYOUT, LEVEL 2 - OPTION 3
SK-8 ELECTRIC VEHICLE CHARGING LAYOUT, LEVEL 3 – OPTION 3

Appendix B – Cost Estimate

1. Project Cost Analysis – Option 1
2. Project Cost Analysis – Option 2
3. Project Cost Analysis – Option 3

Appendix C - E.V. CHARGING STATION CUTSHEETS

1. Level 2 Chargepoint Station, Model #CT4023
2. Level 3 Express Chargepoint Station, Model #250

EXHIBIT 'F'

1.0 INTRODUCTION

The Trenton State House Parking Garage is partially enclosed, underground and provides approximately 1,100 parking spaces on three levels adjacent to New Jersey State House Complex. The parking structure is divided and organized by occupancy, but it is subject to change for events or other justified circumstances. The main entrance is located on the north side of Level 3 adjacent to West State Street. A second southside entrance is located on Level 2 adjacent to the Delaware River and Route 29. Level 1 has dedicated parking for Visitors, Building Management, & the Cultural Complex. Level 2 is purposed for Executive Branch, Legislative Branch, and office of Legislative services. Level 3 includes parking for Senate legislators and the offices of Legislative services. Currently, there is one type 2 charging station on Level 2 of the parking garage. The garage is seeing more than two daily electric vehicles and no infrastructure to support present and future drivers to recharge their vehicles.

The Trenton State House Parking Garage located at 179 West State Street in Trenton. The State Parking Garage was constructed in 1994 and the 5kv substation was also constructed in 1994. The objective of the project is to explore and enable additional electric vehicle stations and construct the associated electrical infrastructure to support present and future demand. The goal is to provide the owner with a safe and transparent system which efficiently delivers energy for staff and visitors to utilize. Multiple charging types in varying quantities will provide the owner and user the flexibility to charge as needed. The purpose of this study is to investigate the requirements and costs of implementing three different options for backup power. The options are summarized below:

Option 1. Provide and install (36) type 2 electric vehicle chargers and (2) type 3 electric vehicle chargers on the Second Level of the Parking Garage.
Option 2. Provide and install (18) type 2 electric vehicle chargers and (2) type 3 electric vehicle chargers on the Second Level of the Parking Garage with provisions for an additional (18) type 2 chargers to be installed in the future.
Option 3. Provide and install (36) type 2 electric vehicle chargers throughout the First Level, Second Level, and Third Level and (2) type 3 electric vehicle chargers on the Second Level of the Parking Garage.

All three options include the installation of a new 480/277V, 3 phase panelboard, (2) 150KVA, 480:208Y/120V Transformers and (2) 208/120V distribution panels from the existing switchgear located in the main electrical room. Additionally, all vehicle chargers shall be either wall mounted, or pedestal mounted. Pedestal mounted chargers will require (2) protective bollards. Wall mounted chargers may be mounted high enough to eliminate the need for protective bollards.

EXHIBIT 'F'

2.0 BACKGROUND

Type 2 charging will provide 36 A of charging to a vehicle and is generally considered the most common type of charger. A Type 3 charger also called DCFC or fast charging stations will provide 72 A of charging and are not supported by all E.V. manufacturers. Both type 2 and type 3 chargers are specified as dual charging stations and will use a single feeder to split the maximum ampere charging capacity while two cars utilize the same charging station. The charging capabilities range from about 25 miles of range per hour to 50 and can generally charge a car within 4 hours.

For Option 1 and Option 2 the intent is to place dual E.V. charging stations on one centralized Level of the garage. Option 3 includes charging stations on all 3 levels of the parking garage with the E.V. charging clusters in the same general area on each level. Designated signs will direct staff and visitors to the E.V. charging stations. The specified ChargePoint stations will bring a safe and reliable energy to the garage. In addition, a cloud-based technology will manage and control all chargers using a mesh network connection. The owner or garage manager will have many wireless capabilities that they can procure for the end user. A price can be set for drivers to pay to use charging stations based on energy cost, duration, time of use, session length or driver group. Advanced access controls can determine which drivers can access stations and when. ChargePoint comes with an online graphical dashboard which shows real-time status and a detailed map, making it easy to manage stations from your desk or mobile app. Charts and analytics can be utilized to relay important trends for planning and management reporting. Refer to Appendix C. for cutsheets identifying all functionalities and characteristics.

Electrical Systems

Redundant parallel service feeders power the 26.4 KV substation building and are then transformed at the next unit substation from 26.4 KV to 4.16 KV. The voltage is again transformed in the main electrical room for both Unit substation SS-GWA and Unit substation SS-GWB from 4.16 KV to 480/277V via a 1333 KVA transformer. Normal electrical power is provided to the Garage Building by two 3000 A, 480 V switchboards in a main-tie-main configuration with two electric services from PSE&G located on the second level.

3.0 NEW ELECTRIC VEHICLE CHARGING FEEDER DISTRIBUTION

The proposed feeder distribution will utilize (1) existing 600 A spare breaker within SSW-GWA. Switchgear A will feed a new 480 V distribution panel located in the main electrical room. The new distribution panel will feed (2) new 150 KVA transformers via (2) 450 A, 3 pole breakers. The transformers will power (2) new 600 A, 208Y/120 V panelboards also located in the main

EXHIBIT 'F'

electrical room. The maximum E.V charging stations has been calculated and designed to accommodate SS-GWA & SS-GWB, while the main tie main configuration is closed, and one main service breaker is open. The (38) new E.V. charging stations bring both switchgears to a total load of 1271 KVA during peak energy season. The charging stations will have a total of (10) 3" RGS conduits run from the electrical room to the new charging locations within the parking garage. Type 2 chargers will be fed from a 40A, double pole breaker from a new 208V distribution panel. The type 3 chargers will be fed from 80A, 3 pole breakers out of the new 480V panel.

4.0 DESIGN OPTIONS

Option 1 – Distribution for maximum allowed chargers on Level 2.

The first option provides all vehicle charging on the same Level as the main electrical room. The new distribution system will feed (36) type 2 chargers and (2) type 3 chargers on level 2. Option 1 will provide 76 Electric vehicle charging stations increasing the current garage E.V charging capacity by 7500%. Refer to cost estimate option #1 for associated pricing information in Appendix B. Refer to SK-5 drawing in Appendix A for associated E.V. charging layout. Refer to SK-1 through SK-4 for drawings representing all the modifications and new equipment needed to implement this option.

Option 2 – Distribution for half of maximum allowed chargers on Second Level.

The second option similarly provides all vehicle charging on the same level as the main electrical room. The new distribution system will feed (18) type 2 chargers and an additional (18) feeders will be run to the anticipated location of future E.V. charging stations. Additionally, (2) type 3 chargers will also be installed on the Second Level. Option 2 will provide 40 Electric vehicle charging stations increasing the current garage E.V charging capacity by 3900%. Refer to cost estimate option #2 for associated pricing information in Appendix B. Refer to SK-1 through SK-4 in Appendix A for drawings representing all the modifications and new equipment needed to implement this option. This layout option is not represented in Appendix A., but it is anticipated to be the same as option 1 without (18) chargers installed.

Option 3 – Distribution For Maximum Allowed Chargers Split Between All 3 Levels

The last option provides all vehicle charging split up among the 3 levels. The new distribution system will feed (12) type 2 chargers and (0) type 3 chargers on the First and Third Level. An additional (12) type 2 chargers and (2) type 3 chargers are being provided on the Second Level.

EXHIBIT 'F'

Option 3 will provide 76 Electric vehicle charging stations increasing the current garage E.V charging capacity by 7500%. Refer to cost estimate option #3 for associated pricing information in Appendix B. Refer to SK-6-8 drawing in Appendix A for associated E.V. charging layout. Refer to SK-1 through SK-4 for drawings representing all the modifications and new equipment needed to implement this option.

5.0 COST ESTIMATE

Based on all the new equipment and modifications required for each of the abovementioned options, a summary of construction costs is provided in the table below.

Table 1. – Summary of Construction Costs	
Option	Construction Cost Estimate (CCE)
Option 1	$942,000
Option 2	$774,000
Option 3	$839,000

As you can see, Options 1 carries the largest expense with the additional wire running farther from the electrical room. Option 2 reduces the charger quantity by 18 and therefore you can see a decrease in cost of $168,000. Option 3 has a cost that is lower than the first option and carries the same number of chargers.

6.0 CONCLUSIONS

It is anticipated that by 2025 a significant portion of all new vehicle purchases will be electric vehicles. This agrees with the general public's sentiment and industry trend towards clean energy. The primary objective of the project is to provide solutions to meet the increasing demands of power required for electric vehicle charging. To meet this objective; infrastructure improvements including additional electrical distribution equipment and electrical vehicle charging stations are required.

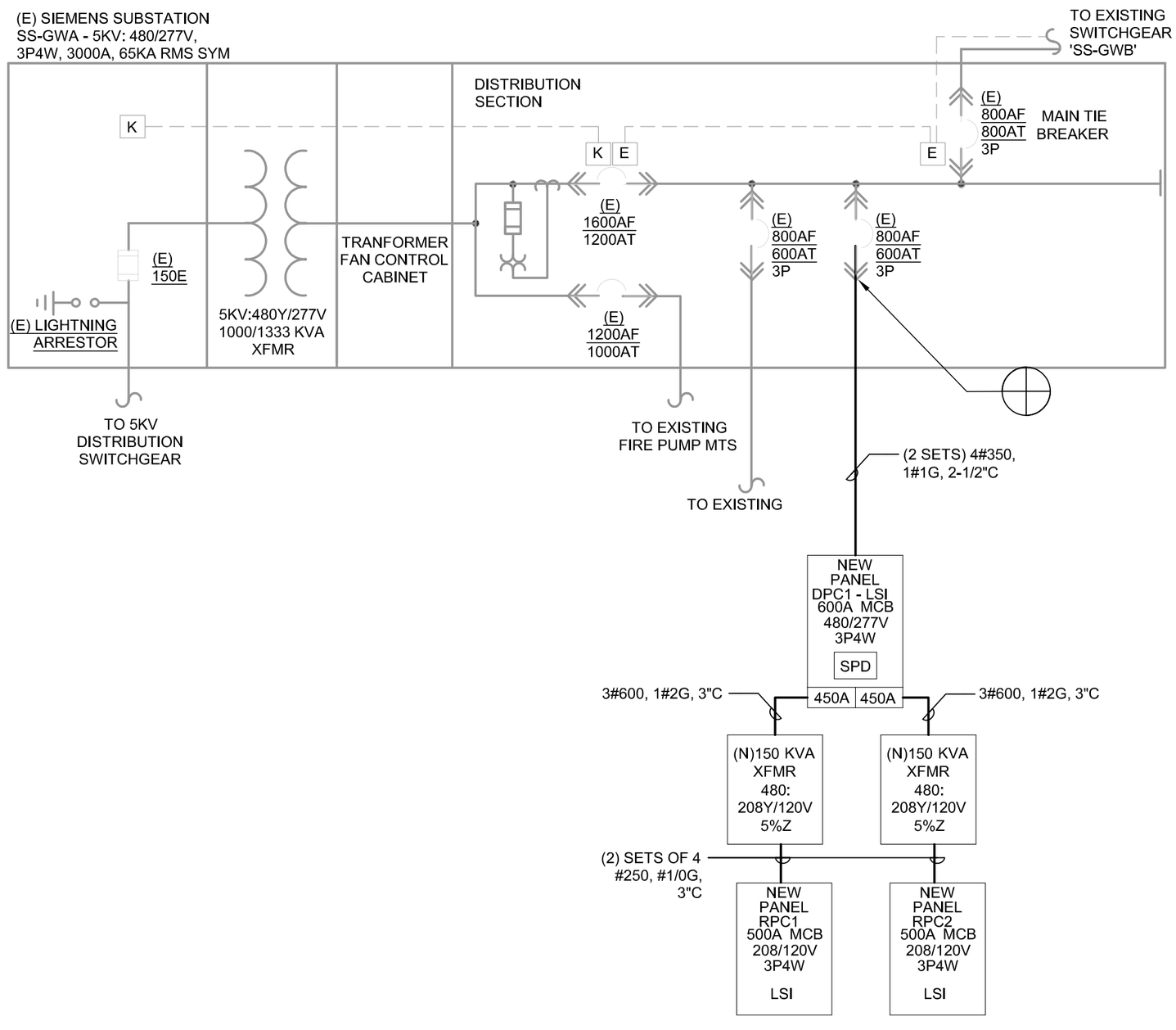
All three options described in this report will meet that objective. There were no associated capital costs parameters provided to work with for the enhancements. Therefore, the existing electrical distribution system was used to leverage the maximum allowable charging stations.

