

Bid No. S6-Z6167-PIR

CITY OF PHILADELPHIA

DEPARTMENT OF COMMERCE

DIVISION OF AVIATION

PHILADELPHIA AIRPORT SYSTEM

FACILITY MAINTENANCE CONTRACT 6B
(General
Systems)

PRE-QUALIFICATION INSTRUCTIONS
AND
INFORMATION REQUEST

SUBMITTAL DATE: SEPTEMBER 21, 2015
at 10:30AM

Vendors having questions or comments concerning this Pre-qualification Information Request should contact Aycha Campfield of the Procurement Department at (215) 686-4773, email – aycha.campfield@phila.gov

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1 GENERAL BID SUBMISSION

1.1 OVERVIEW

1.1.1 The City of Philadelphia is seeking a Prime Contractor interested in providing Facility Maintenance Services for the Division of Aviation (“Aviation”) at the Philadelphia International Airport (PHL) and Northeast Philadelphia Airport (PNE). **An Invitation and Bid will be made available at a later date only to Approved Bidders from this Pre-Qualification and Information Request (PIR) process.**

1.1.2 The bidder must be able to meet the requirements in this document and provide, either through its own firm or its subcontractor(s), the following types of services:

Mechanical Services:

- A. Escalator/Elevator/Moving Walkways
- E. Storm Water and Sanitary Drainage
- F. Fire Protection Systems
- G. Heating, Ventilation & Air Conditioning (HVAC)

Electrical Services:

- H. Facilities Automated Control Systems
- I. Uninterrupted Power Supply
- J. Switchgear
- K. High Voltage Cable Repair
- L. Fire Alarm and Detection System

Other Services:

- M. Fencing and Guardrails
- N. Bird Control
- O. Airfield Support Services
- P. Building Mounted Signage
- Q. Glass, Plastic Replacement
- R. Interior Cosmetic Repairs & Exterior Finishes Restoration/Maintenance
- S. Reserved
- T. Specialized Equipment Services
- U. Roofing
- V. Landscaping

1.2 CONTRACT TERM

1.2.1 The Contract Term for Bid # S6-Z6167-0, to be issued at a

later date, will be **7/1/16 to 6/30/17** (“Initial Term”), with an option to renew for up to three (3) additional one (1) year periods, (“the Renewal Term”) exercisable at the City’s sole discretion. The City may, at its sole discretion, renew the contract for an additional period of up to three (3) months, commencing as of the expiration of the Initial term (the “Additional Performance Period”), if a decision has been made not to renew the contract for an entire year.

1.3 **BIDDER QUALIFICATION**

1.3.1 All of the items in *Section 1.3, Bidder Qualification*, **MUST** be adhered to in order to be eligible for award consideration.

1.3.2 Bidders wishing to be considered for providing maintenance service at the Philadelphia International Airport and the Philadelphia Northeast Airport and to be eligible for an award after the pre-qualification process **MUST** comply with the following pre-qualification requirements:

1.3.2.1 Demonstrate service experience as generally described in Facilities similar in size and scope to those referred to in this document, minimum contract amount to be **\$4,000,000.00** per year.

1.3.2.2 Supply a minimum of three (3) references and descriptions of these contracts. One of these references can be the City of Philadelphia.

1.3.2.3 Substitution of experience by a subcontractor is acceptable.

1.3.2.4 Substitution of experience by a subcontractor must be documented with references in the same manner.

1.3.2.5 The City reserves the right to evaluate and rule on the acceptability of the proposed subcontractors and to recommend that Prime bidders propose other subcontractors.

1.3.2.6 After completion of the pre-qualification process, the Prime Contractor may only change their pre-qualified sub-contractors after

notification and approval by the Airport Facilities Manager.

- 1.3.2.7 The Company or subcontractor performing the work **MUST** be a current National Board Inspection Code (NBIC) “R” Stamp holder; and provide the name of the Inspection & Insurance Company that they use. A copy of the certificate **MUST** be submitted with this Pre-qualification information package. The “R” Stamp certificate must be kept current during the life of the contract to include any and all renewal periods.
- 1.3.2.8 The bidder **MUST** also demonstrate that it has the financial (refer to *Section 1.6, Financial Information*) capacity to carry out the maintenance contract and post the required Bid Performance Security and Payment Bond and meet all other formal requirements as listed in Invitation & Bid # S6-Z6167-0, to be issued at a later date.
- 1.3.2.9 Bidder shall submit evidence of all permits, licenses and regulatory agency documentation as required by sections.
- 1.3.2.10 A Bid Bond in the amount of \$2,500,000.00 shall be submitted with Invitation and Bid # S6-Z6167-0 (to be issued at a later date).
- 1.3.2.11 Under each section, required maintenance listed in this PIR is minimum requirements for personnel required. To satisfy the requirements of the PIR, bidders shall include a statement with their PIR that all personnel requirements contained herein shall be met by the prime and the subcontractors. For on-site managers, bidder shall include their required experience, training, etc. with the PIR.

1.3.3 **PERSONNEL ASSIGNMENT APPROVAL**

- 1.3.3.1 The City will have the authority to instruct the successful bidder to remove undesirable personnel from performance of work for just

cause. Personnel removed shall be replaced with equally qualified and experienced personnel. The City's decision will be final in all cases.

- 1.3.3.2 Successful bidder shall furnish certification papers and documentation of the assigned personnel's qualifications for on-site crew to the City for written approval of acceptance. The successful bidder may change personnel only with equally qualified personnel with approval of the City.
- 1.3.3.3 The successful bidder will be required to understand and agree that should the City refuse to approve any personnel assignments or request removal of any of the successful bidder's personnel that the City shall do so in writing stating the reason(s) or cause(s) for not approving or for requesting removal of any personnel on the work.
- 1.3.3.4 The successful bidder may reassign personnel between locations and provide temporary personnel assignments only with prior approval of the City.
- 1.3.3.5 Various position description guidelines are outlined herein. Quality of personnel is an important requirement of this service contract. These descriptions are to be utilized as guidelines and all personnel retained are subject to the approval of the City. The City will utilize these guidelines during the review and approval process related to personnel assignments.

1.3.3.5.1 **FMC MANAGER**

Responsible for ensuring that Airport Systems are operated and maintained with the highest levels of safety, security, efficiency, cost effectiveness and in a first class condition. Accountable to Aviation, including the CEO, COO, Deputy

Executive Director and Airport
Facilities Manager.

Duties

- Communicate operating philosophy, objectives, and expectations to the FMC facility management staff.
- Responsible for resolving problems and/or conflicts and maintaining open communication with various parties.
- Assimilate management information and write reports detailing activity for the reporting period.
- Reviews and approves all expenditures for materials, equipment, tools, supplies, and subcontracts.
- Ensures full utilization of Aviation's Computerized Maintenance Management System ("CMMS") for documenting work performed and performance of equipment.
- Prepare proposals for additions, deletions, and changes to the contract scope as requested.
- Track, analyze, and trend project costs.
- Prepare regular invoicing based on contract type, terms and conditions.
- Hold staff and subcontractors responsible for completion of the work as specified by the contract and the documentation of work performed.
- Manage the total overall contract performance in the areas of safety, comfort, productivity, and efficiency to contract standards.

Requirements

- Completion of a Bachelor's Degree program.
- A combination of education and/or work experience equivalent would be considered in meeting the requirements.
- A minimum of ten (10) years of facility management expertise. Five (5) years of expertise is desired in the area of operations and maintenance project management and three (3) years of experience in the construction, renovation, or maintenance of large airport installations or industrial complexes.
- Strong organizational, collaboration, and verbal and written communication skills are required.

1.3.3.5.2 **ASSISTANT FMC MANAGER**

Assist the FMC Manager in ensuring that Airport Systems are operated and maintained with the highest levels of safety, security, efficiency, cost effectiveness and in a first class condition. Manage turnkey work and other technical or administrative project management functions. Assistant FMC Manager is accountable to the FMC Manager for the Airport Systems operations.