EXHIBIT 'F'

EXHIBIT 'F'

Appendix A
Drawings

EXHIBIT 'F'



RISER DIAGRAM GENERAL NOTES:
1.) ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE.

Gannett Fleming
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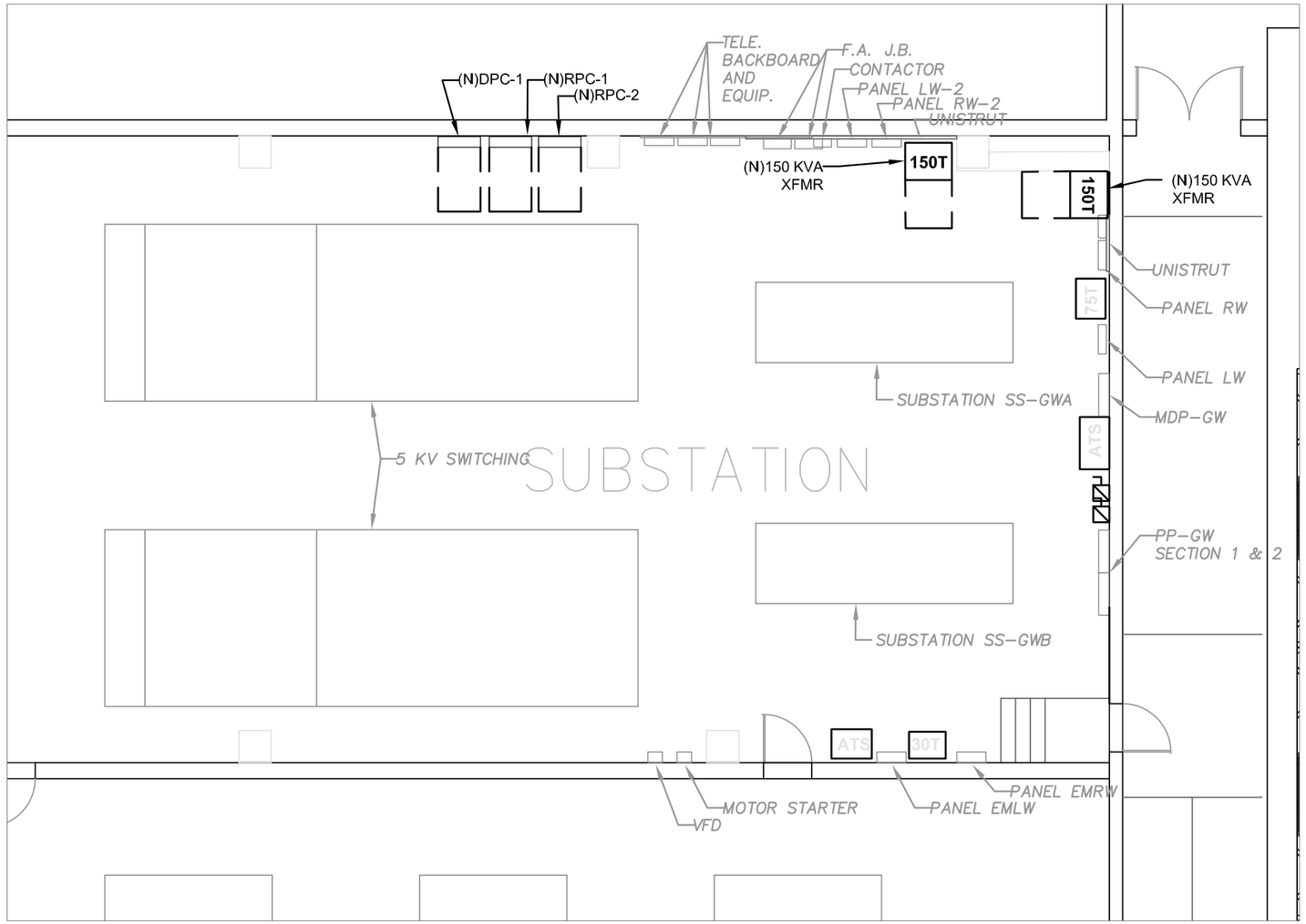
SUITE 200
MARLTON, NJ 08053

ELECTRIC VEHICLE CHARGING,
SINGLE LINE DIAGRAM - MODIFIED
DPMC - TRENTON PARKING GARAGE
ELECTRIC VEHICLE FEASIBILITY STUDY
179 WEST STATE STREET, TRENTON, NJ

DESIGNED BY:	BMM	ISSUE DATE:	
DRAWN BY:	BMM		01/19/21
CHECKED BY:	JTB	SHEET NUMBER:	
APPROVED BY:	JTB		**SK 001**
SCALE:	AS NOTED	SHEET 1 OF 8	
PROJECT NO.	W0 #9 -J0369		

12/8/2020 8:56:44 AM

EXHIBIT 'F'



1 ELECTRICAL ROOM LAYOUT - NEW WORK

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

2' 0 4' 8' 16'

1/8" = 1'-0"

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MARLTON, NJ 08053

ELECTRIC VEHICLE CHARGING - ELECTRICAL ROOM LAYOUT
DPMC - TRENTON PARKING GARAGE
ELECTRIC VEHICLE FEASIBILITY STUDY
179 WEST STATE STREET, TRENTON, NJ

DESIGNED BY:	BMM	ISSUE DATE:	01/19/21
DRAWN BY:	BMM		
CHECKED BY:	JTB	SHEET NUMBER:	**SK 002**
APPROVED BY:	JTB		
SCALE:	AS NOTED	SHEET 2 OF 8	
PROJECT NO.	W0 #9 -J0369		

EXHIBIT 'F'

COMMERCIAL LOAD SUMMARY FOR DPC-1

480 VAC 3 Phase

Description		(VA)		Demand Factor		Demand Load	
General Power Load					=		VA
	Continuous	358963	x	125%	=	448704	VA
	Non-continuous		x	100%	=		VA
					Sub-Total :	448704	VA
					Total Demand Load :	449	kVA
					Minimum Service Size :	540	Amps

Panel:	DPC-1
Location:	ELEC. SWITCHGEAR ROOM
Fed From:	SWGR - GWA
Voltage:	480Y/277V, 3P4W
Main Config:	MCB Main Amps: 600
Bus Rating:	800
Bus Matl:	CU
NEMA:	3R
Mounting:	Surface
Panel Info:	

65,000	Main Bkr SCA	
	Branch Bkr SCA	
	Branch Bkr Series SCA	
X	100% Neutral Bus	
X	Equipment Ground Bus	
	Isolated Ground Bus	
	Sub-Feed Lugs	
	Sub-Feed Breaker	Amps
	Service Entrance Rated	

(Demand Calculation does not include sub-panel loads)

Category		Conn.	D.F.	Demand		Conn.	D.F.	Demand
Lighting:		0	1.25	0				
Receptacles:		0	1.00	0		0	0.50	0
General:		0	1.25	0		0	1.00	0
Motors:		0	1.00	0		0	0.25	0
Electric Space Htg:		0	1.00	0				0
Kitchen:		0	1.00	0		1st & 2nd:		0
Noncoincident:		0	0.00	0				0
HVAC:		0	1.00	0		0	0.25	0
Demand VA:		0	Demand Amps:			0		

Ckt #	Load Description	Load VA	Breaker P	Breaker Trip	Wiring	Remarks
1	SPARE	0	3	20		
2	60A - EXPRESS CHARGE 1	49,882	3	80	4#3, 1#8G, 1-1/4"C	
3	60A - EXPRESS CHARGE 2	49,882	3	80	4#3, 1#8G, 1-1/4"C	
4	TR-RPC-1	129,600	3	450	SEE ONE-LINE	
5	TR-RPC-2	129,873	3	450	SEE ONE-LINE	
6						
7						
8						
9						
10						
11						
12						

Total Connected Load: 359,236 VA
Total Connected Amps: 432 A

Warning:The load category information has not been entered for all circuits.
C:\Users\brmiller\OneDrive - Gannett Fleming Inc\Desktop\Projects\EV 066020\CALCULATIONS\[Panel Schedule, 066020.xlsm]DPC-1

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ELECTRIC VEHICLE CHARGING - PANEL SCHEDULE AND LOAD SUMMARY
DPMC - TRENTON PARKING GARAGE
ELECTRIC VEHICLE FEASIBILITY STUDY
179 WEST STATE STREET, TRENTON, NJ

DESIGNED BY: BMM
DRAWN BY: BMM
CHECKED BY: JTB
APPROVED BY: JTB
SCALE: AS NOTED
PROJECT NO. W0 #9 -J0369

ISSUE DATE: 01/19/21
SHEET NUMBER: **SK 003**
SHEET 3 OF 8

EXHIBIT 'F'

Panel:	RPC-1
Location:	Swgr room
Fed From:	DPC-1
Voltage:	208Y/120V, 3P4W
Main Config:	600 Main Amps: 500
Bus Rating:	CU
Bus Matl:	
NEMA:	3r
Mounting:	
Panel Info:	

	Main Bkr SCA	
	Branch Bkr SCA	
	Branch Bkr Series SCA	
X	100% Neutral Bus	
X	Equipment Ground Bus	
	Isolated Ground Bus	
	Sub-Feed Lugs	
	Sub-Feed Breaker	Amps
	Service Entrance Rated	

(Demand Calculation does not include sub-panel loads)