Duties

Performs the following duties as directed by the FMC Manager:

- Communicate operating philosophy, objectives, and expectations to the FMC facility management staff.
- Manage personnel including hiring, firing, and promoting staff.
- Resolve disputes and /or conflicts in a timely manner and maintain open communication with various parties.
- Support full utilization of Aviation's CMMS for documenting work performed and performance of equipment.
- Document significant events and maintain appropriate records.
- Monitor the work in progress and performance to ensure goods and services conform to the contract requirements, monitor project cost.
- Track, analyze, and trend project costs.
- Holds staff and subcontractors responsible for completion of the work as specified by the contract and the documentation of work performed.
- Manage any Aviation property used in contract performance.
- Determine the sequence of activities, dependencies, required or desired outcomes, and acceptable performance levels.
- Develop a timetable and start and end date for each performance component. Include milestones with

accompanying timeframes, and monitoring and reporting requirements.

- Establish control of correspondence, data and reports. Write reports detailing activity for the reporting period.
- Identify potential problems and solutions.
- Reviews and approves expenditures for materials, equipment, tools, supplies, and subcontracts.
- Prepare regular invoicing based on contract type, terms and conditions.
- Prepare proposals for additions, deletions, and changes to the contract scope as requested.
- Assist with the total overall contract performance in the areas of safety, comfort, productivity, and efficiency to contract standards.

Requirements

- Completion of a Bachelor's Degree program.
- A combination of education and/or work experience equivalent will be considered in meeting the requirement of a minimum of seven (7) years of facility management and/or project management expertise.
- Experience is desired in the area of operations and maintenance project management, construction, renovation, or maintenance of large Airport installations or industrial complexes.
- Strong organizational, collaboration, and verbal and written communication skills are required.

1.3.3.5.3 **SUPERVISOR**

Accountable to the FMC Manager and FMC Assistant Manager for ensuring that the customer's facility is operated and maintained cost effectively, safely, efficiently, and in a first class condition. Initiate, direct, and monitor the performance of the technical staff. Coordinate well with Aviation maintenance staff and interface with airport tenants and users when necessary.

Duties

- Communicate operating philosophy, objectives, and expectations to the technical staff.
- Order all materials, equipment, tools, and supplies required to perform job tasks.
- Manage personnel including scheduling of required manpower.
- Responsible for the completion of required documentation, and forms.
- Ability to operate the Aviation's CMMS software in desktop mode and wireless communication (Tablets or equivalent) devices at work site to report the job done in timely manner.

Requirements

- High school diploma.
- Education and/or work experience equivalent to a minimum of seven (7) years of technical facility management expertise.
- Three (3) years of experience is desired in the area of operations and maintenance project management.
- Strong organizational, participative management and verbal and written communications skills are required.

1.3.3.5.4 **ELEVATOR FOREMAN**

Employees classified as elevator foreman perform many tasks related to vertical transportation equipment. As a general description responsibilities include overseeing and organizing the work schedules of elevator mechanics and helpers with construction, repair, modernization and maintenance of elevators, escalators, dumbwaiters, moving walks and moving ramps. Included are all components of the equipment, mechanical and electrical, with the exception of the physical structure containing the equipment (i.e. building steel, concrete, roofing etc.) and main power supply to the equipment

(this work is performed by electricians).

1.3.3.5.5 **ELEVATOR MECHANIC**

Employees classified as elevator mechanics perform many tasks related to vertical transportation equipment.

As a general description areas of expertise include construction, repair, modernization and maintenance of elevators, escalators, dumbwaiters, moving walks and moving ramps. Included are all components of the equipment, mechanical and electrical, with the exception of the physical structure containing the equipment (i.e. building steel, concrete, roofing etc.) and main power supply to the equipment (this work is performed by electricians). Elevator mechanics have completed an accredited apprenticeship program similar to the International Union of Elevator Constructors.

Duties

Elevator mechanics assigned to the maintenance and repair will perform tasks on elevators, escalator, moving walkway, and dumbwaiters to keep the equipment operating properly, smoothly and efficiently. This includes regular schedules for preventive maintenance examinations covering lubrication, adjustments and observation.

Elevator mechanics shall also respond to "trouble calls" (shut downs, reports of improper operation, etc.) and troubleshoot electrical and mechanical problems to restore operation. Repairs are performed accordingly. Repairs may require a team, which consists of a mechanic and helper.

Maintenance tasks for traction elevators include but

are not limited to examination of the operation of motors, generators, and controllers.

Replacement of contacts, cleaning of door and gate switches, cleaning and lubrication of door operator, examination of door hardware, hoist machine, gearbox, and bearings, lubricate governor, check hoist ropes for wear, equalize hoist rope tension, check and replace faulty indicating lights, lanterns and gongs, check hall push button operation, check dispatching operation.

Maintenance tasks for hydraulic elevators include maintaining hydraulic fluid at proper levels, repairing leaks on pump and valves, packing gland, and checking piping for signs of leakage. Maintenance for escalator/and moving walkways include handrail drive adjusting as necessary, operation of stop switches and skirt switches of inner panels and skirt fastenings and trim, comb segments treads, and risers. Application of lubrication, including ring gear oil level, handrail drive chains, step chains, upper and lower bearings, non-reversing device, and main drive gear bearings. Periodic examination of brake operation for slide per ANSI A17.1 code requirements, step flanges, and general cleaning of the entire escalator/moving walkway assembly.

Additionally, mechanics shall perform safety tests in conjunction with ANSI A17.1 code and local inspection authority. Employees classified as helper or apprentice and in an Apprenticeship Program will work under the direct supervision of an elevator mechanic.

1.3.3.5.6 **ELEVATOR HELPER**

Employees classified as elevator helpers perform many tasks related to vertical transportation equipment. As a general description responsibilities include assisting elevator mechanics with construction, repair, modernization and maintenance of elevators, escalators, dumbwaiters, moving walks and moving ramps. Included are all components of the equipment, mechanical and electrical, with the exception of the

physical structure containing the equipment (i.e. building steel, concrete, roofing etc.) and main power supply to the equipment (this work is performed by electricians). An individual meeting the qualifications described in these Standards of Apprenticeship who has signed an apprenticeship agreement with the Joint Apprenticeship Committee providing for training and related instruction under the standards and who is registered with the registration agency.

1.3.3.5.7 **MECHANIC**

Inspect, test, repair and perform preventive maintenance on mechanical systems. Work under general direction; must use personal judgment to analyze and select the appropriate course of action or determine when repair or maintenance is required. Provide guidance and specific direction to other members of the work group.

Duties

- Inspect and diagnose complex mechanical systems such as air compressors, jetways, baggage handling systems, etc.
- Inspect and diagnose mechanical systems using a variety of tools and instruments.
- Perform specified preventive maintenance including belt adjustments, oiling, greasing, and cleaning of equipment.
- Communicate with various parties on the work performed and present status of specialty systems.
- Interpret engineering drawings in reference to layout, location, and operation of the system(s).
- Schedule maintenance tasks to ensure job completion.

- Assign specific work tasks to work group members.
- Ability to operate Aviation's CMMS software in wireless communication (Tablets or equivalent) devices at work site to report the work in timely manner.

Requirements

- A minimum of three (3) years of industry experience.
- High school diploma or equivalent.
- Completion of the required company training.
- Ability to communicate in both oral and written form.

1.3.3.5.8 **ELECTRICIAN**

Performs a variety of duties in and around the terminal buildings to repair equipment and systems. Repairs, installs, replaces, tests, and troubleshoots electrical circuits, equipment, and appliances using hand tools and testing instruments to supply electrical power for equipment operation. Has the ability to work with minimal supervision.

Duties

- Inspects and tests electrical lighting, signal, communication and power circuits and equipment in both alternating and direct current applications.
- Isolates defects in wiring, switches, motors and other electrical equipment.
- Examines tests and troubleshoots elements of systems such as distribution panels, controls, circuit fixtures and motors to locate obvious faults such as blown fuses, short circuits, broken wires, and loose connections.
- Repairs electrical circuits and equipment, replaces faulty switches, sockets, plugs, wiring, etc. and other simple elements of electrical systems, fixtures and appliances.
- Dismantles equipment, replacing defective parts.
- Checks clearance of parts with precision instruments.

- Installs new wiring and electrical equipment.
- Studies blueprints and diagrams to ascertain layout, location, and specifications of items to be installed.
- Estimates quantities of materials needed and prepares requisitions, for approval.
- Cuts and shapes conduit and fastens it in place with brackets or similarly installs armored cable.
- Records time and material expended on each work order.
- Assists in the training of others.
- Uses electrical repair tool kits, ampmeters, ohmmeters, test lamps, fault meters, watt meters, blueprints, wiring diagrams, specifications, and related hand and power tools.
- Ability to operate Aviation's CMMS software in wireless communication (Tablets or equivalent) devices at work site to report the work in timely manner.

Requirements

- High school or Vocational School graduate with courses in blueprint reading, electricity, and/or mathematics.
- Four (4) year electrician's apprenticeship or six (6) years verifiable on- the-job training as an electrician.
- Must have a thorough knowledge of the electrical codes as applied.
- Must know and apply safety procedures.

1.3.3.5.9 **HORTICULTURIST**

This is supervisory landscape work intended to enhance the aesthetics of the Airport's exterior grounds and interior plantings.

The Horticulturist is responsible for ensuring that the appropriate material and labor resources are allocated to maintain the exterior grounds year round. Performs oversight responsibility for daily sub-contractor maintenance functions, establishes work plans

and coordinates execution of landscaping activities. Reports to the FMC Manager and may coordinate directly with the Airport Facilities Manager.

Knowledge of

- Principles, practices, materials and instruments used in landscaping work.
- Principles and practices of planning and land use.
- Principles and practices of horticulture and plant ecology.
- Materials and methods used in cultivating and maintaining flowers, shrubs, trees and lawns.
- Common insects, fungi and diseases which attack flowers, shrubs, trees and lawns.
- Ability to read and interpret architectural plans and specifications.

Duties

- Subcontractor administration – schedules, assigns work areas and supervises the activities of subcontractors.
- Reviews site designs, plans, specification and other documents in order to provide cost estimates and time completion schedules.
- Inspects landscape installations and recommends appropriate care and maintenance.
- Identifies and treats insects, fungi and diseases which attack flowers, shrubs, trees and lawns.
- Supports the execution of landscape projects and special Airport events/celebrations (i.e. holiday decorations, new construction openings, etc.)
- Provides routine progress reports to the Airport Facilities Manager.

Requirements

- High School Diploma.
- Education and/or work experience equivalent to a minimum of four (4) years supervising horticultural maintenance at an Airport or industrial complex.
- Ability to physically perform the duties and to work in the environmental conditions required by this position.
- Strong organizational, participative supervision,

verbal and written communication skills are required.

- The ability to work with minimum supervision.

1.3.4 **MANDATORY PRE-BID MEETING AND MANDATORY SITE INSPECTION**

1.3.4.1 There will be a Mandatory Pre-Bid and Mandatory Site Inspection required for the Invitation and Bid to be issued at a later date. Date and location will be contained in the Invitation and Bid document.

1.3.4.2 Plans are not contained in this PIR but will be made available for review to prospective bidders during the mandatory site visit and will be provided to the successful bidder. If a bidder wishes to view plans again, they may contact Andrea Manley, FMC Contract Manager at 215-937-6733.

1.3.4.3 Prospective bidders are advised that due to the security policies of the Airport, the Prime bidder can only bring four (4) additional people with him/her on the site inspection tour(s). Bidders wishing to visit the Northeast Philadelphia Airport must notify Andrea Manley, FMC Contract Manager at 215-937-6733 at least seven (7) days prior to the site inspection date.

1.4 **MANAGEMENT AND MAINTENANCE PROGRAM**

1.4.1 Prospective bidders (Prime bidders only) shall develop and submit with their PIR a **Comprehensive Management and Supervision Program** to administer the contract including City interface.

1.4.2 Aviation uses a Computerized Maintenance Management System (“CMMS”) for all work orders and preventive maintenance procedures. The Contractor shall be expected to accurately enter hours, parts used, tests performed and mechanic assignments, and other information through this system on a daily basis.

1.4.3 The Management and Supervision program is subject to the approval of Aviation, and the Airport Maintenance Manager.

The bidder must submit with their PIR an example of an existing or prior contract for facilities management of typical pre-planned scheduled work or CMMS job plan (e.g., escalator and elevator car maintenance) at least forty-eight (48) hours prior to implementation and an example of a post work detailed report with drawings and relevant exhibits. Additionally, submit another example of post work detailed report or CMMS documentation, detailing of parts used or next scheduled parts replacement for next scheduled service with drawings and relevant exhibits (e.g., critical wiring).

- 1.4.4 The bidders shall also develop and submit with their PIR a written and comprehensive **Quality Control Plan** to ensure the requirements of the contract will be provided as specified for each System. The plan shall indicate what measures (to include all checklists, forms, reports, etc. to be incorporated into the CMMS) will be used to evaluate performance and the frequency at which these measures will be instituted. The **Quality Control Plan** will be subject to the approval of the Airport Facilities Manager. The successful bidder cannot reduce any standards to this Plan without the approval of the Airport Facilities Manager or his/her designee.
- 1.4.5 The intent of the **Quality Control Plan** shall be to identify and correct any deficiencies in the quality of services before the level of performance becomes unacceptable, and/or the City staff and others point out the deficiencies. The successful bidder does not have the authority to set any Quality standards.
- 1.4.6 The Plan shall be comprehensive, complete and must include, but not limited to the following:
 - 1.4.6.1 An inspection system covering all the services required under these specifications for operation, maintenance, and repair of related equipment.
A checklist is to be provided for inspecting contract performance during regularly scheduled or unscheduled inspections, including the name(s) of the individual(s) who will perform the inspection.
 - 1.4.6.2 A system for identifying and correcting deficiencies in the quality of services before

the level of performance becomes unacceptable.

1.4.6.3 A file of all inspections conducted by the successful bidder and the corrective action taken. This documentation shall be made available to the City during the term of the contract.

1.4.6.4 The Invitation and Bid shall require that individual system service personnel qualifications be submitted at time of bid.

1.5 **RAMP-UP PLAN**

1.5.1 Prospective bidders shall develop and submit with their PIR a written comprehensive ***Ramp-Up Plan***, describing how they will assemble their staff, acquire inventory, setup operational and administrative areas and interface during transition period. The plan shall also provide for any other action, which may be required for a successful contract implementation.

1.6 **FINANCIAL INFORMATION**

1.6.1 Prospective bidders (Prime bidders only) shall develop and submit with their PIR a copy of your company's financial statements detailing Balance Sheet and Profit and Loss Statement for the last three (3) years and a copy of your most Recent Certified Public Accountant's audit for your firm.

1.6.2 List bank reference(s), name and telephone number of a person familiar with your accounts, type of accounts, loans or lines of credit and relevant dates that accounts were established. The City may call these references. List the names and telephone numbers of your major suppliers and the annual dollar amount of business done with each. These persons may be contacted as credit references.

1.6.3 If you are a partnership or a joint venture, give the date of agreement, County and State where agreement was filed and name and address of each partner. Three years of financials for each part of the joint venture must be submitted with the Pre- Qualification submittal. If you are a Corporation, give the date and state of organization and the names and addresses of the officers. A copy of

joint venture agreement shall be submitted with the Pre-qualification S6-Z6167-PIR.

- 1.6.4 List all bankruptcy filings against you, your company or related companies in the last seven (7) years.
- 1.6.5 Bidder is to state if the company, or its subcontractors or any partners or officers of the company are delinquent in payment of any debt or obligations to the City of Philadelphia.
- 1.6.6 List the surety companies that have heretofore issued performance bonds to you for prior contracts. Give names and addresses of each surety company, amount of each bond and the term of each bond. List any performance bonds that were called the last five years due to unsuccessful completion of the contract.
- 1.6.7 Contractor shall demonstrate that it has the necessary startup capital of at least **\$3,000,000.00** and will break down costs to create parts inventory, fit out offices, retain personnel, and cover other costs related to mobilization on this contract. NOTE: (The potential bidder may state/show either with statements or examples of past project's costs that they have the financials (or credit line) available to start up a job of this size and scope).
- 1.6.8 **NOTE:** Proprietary documents must be stamped "Propriety/Confidential" with an explanation as to why that submittal is proprietary/confidential. The City of Philadelphia recognizes that certain information regarding a prospective bidder's internal company information can be considered proprietary; and the City will make every effort to maintain the confidentiality of the information received.