Category	Conn.	D.F.	Demand	Conn.	D.F.	Demand
Lighting:	0	1.25	0			
Receptacles:	0	1.00	0	0	0.50	0
General:	129,600	1.25	162,000	0	1.00	0
Motors:	0	1.00	0	0	0.25	0
Electric Space Htg:	0	1.00	0			0
Kitchen:	0	1.00	0	1st & 2nd:		0
Noncoincident:	0	0.00	0			0
HVAC:	0	1.00	0	0	0.25	0

Demand VA: 162,000 Demand Amps: 450

Ckt #	Load Description	Load VA	Breaker P	Breaker Trip	Wiring	Phase A	Phase B	Phase C	Wiring	Breaker Trip	Breaker P	Load VA	Load Description	Ckt #
1	EV Charging Station 1	3,600	2	40	3#8, 1#10G, 3/4"C	7,200	0	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 10	2
3		3,600	-			0	7,200	0			-	3,600		4
5	EV Charging Station 2	3,600	2	40	3#8, 1#10G, 3/4"C	0	0	7,200	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 11	6
7		3,600	-			7,200	0	0			-	3,600		8
9	EV Charging Station 3	3,600	2	40	3#8, 1#10G, 3/4"C	0	7,200	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 12	10
11		3,600	-			0	0	7,200			-	3,600		12
13	EV Charging Station 4	3,600	2	40	3#8, 1#10G, 3/4"C	7,200	0	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 13	14
15		3,600	-			0	7,200	0			-	3,600		16
17	EV Charging Station 5	3,600	2	40	3#8, 1#10G, 3/4"C	0	0	7,200	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 14	18
19		3,600	-			7,200	0	0			-	3,600		20
21	EV Charging Station 6	3,600	2	40	3#8, 1#10G, 3/4"C	0	7,200	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 15	22
23		3,600	-			0	0	7,200			-	3,600		24
25	EV Charging Station 7	3,600	2	40	3#8, 1#10G, 3/4"C	7,200	0	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 16	26
27		3,600	-			0	7,200	0			-	3,600		28
29	EV Charging Station 8	3,600	2	40	3#8, 1#10G, 3/4"C	0	0	7,200	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 17	30
31		3,600	-			7,200	0	0			-	3,600		32
33	EV Charging Station 9	3,600	2	40	3#8, 1#10G, 3/4"C	0	7,200	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 18	34
35		3,600	-			0	0	7,200			-	3,600		36
37	SPARE	0	1	20		0	0	0		20	1	0	SPARE	38
39	SPARE	0	1	20		0	0	0		20	1	0	SPARE	40
41	SPARE	0	1	20		0	0	0		20	1	0	SPARE	42
						43,200	43,200	43,200	VA					
									VA (Sub-Feed)					
						43,200	43,200	43,200	VA (Total)					
						360	360	360	Amperage					

Total Connected Load: 129,600 VA
Total Connected Amps: 360 A

Notes:

Warning:The load category information has not been entered for all circuits.
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Panel:	RPC-2
Location:	ELEC. SWGR. ROOM
Fed From:	DPC1
Voltage:	208Y/120V, 3P4W
Main Config:	MCB Main Amps: 500
Bus Rating:	600
Bus Matl:	CU
NEMA:	3R
Mounting:	Surface
Panel Info:	

42,000	Main Bkr SCA	
	Branch Bkr SCA	
	Branch Bkr Series SCA	
X	100% Neutral Bus	
X	Equipment Ground Bus	
	Isolated Ground Bus	
	Sub-Feed Lugs	
	Sub-Feed Breaker	Amps
	Service Entrance Rated	

(Demand Calculation does not include sub-panel loads)

Category	Conn.	D.F.	Demand	Conn.	D.F.	Demand
Lighting:	0	1.25	0			
Receptacles:	0	1.00	0	0	0.50	0
General:	129,600	1.25	162,000	0	1.00	0
Motors:	0	1.00	0	0	0.25	0
Electric Space Htg:	0	1.00	0			0
Kitchen:	0	1.00	0	1st & 2nd:		0
Noncoincident:	0	0.00	0			0
HVAC:	0	1.00	0	0	0.25	0

Demand VA: 162,000 Demand Amps: 450

Ckt #	Load Description	Load VA	Breaker P	Breaker Trip	Wiring	Phase A	Phase B	Phase C	Wiring	Breaker Trip	Breaker P	Load VA	Load Description	Ckt #
1	EV Charging Station 19	3,600	2	40	3#8, 1#10G, 3/4"C	7,200	0	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 28	2
3		3,600	-			0	7,200	0			-	3,600		4
5	EV Charging Station 20	3,600	2	40	3#8, 1#10G, 3/4"C	0	0	7,200	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 29	6
7		3,600	-			7,200	0	0			-	3,600		8
9	EV Charging Station 21	3,600	2	40	3#8, 1#10G, 3/4"C	0	7,200	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 30	10
11		3,600	-			0	0	7,200			-	3,600		12
13	EV Charging Station 22	3,600	2	40	3#8, 1#10G, 3/4"C	7,200	0	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 31	14
15		3,600	-			0	7,200	0			-	3,600		16
17	EV Charging Station 23	3,600	2	40	3#8, 1#10G, 3/4"C	0	0	7,200	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 32	18
19		3,600	-			7,200	0	0			-	3,600		20
21	EV Charging Station 24	3,600	2	40	3#8, 1#10G, 3/4"C	0	7,200	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 33	22
23		3,600	-			0	0	7,200			-	3,600		24
25	EV Charging Station 25	3,600	2	40	3#8, 1#10G, 3/4"C	7,200	0	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 34	26
27		3,600	-			0	7,200	0			-	3,600		28
29	EV Charging Station 26	3,600	2	40	3#8, 1#10G, 3/4"C	0	0	7,200	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 35	30
31		3,600	-			7,200	0	0			-	3,600		32
33	EV Charging Station 27	3,600	2	40	3#8, 1#10G, 3/4"C	0	7,200	0	3#8, 1#10G, 3/4"C	40	2	3,600	EV Charging Station 36	34
35		3,600	-			0	0	7,200			-	3,600		36
37	SPARE	0	1	20		0	0	0		20	1	0	SPARE	38
39	SPARE	0	1	20		0	0	0		20	1	0	SPARE	40
41	SPARE	0	1	20		0	0	0		20	1	0	SPARE	42
						43,284	43,291	43,298	VA					
									VA (Sub-Feed)					
						43,284	43,291	43,298	VA (Total)					
						360	360	361	Amperage					

Total Connected Load: 129,873 VA
Total Connected Amps: 360 A

Notes:

Warning:The load category information has not been entered for all circuits.
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SUITE 200
MARLTON, NJ 08053

ELECTRIC VEHICLE CHARGING - PANEL SCHEDULES
DPMC - TRENTON PARKING GARAGE
ELECTRIC VEHICLE FEASIBILITY STUDY
179 WEST STATE STREET, TRENTON, NJ

DESIGNED BY:	BMM	ISSUE DATE:	01/19/21
DRAWN BY:	BMM		
CHECKED BY:	JTB	SHEET NUMBER:	SK 004
APPROVED BY:	JTB		
SCALE:	AS NOTED	SHEET 4 OF 8	
PROJECT NO.	W0 #9 -J0369		

EXHIBIT 'F'

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Central File: FILES\ELECTRICAL\DWGS\66020 EV FEASIBILITY STUDY - OVERALL SITE REAR GRADE LEVEL.DWG

ELECTRIC VEHICLE CHARGING STATION LEGEND:

CHARGEPOINT LEVEL 2 - DUAL E.V. CHARGING STATION MODEL #: CT4023	
CHARGEPOINT LEVEL 3 - DUAL E.V. CHARGING STATION MODEL : EXPRESS 250	E

DEDICATED CHARGING AREA

EV WALL MOUNT

EV PEDESTAL MOUNT

TYPICAL BOLLARD PLACEMENT

EV METAL BOLLARD

12/8/2020 8:56:44 AM

1 **E.V. CHARGING LAYOUT, LEVEL 2 - OPTION 1**
SCALE: 1/32"=1'-0"

8' 0 8' 16' 32' 64'
1/32" = 1'-0"

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MARLTON, NJ 08053

ELECTRIC VEHICLE CHARGING LAYOUT, LEVEL 2 - OPTION 1
DPMC - TRENTON PARKING GARAGE
ELECTRIC VEHICLE FEASIBILITY STUDY
179 WEST STATE STREET, TRENTON, NJ

DESIGNED BY:	BMM	ISSUE DATE:	01/19/21
DRAWN BY:	BMM		
CHECKED BY:	JTB	SHEET NUMBER:	**SK 005**
APPROVED BY:	JTB		
SCALE:	AS NOTED	SHEET 5 OF 8	
PROJECT NO.	W0 #9 -J0369		

EXHIBIT 'F'

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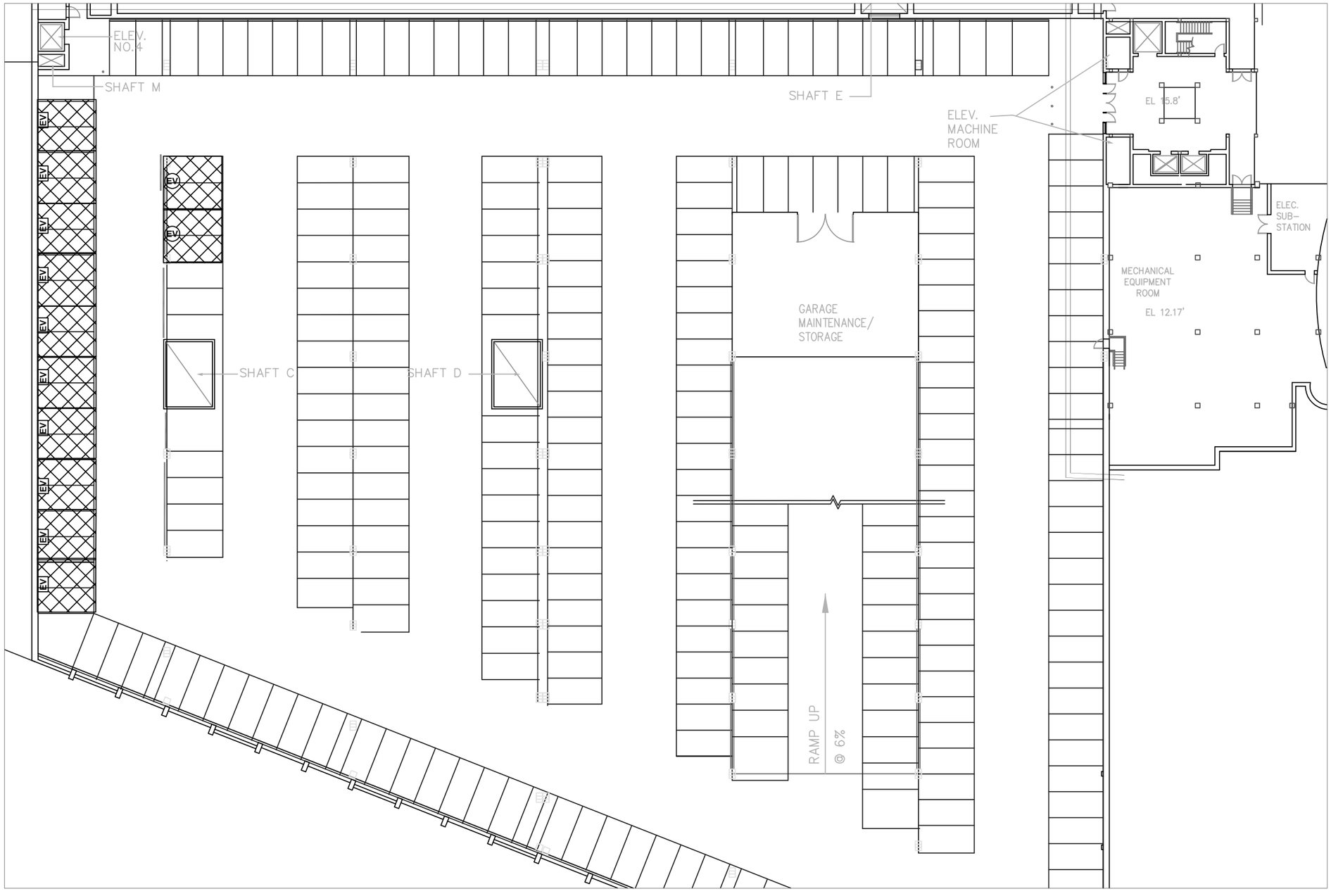
Central File: FILES\ELECTRICAL\DWGS\66020 EV FEASIBILITY STUDY - OVERALL SITE REAR GRADE LEVEL.DWG