1.7 **BIDDER COST**

- 1.7.1 The City shall not be liable for any cost associated with the development, preparation, transmittal or presentation of any information or material submitted in response to this PIR.

1.8 **RESERVATION OF RIGHTS**

- 1.8.1 The City reserves and may exercise the following rights and options with respect to this Pre-qualification process:

- 1.8.1.1 To pre-qualify one or more bidders.
- 1.8.1.2 To reject any and all PIR received pursuant to this request.
- 1.8.1.3 To supplement, amend, or otherwise modify the PIR at any time prior to Bidder Pre-qualification, and to cancel this process with or without the substitution process.
- 1.8.1.4 To request additional Pre-qualification information and to verify the contents of the PIRs submitted by bidders.
- 1.8.1.5 To render final decision on any defect or technicality in the PIRs received.
- 1.8.1.6 Everything submitted becomes the sole property of the City and will be retained or returned at the City's discretion.

1.9 OFFICE OF ECONOMIC OPPORTUNITY – ECONOMIC OPPORTUNITY PLAN

- 1.9.1 The Invitation and Bid must be in compliance with Executive Order 17-600. See attached *Exhibit A* for Contractor's Certification along with a sample of the Economic Opportunity Plan (EOP) which will be required as part of the Invitation and Bid submission (due at a later date); please read these guidelines carefully.

2 BIDDER SELECTION PROCESS

2.1 THE PIR EVALUATION STAGE

2.1.1 Bidders will complete the enclosed Pre-qualification Information Request and provide the required information concerning their firm, capabilities, and experience to provide services described herein.

2.1.2 An original and ten (10) copies of the Pre-qualification Information Request, a virus- free and fully functioning flash drive with the entire PIR, and supporting documentation shall be returned to the following address no later than **10:30am** on **September 21, 2015**:

**PROCUREMENT DEPARTMENT
BID ROOM
CITY OF PHILADELPHIA
MUNICIPAL SERVICES BUILDING
1401 JFK BLVD. – ROOM 170B
PHILADELPHIA, PA 19102-1685**

2.1.3 The PIR must be in one package labeled **S6-Z6167-PIR**. The bid document will be submitted at a later date.

2.1.4 Bidders are cautioned that late submissions will not be accepted and incomplete submissions may be rejected.

2.1.5 The City of Philadelphia will review and evaluate the PIRs to determine the Bidder's responsiveness to the information request, their capabilities and the acceptability of their answers concerning their maintenance procedures.

2.1.6 Following receipt of the information request the City reserves the right to request additional information from bidders, as required, to make an informed decision.

2.1.7 All bidders who submit complete PIRs will be informed in writing of the City's decision to qualify, as approved for bidding or disqualify as not approved for bidding. **ALL BIDDERS WILL BE NOTIFIED BY FAX OR EMAIL.**

2.1.8 Bidders who wish to appeal the decision on their disqualification must send their appeal in writing within two (2) business days from date of notification to Aycha Campfield, Procurement Buyer at:

Municipal Services Building
Procurement Department, Room 120
Philadelphia, PA 19102-1685

2.2 THE INVITATION AND BID EVALUATION STAGE

- 2.2.1 The Invitation and Bid will be made available in concurrence with the Notice to Approved Bidders.
- 2.2.2 The bids of the pre-qualified bidders will be publicly opened by the Procurement Department at the time specified in the bid documents.
- 2.2.3 The bid must be complete; to include all signatures, pricing and all other required information.
- 2.2.4 The Invitation and Bid will specify the contract requirements and the performance that the Contractor is expected to effect. The bidder must detail all costs associated with the services to be provided. The bid will require the bidder to itemize these costs.
- 2.2.5 The bidder will be required to submit, with the bid:
 - 2.2.5.1 A fully completed Invitation and Bid with required bid signatures and corporate seal. A bid with counter terms and conditions will be disqualified.
 - 2.2.5.2 Any additional information specified and required by the bid document.
- 2.2.6 In accordance with Chapter 17-109 of The Philadelphia Code relating to Local Bidding Preferences and the Regulations promulgated thereto, this bid may be subject to a local bid preference¹. In order to determine eligibility to receive the preference, if applicable, bidder must be certified as a Local Business Entity (“LBE”) at the time of the bid opening and must submit with the bid its LBE Certification number as issued by the Procurement Department:

Bidder’s LBE Certification Number_____

¹ For applicable bids of One Million Dollars or less, the preference is ten percent (10%); for all other applicable bids the preference is five percent (5%).

Further, through submission of this bid, bidder makes the following certification in connection with the grant of any local bidding preference which certification is incorporated into any contract resulting from this bid:

“Throughout the entirety of the contract, my company or my LBE certified subcontractor(s)² will perform the majority of any work on the subject contract within the geographic limits of the City of Philadelphia and my company or my LBE certified subcontractor(s) will maintain within the City a majority of the inventory or equipment that will be used on the contract or the amount of inventory that is customary for that industry.”

If the Procurement Commissioner determines that the awarded bidder fails to comply with its certification at any time during the term of its contract, the awarded bidder’s LBE certification will be revoked and the awarded bidder shall be deemed in substantial breach of such contract, shall be required to pay liquidated damages of 10% of the awarded contract amount, and may be debarred by the Procurement Commissioner in accordance with the Procurement Department Debarment Regulation for a period up to three years.

NOTE: If you wish to apply for Local Business Entity (LBE) certification, go to www.phila.gov/bids. Please provide sufficient time prior to bidding for processing of the LBE application. The Procurement Commissioner reserves the right to request any additional or clarifying information at any time prior to award of the contract, and during the performance of the contract.

2.2.7 The City will then review the bids in terms of bidder’s cost and responsiveness to the mandatory requirements of the City.

2.3 THE AWARD STAGE

2.3.1 The City will award the Invitation and Bid to that pre-qualified bidder submitting the lowest responsive and

² If the Bidder relies upon LBE subcontractor(s) to perform the majority of the work and maintain the majority of the inventory or equipment within the City, the subcontractor(s)’ LBE Certification Number and most recent annual affidavit of continuing eligibility must be submitted to the Procurement Department.

responsible ***Bid quotation.*** Upon notice of award by the City, the awarded bidder will be required to post an Individual Performance Bond for 100% of the contract amount if awarded the contract and Payment Bond in the sum of fifty percent (50%) of the amount of the first year of the contract amount with an approved surety company as surety thereon conditioned upon the full payment of subcontractors and others furnishing labor and materials in the performance of this contract (forms shall be attached to the bid document to be issued at a later date). There will be a bond preparation fee of \$1000.00 associated to this. If the City elects to renew the contract, the Contractor shall be obligated to perform all terms and conditions of the contract throughout the Additional Performance Period, as of the effective date indicated in the City's Renewal Notice as issued. The Performance Security and Payment Bond shall be and remain in full force throughout the Initial Term and any additional Performance Period(s), without notice of contract renewal by the City to the surety or the consent of the surety thereto. It is the sole responsibility of the Contractor to ensure that such bond(s) remain in full force and effect as provided in this section, and failure to do so shall be an event of default pursuant to Section 19, Default, of the "Terms and Conditions of Bidding and Contract," attached to the Invitation and Bid.

3 SYSTEM DESCRIPTION

3.1 SYSTEM DESCRIPTION OVERVIEW

3.1.1 The following is designed to provide to interested bidders some insight into the Systems to be maintained at PHL. It contains information related to system maintenance requirements and is intended only as general information at this time. Bidder(s) are expected to respond based on the actual specifications in the Invitation and Bid (which includes documentation related to maintenance requirements), not to this document. Similar services may be required at Northeast Philadelphia Airport (PNE). The Prime Bidders will be responsible for both locations. For the PIR System descriptions, detailed information on units throughout the PHL Terminal Complex is included, but the full detailing will be contained in the Invitation and Bid.

3.1.2 **Note: The information provided in *Exhibit C, Schedule Details*, may not be all- inclusive, but represent the scale of work scope to be performed under the terms of the contract resulting from the forthcoming Invitation and Bid. Complete equipment lists shall be provided in the bid document.**

3.2 SCHEDULE A – ESCALATORS/ELEVATORS/MOVING WALKWAYS

3.2.1 GENERAL DESCRIPTION

3.2.1.1 The Contractor will be required to furnish all necessary labor, tools, transportation, services, supervision, materials and equipment, as necessary to provide regular examinations, Comprehensive Preventive Maintenance, testing, repairs and “call back service” on escalators, elevators and moving walkways at Philadelphia International Airport.

3.2.1.2 The performance requirement of the Prime Contractor is to have the escalators, elevators and moving walkways operational at all times, except for dedicated maintenance periods. Set forth in *Exhibit C – Schedule A* is a technical description for select escalators, elevators and moving walkways, provided for information

purposes, to demonstrate the significance of the scope of responsibility associated with this schedule.

3.2.1.3 Set forth in *Exhibit C – Schedule A* is a technical description for the Escalators, Elevators, and Moving Walkways and is intended only as general information at this time. Bidder(s) are expected to respond based on the actual specifications in the Invitation and Bid (which includes documentation related to maintenance requirements), not to this document.

3.2.2 **PERSONNEL**

3.2.2.1 The Contractor shall be experienced in escalator, elevator and moving walkway service, repair and Maintenance and shall have technically qualified personnel available to perform all phases of the contract requirements. Contractor shall have an established good reputation within the community in which work is to be performed. Contractor shall be presently retained by other facilities with similar (or more complex) equipment. The Contractor shall be properly licensed at all levels necessary to perform work covered by the specification/contract.

3.2.2.2 The Contractor must possess a stock of parts necessary to maintain and repair the equipment under the specifications and further assure that the assigned personnel have access to these parts. In addition personnel who are assigned to perform preventive maintenance and repairs must be equipped with the necessary tools and equipment for the performances of all services. Full time supervision must be provided.

3.2.2.3 Service technicians specifically trained and experienced in the care and maintenance of equipment similar to the type covered by this contract shall be assigned to perform maintenance as stipulated in the

specification/contract.

Service technicians assigned by the Contractor shall be qualified in all respects to perform the maintenance and repairs that may become necessary during the term of this contract. A response time of not more than 15 minutes will be required. A response time is defined as the time that it takes for the appropriate personnel to arrive at the problem area after the problem has occurred to assess the situation and to commence activities or mobilize necessary technicians and spare parts. The Contractor shall obtain backup technicians who are also qualified in all respects to assume the responsibilities of the maintenance of the elevators and escalators covered by the Agreement in the event of sickness or by absence of the assigned technician.

3.2.3 **RECORDS/DOCUMENTATION**

- 3.2.3.1 The Contractor shall provide, use, and properly maintain a maintenance check chart for each device and shall integrate such information into Aviation's CMMS. The check charts shall be posted in the respective machine room. Entries for each chart shall be made by Contractor personnel to indicate the status of all scheduled items of maintenance performed and initialed for validity. In addition, the Contractor shall provide, use, and properly maintain a "callback" log for each device in Aviation's CMMS. The log should indicate date, reason for call, corrective measures taken, and name of person making entry.
- 3.2.3.2 The Contractor shall prepare and regularly submit written condition reports on all equipment at monthly meetings with the City. Condition reports shall be prepared on the Contractor's letterhead, dated and signed by an authorized representative of the Contractor.
- 3.2.3.3 Condition reports for each piece of equipment shall be kept current in Aviation's CMMS. In

addition, the Contractor may submit hard copy condition reports at any time, but not less frequent than ninety (90) day intervals. The condition reports shall inform the City of Philadelphia of the current condition of the equipment and performance measurements relating to criteria specified and include recommendations regarding the need for repairs, alterations, and/or modifications to the equipment not specified.

3.3 SCHEDULE E – STORMWATER AND SANITARY DRAINAGE

3.3.1 GENERAL DESCRIPTION

3.3.1.1 The Contractor will be required to furnish all labor, tools, transportation, services, supervision, materials, permits and equipment as necessary to inspect, test and maintain Stormwater and Sanitary Drainage System at the Philadelphia International Airport and Philadelphia Northeast Airport.

3.3.2 TECHNICAL DESCRIPTION

3.3.2.1 The primary systems will require the following components to be maintained as a minimum.

3.3.2.1.1 Stormwater: Maintenance of the stormwater system shall be performed as directed for the removal and disposal of debris and sediment from stormwater structures such as catch basins, manholes sumps and scuppers, and from connecting pipes of such. The repair and re-attachment of manhole frames, replacement of manhole covers, and the resetting of brick will be managed as part of this system.

3.3.2.1.2 Sanitary: Maintenance of the sanitary systems shall be performed as directed to remove and dispose of debris, sediment,

sludge grease, detergent build-up from sanitary structures such as sanitary sewers, culverts, drain tile, sewage treatment plants and pump stations, and all interconnecting piping, as well as inside piping.

- 3.3.2.1.3 Aircraft Rescue and Fire Fighting Training (ARFFT) Septic System: The system services the new Aircraft Rescue and Fire Fighting Training facility located at the west end of the airport grounds.

3.3.3 **PERSONNEL REQUIREMENTS AND RESPONSE TIMES**

- 3.3.3.1 Licensed personnel thoroughly familiar with these systems and regulatory standards shall perform this work.
- 3.3.3.2 The Contractor must be capable of responding within 1 hour, 24 hours a day, 7 days a week.

3.3.4 **RECORDS/DOCUMENTATION**

- 3.3.4.1 The Contractor will be required to maintain documentation of all activities in Aviation's CMMS and furnish upon request by Aviation written records of inspections, test results and repairs. Additionally, a videotape library should be maintained chronicling incremental line conditions.

3.4 **SCHEDULE F – FIRE PROTECTION SYSTEMS**

3.4.1 **GENERAL DESCRIPTION**

- 3.4.1.1 The work includes but is not limited to furnishing labor, transportation, equipment, materials, supplies and supervision necessary to provide maintenance, inspection and repair service for the water-based Fire Protection and FM 200 Systems throughout the Philadelphia International Airport and Philadelphia

Northeast Airport. All work shall be in accordance with NFPA 25 Standard for Inspection, Testing and Maintenance of Water-Based Fire Protection Systems. Annual certification shall be performed in accordance with the Philadelphia Fire Prevention Code paragraph F-501-4 I periodic test requirements.

3.4.2 TECHNICAL DESCRIPTION

3.4.2.1 The Contractor will perform maintenance on various fire suppression systems within the Terminal Complex (approximately 2.0 million sq. ft.), Vehicle Storage Facility, Maintenance Support Building, Warehouse, Hog Island Road Tunnel and Airfield Lighting Vaults. Set forth in *Exhibit C – Schedule F* is a technical description for select fire protection systems, provided for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule.

3.4.2.2 The following lists systems by location:

Location	Systems
Terminal Complex	Dry Pipe System Wet Pipe System Pre-action System Fire Cycle System Fire Pump System FM 200 System
Vehicle Storage Facility	Wet Pipe System
Maintenance Support	Wet Pipe System
Hog Island Road Tunnel	Dry Pipe System
Airfield Lighting Vaults	FM 200 System

3.4.3 PERSONNEL REQUIREMENTS AND RESPONSE TIME

3.4.3.1 The Contractor must have skilled personnel to achieve the Airport’s objective in reducing and eliminating any needless losses to Aviation, our employees and the public caused by decreased efficiency, work interruptions, equipment breakdowns, or property damage. The Contractor will be required to comply with City of Philadelphia and State licensing

requirements, as well as having a minimum of five years' experience in the maintenance of Fire Protection Systems.

3.4.3.2 The Contractor will be required to maintain minimum staffing levels on-site at all times in order to respond to requests for major maintenance for failures 24 hours a day, 7 days a week, with a response time of 15 minutes.

3.4.4 **RECORDS/DOCUMENTATION**

3.4.4.1 The Contractor will be required to document all activities in Aviation's CMMS and keep written records of all inspections and repairs to the Fire Protection System. The Contractor will be responsible for the completion of regulatory documents necessary for certification.

3.5 SCHEDULE G – HEATING, VENTILATION & AIR CONDITIONING (HVAC)

3.5.1 **GENERAL DESCRIPTION**

3.5.1.1 The Contractor's company or pre-qualified subcontractor performing the work MUST be a NBIC R-Stamp holder per *Section 1.3.2.7* of S6-Z6167-PIR. In addition, the Contractor will be required to furnish all necessary labor, tools, transportation, services, permits, supervision, materials and equipment, as necessary to conduct a comprehensive preventive maintenance program of specified cooling equipment, boilers, and associated appurtenances.