ELECTRIC VEHICLE CHARGING STATION LEGEND:

CHARGEPOINT LEVEL 2 - DUAL E.V. CHARGING STATION MODEL #: CT4023	
CHARGEPOINT LEVEL 3 - DUAL E.V. CHARGING STATION MODEL : EXPRESS 250	(E)

DEDICATED CHARGING AREA

EV WALL MOUNT

(EV) PEDESTAL MOUNT

TYPICAL BOLLARD PLACEMENT

(EV) METAL BOLLARD

12/8/2020 8:56:44 AM

1 **E.V. CHARGING LAYOUT, LEVEL 1 - OPTION 3**
SCALE: 1/32"=1'-0"

8' 0 8' 16' 32' 64'
1/32" = 1'-0"

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ELECTRIC VEHICLE CHARGING LAYOUT , LEVEL 1 - OPTION 3
DPMC - TRENTON PARKING GARAGE
ELECTRIC VEHICLE FEASIBILITY STUDY
179 WEST STATE STREET, TRENTON, NJ

DESIGNED BY:	BMM	ISSUE DATE:	01/19/21
DRAWN BY:	BMM	SHEET NUMBER:	**SK 006**
CHECKED BY:	JTB		
APPROVED BY:	JTB		
SCALE:	AS NOTED		
PROJECT NO.	W0 #9 -J0369		SHEET 6 OF 8

EXHIBIT 'F'

Local File: C:\USERS\BRMILLER\BIM 360\GANNETT FLEMING INC\066020-NJDPMC_PARKINGGARAGE_EV_STUDY\PROJECT
Central File: FILES\ELECTRICAL\DWGS\66020 EV FEASIBILITY STUDY - OVERALL SITE REAR GRADE LEVEL.DWG

ELECTRIC VEHICLE CHARGING STATION LEGEND:

CHARGEPOINT LEVEL 2 - DUAL E.V. CHARGING STATION MODEL #: CT4023	
CHARGEPOINT LEVEL 3 - DUAL E.V. CHARGING STATION MODEL : EXPRESS 250	E

DEDICATED CHARGING AREA

EV WALL MOUNT

EV PEDESTAL MOUNT

TYPICAL BOLLARD PLACEMENT

EV METAL BOLLARD

12/8/2020 8:56:44 AM

1 **E.V. CHARGING LAYOUT, LEVEL 2 - OPTION 3**
SCALE: 1/32"=1'-0"

8' 0 8' 16' 32' 64'
1/32" = 1'-0"

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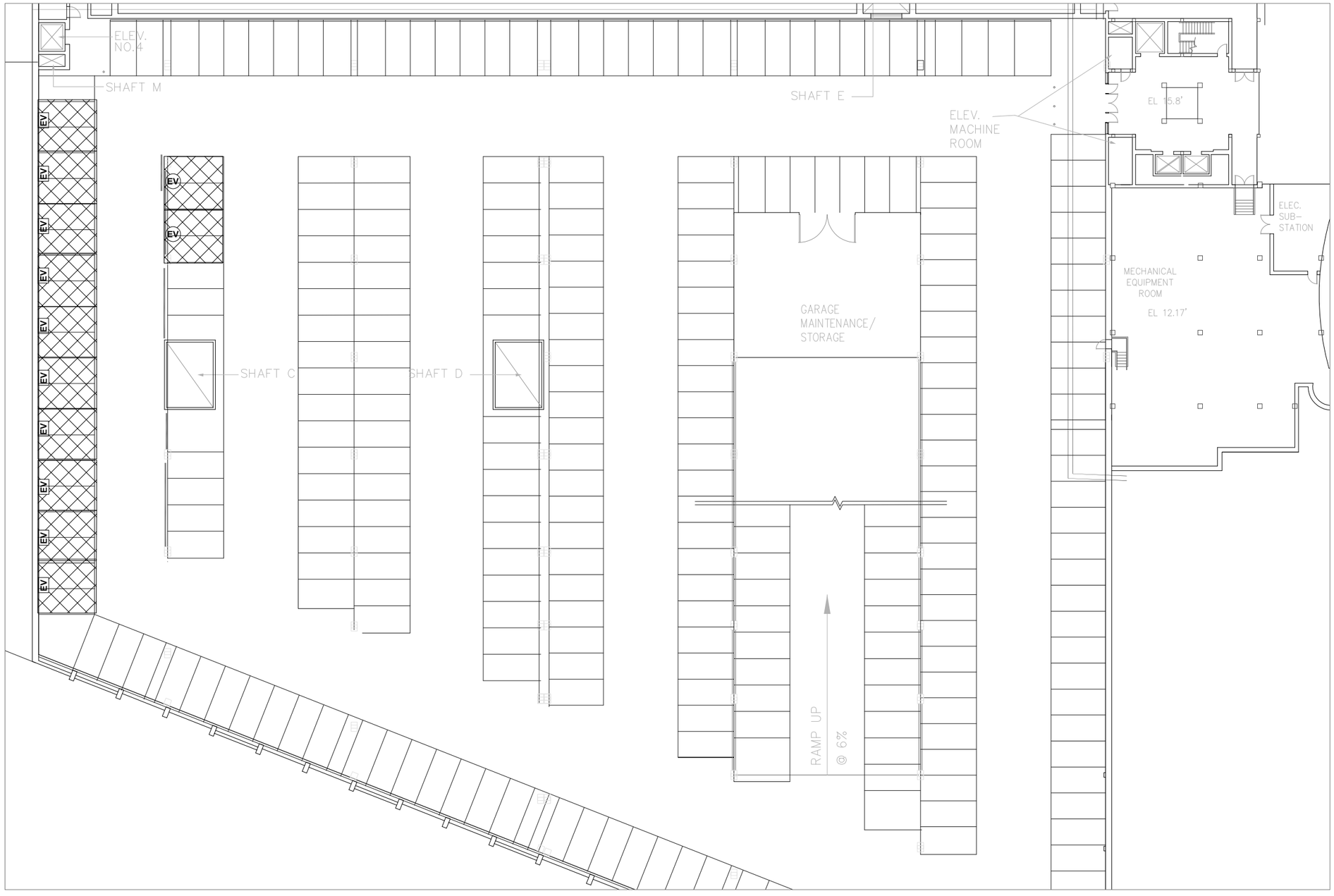
ELECTRIC VEHICLE CHARGING LAYOUT, LEVEL 2 - OPTION 3
DPMC - TRENTON PARKING GARAGE
ELECTRIC VEHICLE FEASIBILITY STUDY
179 WEST STATE STREET, TRENTON, NJ

DESIGNED BY:	BMM	ISSUE DATE:	01/19/21
DRAWN BY:	BMM		
CHECKED BY:	JTB	SHEET NUMBER:	**SK 007**
APPROVED BY:	JTB		
SCALE:	AS NOTED	SHEET 7 OF 8	
PROJECT NO.	W0 #9 -J0369		

EXHIBIT 'F'

Local File: C:\USERS\BRMILLER\BIM 360\GANNETT FLEMING INC\066020-NJDPMC_PARKINGGARAGE_EV_STUDY\PROJECT
Central File: FILES\ELECTRICAL\DWGS\66020 EV FEASIBILITY STUDY - OVERALL SITE REAR GRADE LEVEL.DWG



ELECTRIC VEHICLE CHARGING STATION LEGEND:

CHARGEPOINT LEVEL 2 - DUAL E.V. CHARGING STATION MODEL #: CT4023	
CHARGEPOINT LEVEL 3 - DUAL E.V. CHARGING STATION MODEL : EXPRESS 250	(E)

DEDICATED CHARGING AREA

EV WALL MOUNT

(EV) PEDESTAL MOUNT

TYPICAL BOLLARD PLACEMENT

(EV) METAL BOLLARD

1 **E.V. CHARGING LAYOUT, LEVEL 3 - OPTION 3**
SCALE: 1/32"=1'-0"

8' 0 8' 16' 32' 64'
1/32" = 1'-0"

Gannett Fleming
5 EVES DRIVE
SUITE 200
MARLTON, NJ 08053

ELECTRIC VEHICLE CHARGING LAYOUT,
LEVEL 3 - OPTION 3
DPMC - TRENTON PARKING GARAGE
ELECTRIC VEHICLE FEASIBILITY STUDY
179 WEST STATE STREET, TRENTON, NJ

DESIGNED BY:	BMM	ISSUE DATE:	01/19/21
DRAWN BY:	BMM	SHEET NUMBER:	**SK 008**
CHECKED BY:	JTB		
APPROVED BY:	JTB		
SCALE:	AS NOTED		SHEET 8 OF 8
PROJECT NO.	W0 #9 -J0369		

12/8/2020 8:56:44 AM

EXHIBIT 'F'

Appendix B
Cost Estimate

EXHIBIT 'F'

Contract No.:		**NJ DEPARTMENT OF THE TREASURY**	Discipline:	ELECTRICAL	Sheet:	1 OF 1
Charge Code:	66020	**EV Study at State House Parking Garage**	Prepared by:	JTB	Date:	1/15/2021
Project Mgr:	J.Byorick		Checked by:	BMM	Date:	1/18/2021