3.5.1.2 The Terminal Complex HVAC units and other machinery in the mechanical rooms are controlled from the Central Utility Building (CUB), the Satellite Thermal Plant (STP), and the Terminal A West Thermal Plant, where the main equipment is housed. The CUB has 4 giant chillers with a combined cooling capacity of over 5000 tons. The STP has 2 chillers and 2 chillers are housed at the

former Overseas Terminal.

3.5.1.3 **A copy of the NBIC R-Stamp Certification must be submitted with the PIR.**

3.5.2 **TECHNICAL DESCRIPTION**

3.5.2.1 Contractor will be required to furnish all labor, tools, equipment, permits, materials, and appurtenances necessary to conduct a comprehensive preventive maintenance program for specified heating and cooling equipment at PHL and PNE, perform water treatment services, and provide laboratory analysis and chemical treatment and controls as required. HVAC equipment service, repair, and water treatment field staff shall be capable of performing preventive maintenance and as well as making repairs to water treatment and control equipment and discussing applied treatment chemistry, problems, and recommendations.

3.5.2.2 Set forth in *Exhibit C – Schedule G* is a technical description for select chillers, boilers, and HVAC Units, provided for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule.

3.5.3 **PERSONNEL REQUIREMENTS AND RESPONSE TIMES**

3.5.3.1 The maintenance personnel required shall have experience with the types of HVAC equipment noted herein. Factory training is recommended. Workers must be skilled in the trades involved and possess in-depth knowledge of troubleshooting. Contractor personnel will be required to comply with OSHA and EPA regulations.

3.5.3.2 Response for maintenance calls for repair shall be on a demand basis 24 hours a day, 7 days a week, with a response time of 4 hours.

3.5.4 **RECORDS/DOCUMENTATION**

3.5.4.1 The Contractor will document all of its activities through Aviation’s CMMS and be responsible for maintaining records and documents of completed repairs, PM’s and regulatory forms.

3.6 SCHEDULE H – FACILITIES AUTOMATED CONTROL SYSTEMS

3.6.1 GENERAL DESCRIPTION

3.6.1.1 The Supervisory Control and Data Acquisition System (SCADA), the Airfield Lighting Control System (ALCS), and the Building Automation Lighting Control System (BLCS) are included in this section.

3.6.1.2 The systems listed herein require specialized technical support and equipment for management of industrial computers, data gathering panels and transmission lines.

3.6.1.3 Work includes furnishing all labor, supervision, materials, tools, equipment, transportation, and all means of construction necessary and reasonably incidental for the performance of testing, maintenance, procedures, repairs, emergency service, and all other requirements to complete the work.

3.6.1.4 Set forth in *Exhibit C – Schedule H* is a technical description for select facilities automated control systems, provided for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule.

3.6.2 TECHNICAL DESCRIPTION

3.6.2.1 Preventive maintenance, emergency service, and system manufacturer technical support services for maintenance, diagnostics, and training will be as specified in Invitation and Bid.

3.6.3 PERSONNEL REQUIREMENTS

3.6.3.1 The Contractor shall have the following

personnel available for facilities
automated controls system work.

3.6.3.1.1 Service Manager: A Service Manager will be assigned to the project activities. The Service Manager shall demonstrate management of projects with similar equipment and size. A response time of 24 hours or less will be required.

3.6.3.1.2 Service Technicians: The Contractor's Service Technicians will have worked in the security, access control, fire protection or related fields and can verify work with similar systems. The Technician will have successfully completed training with the equipment manufacturer and can demonstrate the proper operation, maintenance, troubleshooting and service of the equipment.

3.6.4 **RECORDS/DOCUMENTATION**

3.6.4.1 The Contractor will provide a preventative maintenance program and test schedule for these systems with the appropriate forms for integration into Aviation's CMMS. All documentation will be the property of the Owner but maintained by the Contractor. All spare parts will be documented in a spare parts inventory showing parts on-hand, their location and any on order. Trouble and normal service calls will be documented in Aviation's CMMS.

3.7 **SCHEDULE I – UNINTERRUPTED POWER SUPPLY**

3.7.1 **GENERAL DESCRIPTION**

3.7.1.1 The Contractor will be required to furnish all labor, tools, transportation, services, supervision, materials and equipment as necessary to test and maintain Uninterruptible

Power Supplies at the Philadelphia International Airport, and Philadelphia Northeast Airport.

- 3.7.1.2 Work shall include preventive maintenance service; emergency service for repairs as directed to include parts, labor, travel, and other expenses; hardware and software upgrades to current manufacturer's revision, to allow diagnostic, remote access, and printable logs.

3.7.2 **TECHNICAL DESCRIPTION**

- 3.7.2.1 Set forth in *Exhibit C – Schedule I* is a technical description for select UPS system components, provided for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule.

3.7.3 **PERSONNEL REQUIREMENTS AND RESPONSE TIMES**

- 3.7.3.1 The Contractor will be required to have a minimum of five years' experience in the maintenance of UPS systems.
- 3.7.3.2 A response time of not more than one hour will be required for the UPS system. A response time is defined as the time that it takes for the appropriate personnel to arrive at the problem area after the problem has occurred and commence response to address. Response to call for maintenance will be on a demand basis 24 hours per day, 7 days a week. Repairs to or replacement of failed devices must occur within 24 hours.

3.7.4 **RECORDS/DOCUMENTATION**

- 3.7.4.1 The Contractor will document all activities in Aviation's CMMS and may be required to keep written records of all inspections and repairs to the UPS systems.

3.8 **SCHEDULE J – SWITCHGEAR**

3.8.1 **GENERAL DESCRIPTION**

3.8.1.1 The Contractor will be required to furnish all labor, tools, transportation services, supervision, materials and equipment as necessary to test, calibrate, maintain, and repair the 15 KV and 5 KV switchgear at the Philadelphia International Airport.

3.8.2 **TECHNICAL DESCRIPTION**

3.8.2.1 In addition to preventive maintenance, contractor must be able to perform at minimum the following: Complete calibration and testing on switchgear, protective relays, meters, instrumentation, substations, transformers, and cables; insulating liquid tests; infrared scanning and cable fault locating; DC high potential and double testing; Engineering services which may include systems analysis, load studies, short circuit analysis, and emergency evaluations.

3.8.2.2 Set forth in *Exhibit C – Schedule J* is a technical description for select switchgear systems and medium voltage substation equipment, provided for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule.

3.8.3 **PERSONNEL REQUIREMENTS AND RESPONSE TIMES**

3.8.3.1 This work shall be performed by personnel thoroughly familiar with the equipment, testing, and adjusting and safety standards with a minimum of five years' experience.

3.8.3.2 Response to call for maintenance will be on a demand basis 24 hours per day, 7 days a week. Response time of not more than one hour will be required.

3.8.4 **RECORDS/DOCUMENTATION**

3.8.4.1 The Contractor will be document all activities in Aviation's CMMS and may be required to furnish written records of all inspections, test results and repairs to the switchgear.

3.9 **SCHEDULE K – HIGH VOLTAGE CABLE REPAIR**

3.9.1 **GENERAL DESCRIPTION**

3.9.1.1 The Contractor will be required to furnish all labor, tools, transportation, services, supervision, materials and equipment as necessary to locate, repair or replace underground cable, aerial wiring, and associated splices and terminations as required throughout the Philadelphia International Airport and Philadelphia Northeast Airport.

3.9.2 **TECHNICAL DESCRIPTION**

3.9.2.1 The Contractor will be responsible for investigating and repairing faults of 5 KV and 15 KV cables, and repairing or replacing splices and termination to the same.

3.9.2.2 Set forth in *Exhibit C – Schedule K* is a technical description for select high voltage cable equipment, provided for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule.

3.9.3 **PERSONNEL REQUIREMENTS AND RESPONSE TIME**

3.9.3.1 Personnel shall be certified for repairing 15 KV and 5 KV cables with a minimum of five years of experience.

3.9.3.2 There shall be a response time of one hour for high voltage cable repair. Contractor shall have sufficient equipment and personnel to perform within the scope of the contract, and to respond to maintenance calls for service 24 hours a day, 7 days a week.