Project Title: **Electric Vehicle Charging Study at State House Parking Garage**

Option 1

Bid Item #	Spec Item #	Description	Quantity	Unit	Unit Price $		Total $		Total $	Remarks
					Material	Labor	Material	Labor		
1		Wire	1	LS	$24,815.14	$31,170.51	$24,815.14	$31,170.51	$55,985.65	
2		Conduit	1	LS	$56,845.60	$82,795.00	$56,845.60	$82,795.00	$139,640.60	
3		Transformers	1	LS	$14,000.00	$2,850.00	$14,000.00	$2,850.00	$16,850.00	
4		Panelboards	1	LS	$14,861.36	$9,625.00	$14,861.36	$9,625.00	$24,486.36	
5		Level 2 Charging Stations	36	EA	$5,800.00	$111.00	$208,800.00	$3,996.00	$212,796.00	
6		Level 3 Charging Stations	2	EA	$39,710.00	$111.00	$79,420.00	$222.00	$79,642.00	
7		Bollards	1	LS	$26,000.00	$26,000.00	$26,000.00	$26,000.00	$52,000.00	
8		Division 1 Items (Mobilization, material cost adjust, protection of work, cleanup etc.)	1	LS	$22,258.29	$1,381.82	$22,258.29	$1,381.82	$23,640.11	
		SUBTOTAL					**$447,000.39**	**$158,040.33**	**$605,040.72**	
		Premium Time Adder @ 0.5								
		TOTAL LABOR COST							**$158,040.33**	
		TOTAL BARE COST							**$605,040.72**	
		Overhead 15%							**$90,756.11**	
		Subtotal							**$695,796.82**	
		Profit 6%							**$41,747.81**	
		Social Security & Medicare Tax	7.65%						**$12,090.08**	
		Unemployment Taxes (State & Federal)	4.13%						**$6,519.16**	
		Workers' Compensation	6.23%						**$9,846**	
		Subtotal							**$765,999.79**	
		Bond 2.5%							**$19,149.99**	
		TASK SUBTOTAL							**$785,149.79**	
		Contingency	20.00%						**$157,029.96**	
		TOTAL TASK							**$942,179.74**	

Note: Equipment cost is included under Labor cost.

EXHIBIT 'F'

Contract No.:		**NJ DEPARTMENT OF THE TREASURY**	Discipline:	ELECTRICAL	Sheet:	1 OF 1
Charge Code:	66020	**EV Study at State House Parking Garage**	Prepared by:	JTB	Date:	1/15/2021
Project Mgr:	J.Byorick		Checked by:	BMM	Date:	1/18/2021

Project Title: **Electric Vehicle Charging Study at State House Parking Garage**

Option 2

Bid Item #	Spec Item #	Description	Quantity	Unit	Unit Price $		Total $		Total $	Remarks
					Material	Labor	Material	Labor		
1		Wire	1	LS	$24,815.14	$31,170.51	$24,815.14	$31,170.51	$55,985.65	
2		Conduit	1	LS	$56,845.60	$82,795.00	$56,845.60	$82,795.00	$139,640.60	
3		Transformers	1	LS	$14,000.00	$2,850.00	$14,000.00	$2,850.00	$16,850.00	
4		Panelboards	1	LS	$14,861.36	$9,625.00	$14,861.36	$9,625.00	$24,486.36	
5		Level 2 Charging Stations	18	EA	$5,800.00	$111.00	$104,400.00	$1,998.00	$106,398.00	
6		Level 3 Charging Stations	2	EA	$39,710.00	$111.00	$79,420.00	$222.00	$79,642.00	
7		Bollards	1	LS	$26,000.00	$26,000.00	$26,000.00	$26,000.00	$52,000.00	
8		Division 1 Items (Mobilization, material cost adjust, protection of work, cleanup etc.)	1	LS	$17,038.29	$1,381.82	$17,038.29	$1,381.82	$18,420.11	
		SUBTOTAL					**$337,380.39**	**$156,042.33**	**$493,422.72**	
		Premium Time Adder @ 0.5								
		TOTAL LABOR COST							**$156,042.33**	
		TOTAL BARE COST							**$493,422.72**	
		Overhead 15%							**$74,013.41**	
		Subtotal							**$567,436.12**	
		Profit 6%							**$34,046.17**	
		Social Security & Medicare Tax	7.65%						**$11,937.24**	
		Unemployment Taxes (State & Federal)	4.13%						**$6,436.75**	
		Workers' Compensation	6.23%						**$9,721**	
		Subtotal							**$629,577.71**	
		Bond 2.5%							**$15,739.44**	
		TASK SUBTOTAL							**$645,317.15**	
		Contingency	20.00%						**$129,063.43**	
		TOTAL TASK							**$774,380.58**	

Note: Equipment cost is included under Labor cost.

EXHIBIT 'F'

Contract No.:		**NJ DEPARTMENT OF THE TREASURY**	Discipline:	ELECTRICAL	Sheet:	1 OF 1
Charge Code:	66020	**EV Study at State House Parking Garage**	Prepared by:	JTB	Date:	1/15/2021
Project Mgr:	J.Byorick		Checked by:	BMM	Date:	1/18/2021
Project Title:	**Electric Vehicle Charging Study at State House Parking Garage**					

Option 3

Bid Item #	Spec Item #	Description	Quantity	Unit	Unit Price $		Total $		Total $	Remarks
					Material	Labor	Material	Labor		
1		Wire	1	LS	$15,570.11	$21,132.16	$15,570.11	$21,132.16	$36,702.27	
2		Conduit	1	LS	$44,317.60	$64,435.00	$44,317.60	$64,435.00	$108,752.60	
3		Transformers	1	LS	$14,000.00	$2,850.00	$14,000.00	$2,850.00	$16,850.00	
4		Panelboards	1	LS	$14,861.36	$9,625.00	$14,861.36	$9,625.00	$24,486.36	
5		Level 2 Charging Stations	36	EA	$5,800.00	$111.00	$208,800.00	$3,996.00	$212,796.00	
6		Level 3 Charging Stations	2	EA	$39,710.00	$111.00	$79,420.00	$222.00	$79,642.00	
7		Bollards	1	LS	$20,000.00	$20,000.00	$20,000.00	$20,000.00	$40,000.00	
8		Division 1 Items (Mobilization, material cost adjust, protection of work, cleanup etc.)	1	LS	$20,869.64	$1,381.82	$20,869.64	$1,381.82	$22,251.46	
		SUBTOTAL					**$417,838.71**	**$123,641.98**	**$541,480.69**	
		Premium Time Adder @ 0.5								
		TOTAL LABOR COST							**$123,641.98**	
		TOTAL BARE COST							**$541,480.69**	
		Overhead 15%							**$81,222.10**	
		Subtotal							**$622,702.79**	
		Profit 6%							**$37,362.17**	
		Social Security & Medicare Tax	7.65%						**$9,458.61**	
		Unemployment Taxes (State & Federal)	4.13%						**$5,100.23**	
		Workers' Compensation	6.23%						**$7,703**	
		Subtotal							**$682,326.70**	
		Bond 2.5%							**$17,058.17**	
		TASK SUBTOTAL							**$699,384.87**	
		Contingency	20.00%						**$139,876.97**	
		TOTAL TASK							**$839,261.84**	

Note: Equipment cost is included under Labor cost.

EXHIBIT 'F'

Appendix C
E.V. CHARGING STATION CUTSHEETS

EXHIBIT 'F'

CT4000 Family

ChargePoint® Level 2 Commercial Charging Stations

The CT4000 family is the latest generation of ChargePoint commercial charging stations. Refined yet rugged, these stations set the industry standard for functionality and aesthetics.

The CT4000 full motion color LCD display instructs drivers and supports dynamic updates of custom branded videos and advertisements.

Intelligent power management options double the number of parking spaces served by allowing two charging ports to share a single circuit. Sites with single port EV stations can upgrade to dual port stations without requiring additional electrical services.

The CT4000 is the first ENERGY STAR® certified EV charger because it charges efficiently and conserves power when not charging. As an ENERGY STAR certified EV charger, the CT4000 uses significantly less energy than a standard EV charger when in standby mode to help you save money on your utility bill.

All CT4000 models offer one or two standard SAE J1772™ Level 2 charging ports with locking holsters, each port supplying up to 7.2kW. With this standard connector, ChargePoint level 2 stations can charge any EV.

Stations are available in bollard and wall mount configurations for easy installation anywhere. All stations are fully software upgradeable remotely over the air.

Stations come in both 6′ and 8′ tall models with 18′ and 23′ cords, respectively. With multiple options for size and cord reach, your station can service up to four parking spaces, reach all car models regardless of parking style or car sizes and increase the usability of your EV spots.

Driver Friendly User Interface

- Instructional video shows how to use the station
- Multi-language: English, French, Spanish
- Touch button interface; works in rain, ice and with gloves
- Backed by ChargePoint's world class 24/7 driver phone support

Easily Communicate with Your Drivers

Whether you're a retail establishment wanting to advertise your latest product, a workplace looking to communicate with employees or a municipality wanting to welcome visitors, ChargePoint's prominent LCD screen makes it easy to reach EV drivers:

- Daylight readable, with auto brightness control
- 640 X 480 resolution active matrix
- Full motion 30fps video support
- Upload up to 60 seconds of high quality video on a color LCD screen to individual stations as often as desired
- Brand your charging stations to communicate with drivers
- Instructional video in English, Spanish or French

ENERGY STAR

The First
ENERGY STAR®
Certified EV Charger

EXHIBIT 'F'

Service Products and Support

ChargePoint offers world-class service products and support that help ensure quality of work, save time and money, protect your investment and enhance the productivity of your charging stations. From site planning to installation and setup, to ongoing care and management, when you choose ChargePoint, you're covered.

- **ChargePoint Configuration and Activation:** customized setup and activation of your stations
- **ChargePoint Assure:** the most comprehensive EV Station maintenance and management in the industry

Energy Measurement and Management

- Real-time energy measurement
- 15 minute interval recording
- Time of Day (TOD) pricing
- Load shed by percentage of running average or to fixed power output

Minimize Costs with Flexible Power Management Options

In the vast majority of applications, a full power configuration is the best choice for both station owners and drivers. However, when drivers are parked for a longer time, an intelligent, lower power output can save station owners considerable installation cost while still providing drivers a great charging experience. With flexible power options, station owners can meet the needs of drivers while lowering costs:

Power Select (Patent Pending)

- Allows for a lower capacity (less than 40A) circuit to power each port
- Cuts installation costs by reducing the cost or even avoiding the need to upgrade panels or transformers

Power Sharing

- Dynamically share one 40A, 30A or 20A circuit between two parking spaces
- Doubles the number of parking spots served while reducing installation and operating costs
- Allows station owners to upgrade a single port station to dual port to serve more drivers with no electrical upgrade

Clean Cord Technology

- Keep charging cords off the ground
- Standard on all models
- Ultra-reliable second-generation gravity operated mechanism
- Flexible over entire -40°F to +122°F product temperature range

Safe, Reliable, Energy Efficient Hardware

- UL listed, meeting the stringent requirements of the nation's leading safety standards organization
- Stations are rugged, built to withstand the elements
- Safe, Reliable and Energy Efficient
- ENERGY STAR certified, charges efficiently and conserves power when not charging

When Charging is Mission Critical, Protect Your Investment with ChargePoint Assure

- **Minimize downtime:** ChargePoint Assure provides the most comprehensive EV Station maintenance and management in the industry
- **Get up and running quickly and flawlessly:** Professional guidance for station configuration saves you time, and unlimited changes to station policies flexibly supports your business
- **Eliminate unexpected future expenses:** Cost for parts and on-site labor to install is covered for all Assure eligible repairs
- **One less thing to worry about:** Proactive station monitoring provides you with regular reporting
- **Reduced risk of downtime:** We guarantee 98% annual uptime and one business day response to requests
- **Support when you need it:** We're there for you *and* your drivers. Phone support available for station owners Monday to Friday from 5 AM to 6 PM Pacific. Phone support for drivers is 24/7/365, so you never need to field a driver call

Ultra-reliable second-generation gravity operated mechanism.