3.9.4 **RECORDS/DOCUMENTATION**

3.9.4.1 The Contractor shall document all activities in Aviation's CMMS. Detailed written reports including test results and readings, estimate of repairs, estimate of time and materials shall be

submitted to Aviation for each service call.

3.10 **SCHEDULE L – FIRE ALARM AND DETECTION SYSTEM**

3.10.1 **GENERAL DESCRIPTION**

3.10.1.1 The work shall include but not be limited to furnishing labor, equipment, materials, apparatus, supplies, and supervision necessary to provide maintenance and inspection services for the Fire Alarm and Detection System throughout Philadelphia International Airport. All work shall be in accordance with NFPA 72, 2013, or latest revision, National Fire Alarm Code. Annual certification of the system shall be performed in accordance with the City of Philadelphia Fire Prevention Code and the requirements of Tinicum Township as applicable.

3.10.2 **TECHNICAL DESCRIPTION**

3.10.2.1 The Fire Alarm and Detection System at the Philadelphia International Airport is a networked system comprised of 45 addressable nodes throughout the campus. These nodes are connected via various Class ‘A’ copper and fiber network loops and report back to the main fire alarm control room located in Rm. T-15, in Terminal C. The system is monitored via a graphic fire control system, which is located in the communications also located in Terminal C.

3.10.2.2 Field wiring (signaling line circuits, strobe circuits, speaker circuits, etc.) are wired Class ‘B’, with the exception of the majority of the ‘A’ East complex which houses the AutoPlex control system – currently configured as Class ‘A’. Field devices include manual pull stations, smoke detectors, heat detectors, duct smoke detectors, contact monitor modules, control modules or addressable relays, strobes, speaker strobe combination, and horn strobe combination. Each node or Data Gathering Panel (DGP), located within the airport terminals A-West

through F, accomplishes notification through voice evacuation. There are some panels located throughout the campus, which notify occupants via strobe and horn strobe combination. The Fire Alarm and Detection system interfaces with the following systems (monitor and control functions): tenant fire alarm panels, fire suppression systems, baggage handling systems, smoke control and mechanical HVAC systems, elevator and escalators, security and compartmentation door control.

3.10.2.3 Set forth in *Exhibit C – Schedule L* is a technical description for select fire alarm equipment, provided for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule

3.10.3 **PERSONNEL REQUIREMENTS AND RESPONSE TIME**

3.10.3.1 Qualified Service Personnel shall, at minimum, hold a level 1 certification by the National Institute for Certification in Engineering Technologies (NICET); be International Municipal Signal Association (IMSA) fire alarm certified; be trained and employed by an organization listed by a national testing laboratory for the services of fire alarm systems (i.e. UL).

3.10.3.2 There shall be a response time to trouble calls for fire alarm system of not more than 15 minutes for initial assessment and to commence actions or mobilize personnel and equipment. Contractor shall have sufficient equipment and personnel to perform within the scope of the contract.

3.11 **SCHEDULE M – FENCING AND GUIDERAILS**

3.11.1 **GENERAL DESCRIPTION**

3.11.1.1 The Contractor will be required to furnish all labor, tools, transportation, services, supervision, materials and equipment as necessary to provide inspection, installation, repairs and/or replacement of materials for

chain link fencing, gates and guiderails at the Philadelphia International Airport and Philadelphia Northeast Airport.

3.11.2 **TECHNICAL DESCRIPTION**

3.11.2.1 This contract will involve the repair and replacement of chain link fencing as described by Federal Aviation Administration Advisory Circular No. 150/5370-10A as may be revised from time to time.

3.11.2.2 This contract will also involve repair and replacement of guiderails according to Pennsylvania Department of Transportation Publication 408 and the Roadway Construction Standards.

3.11.3 **PERSONNEL REQUIREMENTS AND RESPONSE TIMES**

3.11.3.1 Maintenance and repair of designated security fencing shall be on a demand basis, 24 hours a day, 7 days a week, with a response time of 2 hours. Maintenance and repair of guiderail shall be performed on a demand basis, as needed, with a response and completion time as directed by the Airport Maintenance Manager.

3.11.4 **RECORDS/DOCUMENTATION**

3.11.4.1 The Contractor shall document all activities in Aviation's CMMS. Written reports of all fencing repairs including materials, labor and insurance information shall be presented to Aviation.

3.12 **SCHEDULE N – BIRD CONTROL**

3.12.1 **GENERAL DESCRIPTION**

3.12.1.1 The Contractor will be required to furnish all labor, tools, transportation, services, supervision, materials and equipment as necessary to control birds and provide sanitizing services and clean up at the Philadelphia International Airport and the Philadelphia Northeast Airport.

3.12.2 **TECHNICAL DESCRIPTION**

3.12.2.1 The Contractor shall use the best available technology without killing roosting, nesting, migrating or feeding birds from the Philadelphia International Airport and the Philadelphia Northeast Airport. The Contractor shall not use any chemical or device that may cause injury or discomfort to the traveling public.

3.12.2.2 The areas to be treated are all roof areas, bus areas behind terminals, underneath bridge areas, beam structures, pipes, signs, eaves, train platforms, any other areas as required in the locations specified in *Exhibit C – Schedule N*.

3.12.3 **PERSONNEL REQUIREMENTS AND RESPONSE TIMES**

3.12.3.1 Personnel shall have a minimum of five (5) years documentable experience in bird control, and be capable of a 24 hour response time to calls for service seven days a week. Personnel shall be properly licensed federally, statewide and locally.

3.12.4 **RECORDS AND DOCUMENTATION**

3.12.4.1 The Contractor shall document its activities in Aviation's CMMS and keep written records of all work orders to submit to Aviation.

3.13 **SCHEDULE O – AIRFIELD SUPPORT SERVICES**

3.13.1 **GENERAL DESCRIPTION**

3.13.1.1 The Contractor will be required to furnish all labor, tools, transportation, services, materials, equipment and supervision as necessary to perform runway rubber removal, airfield painting, pavement marking removal, pavement repairs, obstruction removal, airfield vegetation control, and other support maintenance of Airport grounds and preventive and corrective

maintenance of the Aircraft Rescue and Fire Fighting Training Facility (ARFFT).

3.13.2 **TECHNICAL DESCRIPTION**

3.13.2.1 This service will include but be limited to removing accumulated rubber deposits from designated areas of bituminous runway surfaces using high-pressure water and chemicals. Removing pavement markings and performing repairs of bituminous or concrete pavements. Additionally, grounds work services will include tree topping, grading, seeding, weed control, and related landscaping services.

3.13.2.2 The planned preventative maintenance of the ARFFT Live Fire Trainer A-2000 and associated propane fuel supply and vaporizer system will include inspections and routine cleaning. Corrective maintenance support will be on a demand basis with a 24 hour response during normal daytime business hours Monday through Friday, including all parts, materials, and labor to implement necessary repairs.

3.13.3 **PERSONNEL REQUIREMENTS**

3.13.3.1 The Contractor shall provide all labor necessary to properly operate and maintain equipment. The labor provided to properly operate and maintain equipment in the ARFFT Facility must be by an OEM trained technician. A supervisor or lead worker familiar with Airfield Operations and Communications must be present with the crew at all times.

3.13.4 **RECORDS/DOCUMENTATION**

3.13.4.1 The Contractor shall document activities through Aviation's CMMS and keep written records of all work orders to submit to Aviation.

3.14 **SCHEDULE P – BUILDING MOUNTED SIGNAGE**

- 3.14.1 Contractor will be required to furnish all labor, transportation, equipment, materials, supplies, supervision, and other appurtenances necessary to supply and install new signage, replace or relocate existing signage, replace panels in existing signage, or repair damaged signage at PHL and PNE.

3.15 **SCHDEULE Q – GLASS & PLASTIC REPLACEMENT**

3.15.1 **GENERAL DESCRIPTION**

- 3.15.1.1 The Contractor will be required to furnish all labor, tools, transportation, equipment and services to provide replacement glass, plastics, glazing services and framing when required, in and around the Terminal Buildings at the Philadelphia International Airport and Northeast Philadelphia Airport.