18′ and 23′ cords to reach all car models and serve more parking spaces.

World-class 24/7 driver phone support.

Instructional video shows how to use the station. Multi-language charging instructions, giving drivers the choice of English, French or Spanish.

Driver interaction is supported in any weather by five rugged, back-lit buttons with audio feedback.

Strong and rugged design materials built to withstand the elements.

CT4000 stations come with 18′ or 23′ cords to increase the usability of your charging spots, on 6′ and 8′ tall models respectively.

CT4021
Dual-port bollard charging station with 18′ charging cables. Standard *EV Charging Only* sign without optional custom branding.

EXHIBIT 'F'

Promote Your Brand and Business

Having your stations installed in a visible location makes a bold statement about your business' commitment to sustainability and shows that you care about your customers. ChargePoint CT4000 stations are built for customization so you can conveniently promote your brand as well. With custom signage and video you can:

- Increase brand recognition
- Attract EV drivers by making sure your stations are highly visible
- Ensure EV charging installations are consistent with the look and feel of your brand
- Differentiate your stations from standard ChargePoint stations to make them easily identifiable by your driver base

Easily customizable branding area.

All stations come with *EV Charging Only* sign, which can be replaced with your custom signage.

5.7" color LCD display for customizable video content.

Upload up to 60 seconds of high quality video to individual stations as often as desired.

Daylight readable with auto brightness control.

OPTIONAL:
Additional customizable branding areas.

All stations have standard extrusions to hold your custom signage.

Artwork templates and material specifications are conveniently downloadable from chargepoint.com

Branded CT4021
Shown with optional branding on bollard.
18′ cords on 6′ model.

Branded CT4025
Shown with optional branding on back.
23′ cords on 8′ model.

EXHIBIT 'F'

Bollard Charging Stations

CT4011

CT4021

CT4025

Wall Mount Charging Stations

CT4013

CT4023

CT4027

Contact Us

Visit chargepoint.com

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chargepoint.com

Listed by Underwriters Laboratories Inc.

EXHIBIT 'F'

Express 250

Specifications and Ordering Information

Express 250

EXHIBIT 'F'

Ordering Information

The order codes below represent specific product configurations. Other product options are available. Please contact ChargePoint Sales for information and order codes.

Hardware

Description		Order Code
Model	Express 250 Station includes 2x Power Modules, 1x CCS1 cable, 1x CHAdeMO cable (NA)	CPE250C-625-CCS1-CHD
	Express 250 Station includes 2x Power Modules, 1x CCS2 cable, 1x CHAdeMO cable (EU)	CPE250C-625-CCS2-CHD
Option	Other cable combinations are available using CCS1, CCS2 and CHAdeMO connectors	Please contact ChargePoint sales

Software & Services

Description	Order Code
ChargePoint Cloud Plan	Please contact ChargePoint sales
ChargePoint Assure — Prepaid Assure Plan for one Power Module. Express 250 requires 2x EXPRESS-ASSUREn to cover the two Power Modules and the CPE250 station. ChargePoint Assure — Assure Plan for one Power Module and invoiced annually. Express 250 requires 2x EXPRESS-ASSUREn to cover the two Power Modules and the CPE250 station	EXPRESS-ASSURE*n*[1] EXPRESS-ASSUREN-COMMIT[1]
Station Activation and Configuration	CPSUPPORT-ACTIVE
ChargePoint Station Installation and Validation	CPE250-INSTALLVALID

Note: All CPE250 stations require a cloud plan.

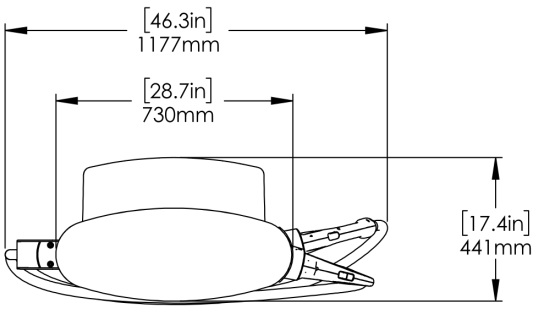
*Substitute *n* for desired years of service (1, 2, 3, 4 or 5 years).

[1]Substitute *n* for desired years of service (1, 2, 3, 4 or 5 years).

Order Code Information

If ordering this…	…the order code is
Express 250 Station includes 2x Power Modules, 1x CCS1 cable, 1x CHAdeMO cable (NA)	CPE250C-625-CCS1-CHD
3 years of prepaid Assure coverage upon successful site validation. Assure covers Power Modules & station. Express 250 requires 2x EXPRESS-ASSURE3 for its 2 Power Modules.	2 x EXPRESS-ASSURE*3*
Station Activation and Configuration	CPSUPPORT-ACTIVE

Architectural Drawings (Dimensions)



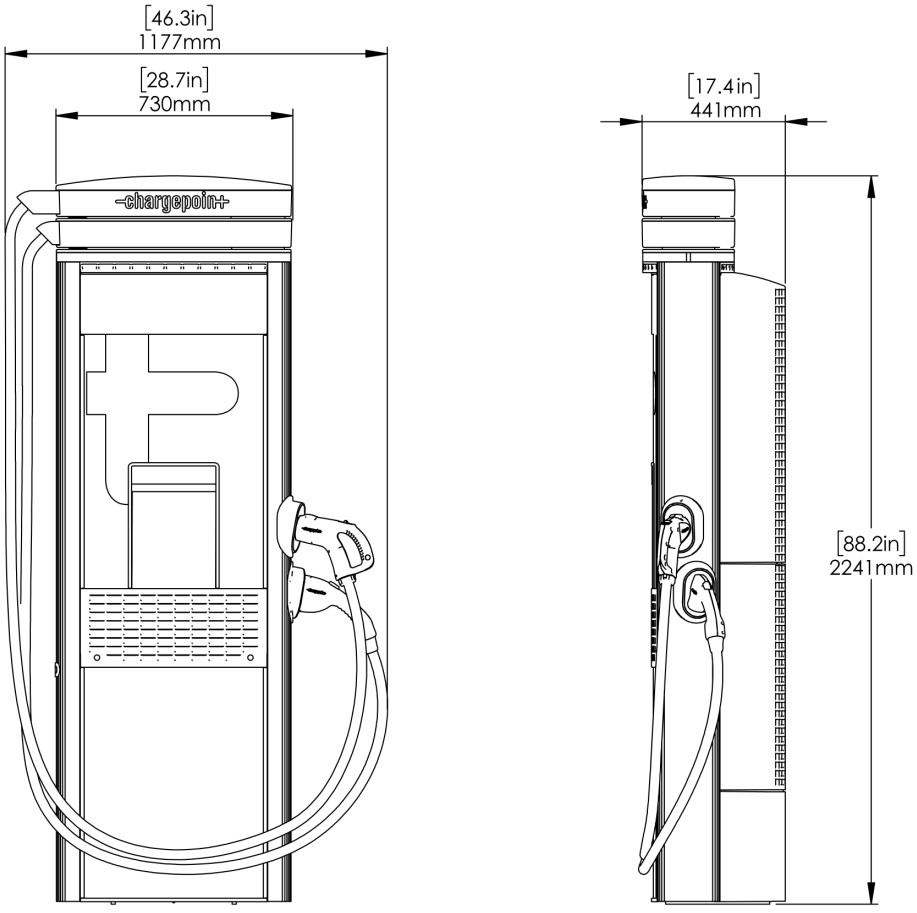


EXHIBIT 'F'

General Specifications

Station Electrical Input

Input Rating	400V AC, 3-phase, 96A, 50 Hz 480V AC, 3-phase, 80A, 60 Hz
Wiring	L1, L2, L3, Neutral & Earth

Station Electrical Output

Max Output Power	62.5 kW
Output Voltage, Charging	200–1,000V DC
Max Output Current	156A
Max Modules per Station	2

Paired Station Electrical Output

Paired Max Output Power	125 kW
Paired Max Output Current	CCS1: 174A or 200A CCS2: 200A CHAdeMO; US: 140A, EU: 125A

Power Module

Max Output Power	31.25 kW
Max Output Current	78 A
Power Conversion Efficiency	> 95%
Power Factor	0.99 at full load
Harmonics	iTHD < 5% (Complies with IEEE 519 Requirements)
Power Module Cooling	Liquid Cooling Technology

EXHIBIT 'F'

Functional Interfaces

Max Connector Types per Station	Up to two different connector types per station
Supported Connector Types	CHAdeMO, CCS1 (SAE J1772™ Combo), CCS2 (IEC 61851-23)
Cable Length with Swing Arm*	Full Horizontal Reach: 4.27m (14')
LCD Display	Full-color 254 mm (10 in) display for driver interaction
Top Display	Full-color 508 mm (20 in) LED display for notifications
Authentication	RFID: ISO 15693, ISO 14443, NEMA EVSE 1.2-2015 (UR) Tap to Charge (NFC on Apple & Android): 15118-1 (EIM) Remote: Mobile and in vehicle (if supported by vehicle)

*Horizontal reach to typical vehicle charging port: 3.76 (12'4")

Connectivity Features

Vehicle Safety Communication	CHAdeMO – JEVS G104 over CAN, CCS1 – SAE J1772 over PLC and CCS2 — IEC 61851-23
Plug-Out Detection	Power terminated per JEVS G104 (CHAdeMO), SAE J2931 (CCS1) and IEC 61851-23 (CCS2)
Local Area Network	2.4 GHz and 5 GHz WiFi (802.11 b/g/n)
Wide Area Network	4G LTE (fall back to 3G GSM)
Supported Communication Protocols	OCPP
Service and Maintenance	Remote system monitoring, diagnostic, and proactive maintenance

Safety and Operational Ratings

Station Enclosure Rating	Type 3R, IP54
Station Impact Rating	IK10
Safety and Compliance	UL and cUL listed: complies with UL 2202, UL 2231-1, UL 2231-2, CSA 107.1 CE marking: complies with IEC 62196, IEC 61851
Station Surge Protection	Tested to IEC 6100-4-5, Level 5 (6 kV @ 3,000A). In geographic areas subject to frequent thunder storms, supplemental surge protection at the service panel is recommended.
EMC Compliance	U.S.: FCC part 15 Class A; EU: EN55011, EN55022 and IEC61000-4

EXHIBIT 'F'

Cooling	Liquid Cooling Technology
Storage Temperature	-40°C to 50°C (-40°F to 122°F)
Operating Temperature	-40°C to 50°C (-40°F to 122°F)
Operational Altitude	<3,000 m (<9,800 ft)
Operating Humidity	Up to 95% @ 50°C (122°F) non-condensing

Generic Specifications

Station Enclosure Dimensions	2,230 mm x 712 mm x 420 mm (7'4" x 2'4" x 1'4")
Power Module Dimensions	760 mm x 430 mm x 130 mm (2'6" x 1'5" x 5")
Station Weight (without Power Modules)	250 kg (551 lb)
Power Module Weight	45 kg (98.5 lb)

Energy Management Features

Dynamic Power Management	Allows a fixed maximum power output per station or lets the system dynamically manage the power distribution per station
Remote Energy Management	Manage output power via the ChargePoint Admin Portal, API, and Open ADR 2.0b VEN

ChargePoint, Inc. reserves the right to alter product offerings and specifications at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document

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* Listed by Underwriters Laboratories Inc.

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EXHIBIT 'F'

New Jersey Department of Environmental Protection (DEP)
It Pay$ to Plug In (IPPI) EV Charging Grant Program

Compliance and Best Practices Guidelines for Accessible EV Charger Installation

I. Introduction

The purpose of this document is to provide IPPI applicants with guidance on how applicants can accommodate current Electric Vehicle Charging and Accessibility standards as they relate to Charging Station siting, design, and installation. As Electric Vehicle Charging technology continues to advance, the legislation addressing Electric Vehicle Charging and Accessibility may be subject to future change. As such, the IPPI Program's Compliance and Best Practices Guidelines for Accessible EV Charger installation may also be subject to change to accurately reflect the most recent legislation.

II. EV Charging and Accessibility Standards: Background

The New Jersey State Uniform Construction Code (UCC) Act authorizes the Commissioner of the Department of Community Affairs to adopt and enforce rules pertaining to construction codes and provides for the administration and enforcement of those rules throughout the State. The accessible provisions of the UCC are found within the barrier free subcode (N.J.A.C. 5:23-7) and Chapter 11 of the building subcode (N.J.A.C. 5:23-3.14) and provide a standard for the State of New Jersey. These subcodes include requirements for accessible parking spaces, their design and location. The requirements are limited to the State of New Jersey and can in some instances exceed the ADA Standards for parking.

The Americans with Disabilities Act (ADA) is a federal civil rights law that prohibits discrimination in public places against individuals with disabilities. The ADA Standards for Parking explain federal requirements for accessible parking, including the minimum number of required accessible spaces, and their design and location. In the state of New Jersey, the ADA Standards are largely superseded by the UCC. However, street parking, parking lots not associated with nor serving a building or structure are not covered under the UCC and therefore must meet the requirements of the ADA.

Neither the ADA nor the UCC currently provide standards specific to charging station-equipped parking spots. However, the standards from both documents as they pertain to parking and equipment operation may be applied to charging station-equipped parking spots. This document will provide requirements and guidance based on these prior standards in addition to several industry studies and planning guides that contain best practices for installing charging stations that service accessible parking spaces.

III. DEP's IPPI Grants Program: ADA-Compliance Requirements

This document describes Accessibility compliance and best practices for entities that receive funding from *It Pay$ to Plug In* (IPPI), DEP's grant program for electric vehicle charging infrastructure.

The DEP's IPPI Program Overview and Instructions must be adhered to in order to receive funding from the program. The following requirement applies to Level 1, Level 2, and DC Fast charging stations that are funded by IPPI. (See Section 3.3 Charging Station Eligibility):

Charging station installation must meet Americans with Disabilities (ADA) compliance guidelines and the New Jersey Uniform Construction Code (UCC) requirements and follow all applicable laws, ordinances, regulations and standards.

All applicants must also check the corresponding box on the Certification Checklist acknowledging that they read this document (Compliance and Best Practices Guidelines for Accessible EV Charger Installation). The checklist must be dated and signed by the applicant.

IV. Definitions

Listed below are words and phrases that are referred to throughout this document. These words and phrases are defined in relation to their use within this document and may not have universal application.

> "***Accessible EVSE Parking Space***" - for the purposes of this document, an Accessible EVSE Parking Space refers to a charging station in an accessible parking space that is constructed with the express purpose of adhering to guidelines and best practices for installing an accessible option for EV charging. Refer to Figure 1 for an example of an Accessible EVSE Parking Space.

Figure 1: Accessible EVSE Parking Space

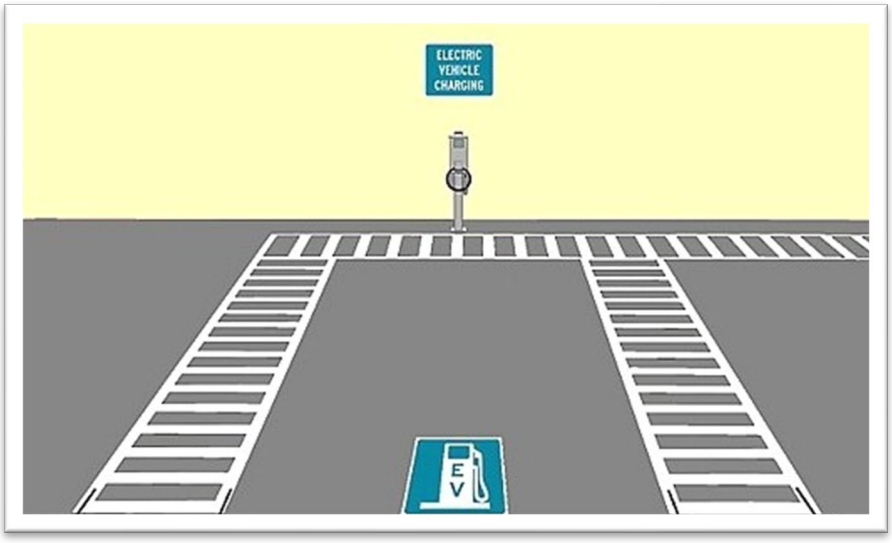


Image Source:
https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/184-ada-standards/guide/1798-chapter-5-parking

"***Accessible Parking Space***" – The UCC and the 2010 Americans with Disabilities Act requires that accessible car parking spaces be at least 96 inches (8 feet) wide. Accessible van parking spaces be at least 132 inches wide (11 feet). If the adjacent access isle is at least 96 inches wide, the van parking space shall be at least 96 inches wide. *Refer to Figure 2 for an example of an Accessible Parking Space.*

Figure 2: Accessible Parking Space

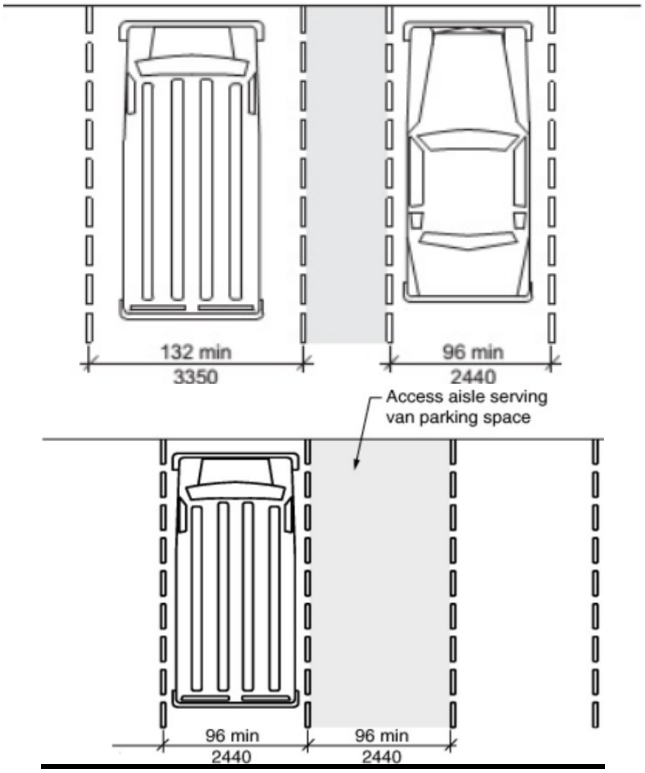


Image Source:
https://codes.iccsafe.org/content/ICCA11712017P2/chapter-5-general-site-and-building-elements

"***Access Aisle***" - Side access aisle of 60 inches wide (minimum) to allow space for wheelchairs and other mobility equipment to be maneuverable in and out of the parking space. *Refer to Figure 3 for an example of an Access Aisle.*

Figure 3: Access Aisle

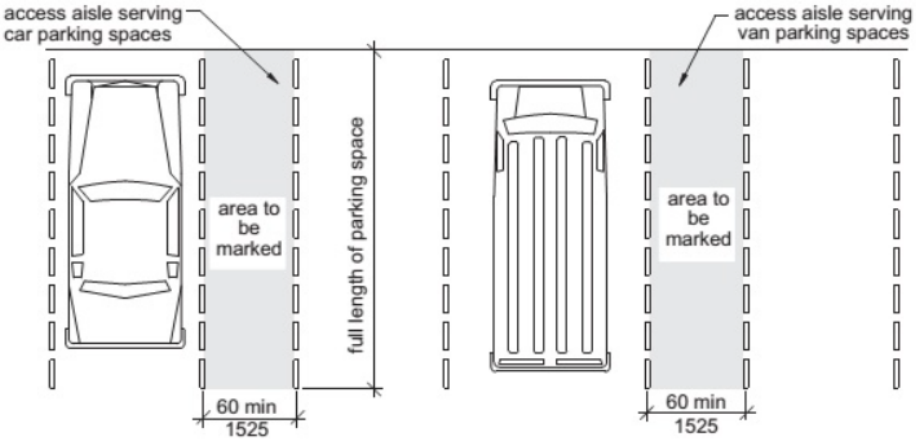


Image Source:
https://codes.iccsafe.org/content/ICCA11712017P2/chapter-5-general-site-and-building-elements

"***Reach Range***" - All operable parts of the charging stations, including payment mechanism if present, shall be within 48 inches (4 ft) maximum measured from the surface of the parking space where charging stations are installed. This means that the highest operable part of the equipment can be no higher than 42-inches from the base of the dispenser if mounted on a six- inch curb. Additionally, no object in the surrounding area can be allowed to physically inhibit an individual from accessing the charging equipment from the accessible parking space. This includes any curbs, wheel stops, sign poles, setbacks, bumper guards, and/or bollards. *Refer to Figure 4 for an example of reach range consideration and measurements*.

Figure 4: Reach Range

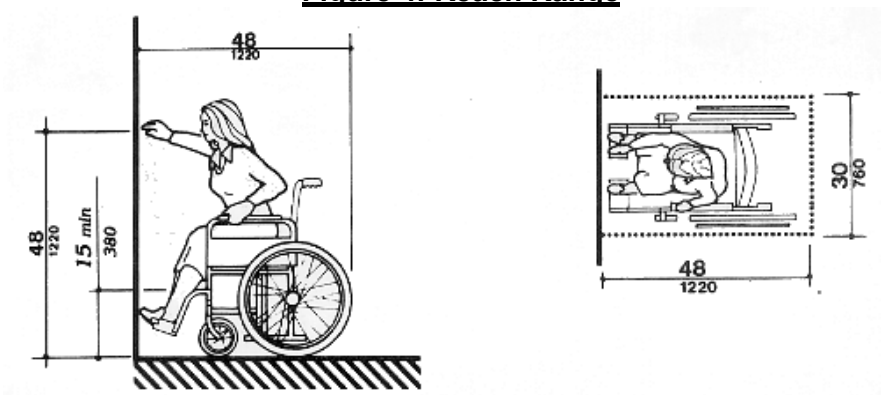


Image Source:
Fig. 5a High Forward Reach Limit (ada.gov)

"***Non-Accessible EVSE Parking Space***" - for the purposes of this document, a Non-Accessible EVSE Parking Space refers to a charging station that is not constructed with the express purpose of adhering to guidelines and best practices for installing an accessible EVSE Parking Space. A Non-Accessible EVSE Parking Space cannot be marked as accessible.

V. DEP's IPPI Grants Program: Accessibility Compliance Guidelines and Best Practices

The DEP produced this guideline document to ensure each applicant is aware that federal, state, and local accessibility regulations exist and may be applied to the installation and servicing of an Accessible EVSE Parking Space. Should an applicant choose or otherwise be required to install and service an EV charging station in an accessible parking stall, it is recommended that the applicant adhere to the following guidelines.

V(a). Installing an Accessible EVSE Parking Space

While there is no common national standard for Accessible EVSE Parking Spaces, many concepts are addressed within existing Federal guidelines and/or required within State or municipal codes. When installing an Accessible EVSE Parking Space, general requirements often found within these existing guidelines and/or codes indicate that the following must be provided or adhered to:

Signage and Markings - DEP's IPPI Program Overview and Instructions require signage and floor paint designating the parking space for Electric Vehicles only. All signs must be visible and mounted near the Charging Station. The UCC and ADA Standards for Accessible Design have specific signage and marking requirements for accessible parking spaces BUT don't necessarily apply to charging stations. If the facility has multiple compliant Accessible EVSE Parking Spaces, it is required that each Accessible EVSE Parking space must display a sign indicating the parking stall is sized to accommodate accessible vehicles and that priority should be preserved for such users unless all other stalls are in use. *Refer to Figure 5 for an example of signage for an Accessible EVSE Parking Space.*

Required Minimum Number of Accessible Parking Spaces - Because an EVSE Parking Space must be used for EV charging only, the parking space associated with the charging station is not considered to be an UCC/ADA- compliant accessible parking space by UCC/ADA Standards and cannot count towards the minimum number of required UCC/ADA-compliant accessible parking spaces under the UCC and the 2010 Americans with Disabilities Act. **Before creating an Accessible EVSE Parking Space, ensure that the associated parking facility will continue to meet all ADA and UCC requirements for minimum number of accessible parking spaces once installation is complete.**

Electric Vehicles Only – As per the IPPI Program Overview and Instructions, each charging station must be located at a parking space that is designated for electric vehicles only. A dual-port charging station must have two EV-only parking spaces.

Figure 5: Signage

This figure illustrates the proper presentation of Accessible EV Charging Signage. The top sign indicates the space is accessible and the bottom is an EV Charging Designation sign.

Accessible Parking Space – An accessible parking space for the vehicle must be provided with an adjacent side access aisle to allow space for wheelchairs and mobility equipment. The dimensions of the parking space and adjacent side aisles must meet the UCC/ADA standards. *Refer to Figure 2 for an example of an Accessible Parking Space.*

Van Accessible Parking - As per New Jersey's reference standard A117.1-2009, the first accessible parking space installed at a facility must be van accessible and have a minimum width of 132 inches. For every SIX or fraction of six accessible parking spaces, at least one shall be a van-accessible parking space.

Connecting Equipment - Equipment cords must be retractable or have a place to hang the connector and cord a safe and sufficient distance above the ground or pavement surface. Any cords connecting the charger to a vehicle shall be configured so that they do not cross a driveway, sidewalk, or passenger unloading area.

Unobstructed Pathway - The location of the charging station and the position of bollards and wheel stops must be carefully considered to ensure there is an unobstructed path to the charging station, and that Reach Range is ensured.

Reach Range - Reach range must always be considered to ensure all operable parts of the charging equipment are accessible to all persons, including wheelchair users.

Listed below are additional considerations for differing Accessible EVSE Parking Space installation scenarios:

A. Installation of charging equipment at an existing accessible parking space. The existing accessible parking stall should have a properly sized parking stall in addition to a barrier free aisle access under UCC and ADA requirements. The resulting charging station must retain aisle access as well as provide a barrier free route to the charging equipment. Considerations should be taken to ensure cords or other pieces of charging equipment do not block pedestrian paths or adjacent accessible routes when plugged into a vehicle.

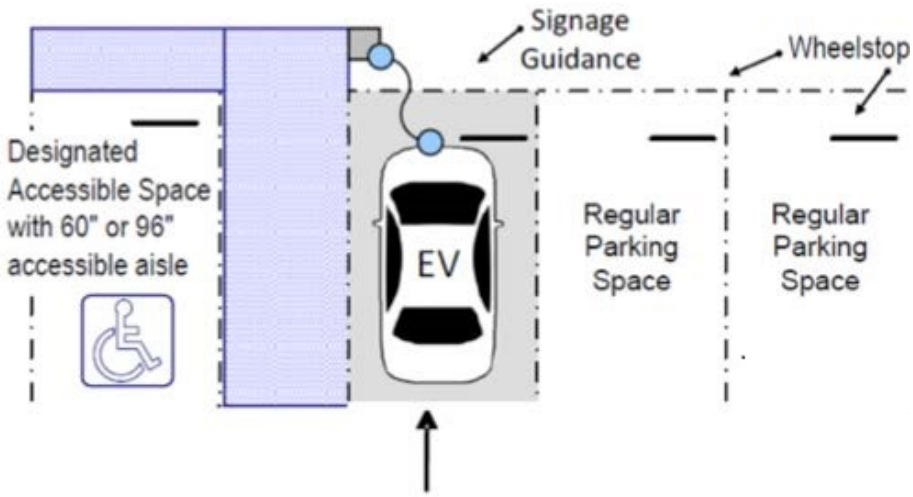
B. Installation at an existing non-accessible parking space, with the intent to make the final parking space accessible. Ensure that the resulting Accessible EVSE Parking Space will provide an appropriately sized accessible parking space and aisle access with a route to the charging equipment. This may require the initial parking space to be expanded to accommodate accessible parking space requirements. Ensure that the initial parking space area can accommodate the area requirements of an Accessible EVSE Parking Space prior to beginning installation.

C. Construction of an entirely new parking space for the sole purpose of housing an Accessible EVSE Parking Space. It is recommended that access aisles are included on both sides of the Parking Space to provide appropriate user mobility. The constructed Parking Space must be accessible, providing the appropriate minimum amount of parking area for cars or vans. When subsequently installing an Accessible EVSE Parking Space at the entirely new parking space, ensure that it will be accessible along

the aisle pathway. *Refer to Figure 1 (pg. 2) for an example of a properly constructed parking space housing an Accessible EVSE Parking Space.*

D. Installation of a Dual-Port EV Charger to support both an Accessible EVSE Parking Space and a Non-Accessible EVSE Parking Space. A Dual-Port EV Charger may be installed in between an accessible parking space and regular parking space to create both an Accessible EVSE Parking Space and a Non-Accessible EVSE Parking Space. Only Dual-Port charging equipment may be used in this scenario so that both EVSE Parking Spaces can be used independently. *Refer to Figure 6 for an example of properly constructed parking spaces servicing both accessible and non-Accessible EVSE Parking Spaces.*

Figure 6: Dual-Port EV Charger Servicing an Accessible EVSE Parking Space and a Non-Accessible EVSE Parking Space



Accessible EV Charging Station

- Includes pedestal mounted charging station, signage, and barrier free routes to charging equipment and the building.
- The barrier free area adjacent to the Designated Accessible Space shall be striped in blue and be 60" or 96" wide.

Image Source:
https://afdc.energy.gov/files/u/publication/WPCC_complyingwithADArequirements_1114.pdf

V(b). Installing a Non-Accessible EVSE Parking Space

When installing a Non-Accessible EVSE Parking Space, we recommend as best practice that each station meet general reach range requirements to the greatest extent possible. We also recommend that applicants check local ordinances to see if there are any additional EVSE Parking Space requirements.

VI. Reporting UCC/ADA Compliance-Related Project Updates to the IPPI Grants Program

If an application is submitted for charging equipment that would not initially be servicing an Accessible EVSE Parking Space, but the project is then subsequently requested or otherwise required by another entity to service an Accessible EVSE Parking Space, the applicant must notify the IPPI grants program. This is important because a grant modification may be necessary, particularly if the equipment and/or charger location must be changed as a result. Failure to provide this notification may result in the cancellation of the application or grant.

VII. Additional Resources

Listed in this section are additional resources that provide a wealth of information on accessibility compliance and best practices as it relates to parking and/or EV charging. Please note that this is not a comprehensive list. Applicants are recommended to review these documents.

2010 ADA Standards for Accessible Design:
(https://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm#pgfId-1008283)

Accessible and Usable Buildings and Facilities, ICC A117.1-2017: Chapter 5. General Site and Building Elements:

*(*https://codes.iccsafe.org/content/ICCA11712017P2/chapter-5-general-site-and-building-elements*)*

DCA Model Statewide Municipal EV Ordinance
(https://www.nj.gov/dca/dlps/home/modelEVordinance.shtml)

New Jersey Barrier Free Subcode:
(https://www.nj.gov/dca/divisions/codes/codreg/pdf_regs/njac_5_23_7.pdf)

New Jersey Division of Codes and Standards, 2018 International Building Code, New Jersey Edition, Chapter 11 – Accessibility:
(https://codes.iccsafe.org/content/NJBC2018PA2/chapter-11-accessibility)

New Jersey Guide to Accessible Parking:
(https://www.state.nj.us/humanservices/dds/documents/BROCHURES/2020/New_Jersey_Guide_to_Accessible_Parking_Booklet_2019.pdf)

United States Access Board – ADA Guide - Chapter 5: Parking Spaces:
(https://www.access-board.gov/ada/guides/chapter-5-parking/)

United Stated Department of Energy - ADA Requirements for Workplace Charging Installation:
(https://afdc.energy.gov/files/u/publication/WPCC_complyingwithADArequirements_1114.pdf)

EXHIBIT 'G'