3.15.2 **TECHNICAL DESCRIPTION**

- 3.15.2.1 Set forth in *Exhibit C – Schedule Q* is a technical description for select glass and plastic that may require replacement, provided for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule

3.15.3 **PERSONNEL REQUIREMENT AND RESPONSE REQUIREMENTS**

- 3.15.3.1 Responses to calls for maintenance shall be on a demand basis. Temporary measures to secure the area from further damage or personal injury shall be required within one hour, with contractor removing and disposing of broken glass immediately. Personnel shall be available to complete installations within 24 hours for all on-site inventory. All installations of non-stocked items shall be completed within 24 hours of delivery of material.

3.15.4 **RECORDS/DOCUMENTATION**

- 3.15.4.1 The Contractor will document all activities and costs for repairs in Aviation’s CMMS and forward to Aviation all records of repairs.

3.16 SCHEDULE R – INTERIOR COSMETIC REPAIRS & EXTERIOR FINISHES/ RESTORATION/MAINTENANCE

3.16.1 GENERAL DESCRIPTION

3.16.1.1 The Contractor will be required to furnish all labor, tools, transportation, services, supervision, materials, equipment and all means of construction necessary and incidental to provide repairs and/or to restore finishes to interior floors, walls, soffits, ceiling, canopies and furniture.

3.16.2 TECHNICAL DESCRIPTION

3.16.2.1 This contract will involve the periodic maintenance, which includes repair and replacement of terrazzo, sheet metal, masonry, fiberglass composite, drywall and other floor, wall, and ceiling maintenance services at the Philadelphia International Airport and the Philadelphia Northeast Airport.

3.16.2.2 Set forth in *Exhibit C – Schedule R* is a technical description for select carpeting and other materials, provided for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule

3.16.3 PERSONNEL REQUIREMENTS AND RESPONSE REQUIREMENTS

3.16.3.1 Contractor will employ personnel with a minimum of three years' experience in flooring, wall, soffit, column enclosure and ceiling repairs.

3.16.3.2 Responses to calls for maintenance, repairs, or restoration will be on a demand basis with work completion schedule as approved by the Airport Facilities Manager.

3.16.4 RECORDS/DOCUMENTATION

3.16.4.1 Contractor will document its activities in Aviation's CMMS and submit written

documentation of labor and materials to Aviation to support invoices under this Schedule.

3.17 SCHEDULE T – SPECIALIZED EQUIPMENT SERVICES

3.17.1 GENERAL DESCRIPTION

3.17.1.1 The work includes but is not limited to furnishing highway construction equipment, personnel lifts, fueling equipment, operators and supervision as required on an as needed basis. Set forth in *Exhibit C – Schedule T* is a technical description for select equipment for information purposes, to demonstrate the significance of the scope of responsibility associated with this schedule.

3.17.2 TECHNICAL DESCRIPTION

3.17.2.1 The Contractor shall obtain and pay for all permits, licenses, fees and other charges required by the State, County and City Regulations.

3.17.2.2 Any period of time when equipment does not or cannot perform its assigned work shall be considered as “Downtime”. As to any equipment that is inoperable, Contractor shall repair and return it to service within 24 hours or shall supply a replacement within the 24-hour period.

3.17.3 PERSONNEL REQUIREMENTS AND RESPONSE TIME

3.17.3.1 Contractor may have his own supervisory and maintenance personnel on-site as needed. Equipment Operators must be fully trained on the correct and safe operation of the equipment. Operators of heavy and highway mobile equipment must have a Commercial Driver’s License and participate in a Drug and Alcohol Testing Program.

3.17.3.2 Responses to calls for equipment services shall be on a demand basis, with response time and equipment delivery times as directed

by the Airport Facilities Manager, typically within 1 – 2 days of notice.

3.17.4 **RECORDS/DOCUMENTATION**

3.17.4.1 Contractor will document its activities in Aviation’s CMMS and submit written documentation of labor and materials to Aviation to support invoices under this Schedule.

3.18 **SCHEDULE U – ROOFING**

3.18.1 **GENERAL REQUIREMENTS**

3.18.1.1 The work includes but is not limited to furnishing labor, transportation, equipment, materials, supplies and supervision necessary to provide maintenance services to repair/restore/replace roofing throughout the Philadelphia Airport’s System. A major portion of this work will involve leak management and scheduled housekeeping to reduce roof membrane punctures, clogged drains and gutters.

3.18.2 **TECHNICAL DESCRIPTION**

3.18.2.1 The majority of the Terminal Complex roofs are covered using Ethyl Propylene Diene Monomer (EPDM) material system. Other Airport roofs to be maintained are of various types and composition including but not limited to rolled roofing, build-up roofing, gravel and asphalt shingles. The Contractor shall be certified and experienced in repair and replacement techniques involving warranty work.

3.18.3 **PERSONNEL REQUIREMENTS AND RESPONSE TIME**

3.18.3.1 The Contractor must use workman skilled in the trades involved in roofing work, which may include roofers, boilermakers, brick masons and various technicians. The Contractor must have personnel experienced in infrared scanning, asbestos core testing, roof tensile

test and wind uplift test practices.

3.18.3.2 Contractor shall respond to maintenance calls for repair on a demand basis 24 hours a day, 7 days a week, with a response time of 4 hours.

3.18.4 **RECORDS/DOCUMENTATION**

3.18.4.1 The Contractor will provide for review and approval by Aviation and execute a preventative maintenance program designed to meet roof warranty terms and conditions. Approved PM plans will be incorporated into Aviation's CMMS. The Contractor will document all activities in Aviation's CMMS and will be responsible for maintaining records and documents of completed repairs, PM's, test and inspections.

3.19 **SCHEDULE V – LANDSCAPING SERVICES**

3.19.1 **GENERAL DESCRIPTION**

3.19.1.1 The Contractor will be required to furnish all labor, tools, transportation, services, supervision, materials and equipment as necessary to maintain trees, shrubs, ground covers, mulched beds, gravel beds, train platforms, and interior plants and trees, and bio swales at the Philadelphia International Airport and the Northeast Philadelphia Airport.

3.19.2 **TECHNICAL DESCRIPTION**

3.19.2.1 Contract will include but not be limited to pruning, weeding, re-mulching, reseeding, planting, removal and replacement of dead growth, fertilizing, watering, insect and disease control of turf, trees and shrubs, addition of red tipple stone to all guiderail and gravel areas and removal of all trash and debris. Interior work will include but not be limited to watering, pruning, spraying, feeding, cleaning, re-potting plants, applying insecticides, pesticides, and plant areas and all as required by Aviation. Work at the train platforms will include but not be limited to

pruning, weeding, re-mulching, reseeding, planting, removal and replacement of dead growth, fertilizing, watering, insect and disease control of plants, trees and shrubs, and removal of all trash and debris.

3.19.3 **PERSONNEL REQUIREMENTS**

3.19.3.1 Foreman - shall have a minimum of five years' experience and be licensed to apply all insecticides and pesticides in compliance with Federal and State pesticide acts and registration requirements.

3.19.3.2 Gardeners - shall have a minimum of three years' experience in the planting, care and maintenance of trees, hedges, shrubs, ornamental plants, flowers, turf, mulch and gravel areas used in landscaping industry.

3.19.3.3 Plant Technician - shall have a minimum of two years' experience in the care and maintenance of interior plants.

3.19.3.4 Education - formal education in Forestry, Horticulture, Landscape Design or related field is acceptable in lieu of work experience for select personnel.

3.19.4 **RECORDS/DOCUMENTATION**

3.19.4.1 The Contractor shall document its activities in Aviation's CMMS and submit written monthly inspection reports if requested by Aviation.

4 ADD ONS

4.1 PROCEDURES

4.1.1 The City reserves the right to add, delete and/or acquire other product/services that the vendor can supply that are similar to, but not specifically called for in this bid. The procedure for such acquisitions shall be as follows:

4.1.1.1 Procurement or the using department will obtain from the Vendor a letter (on his/her letterhead) verifying the items to be added. The letter shall include the complete description of the item, the location (if applicable), the bid number, bid schedule number, the price to the City and the applicable contract period; and upon receipt and approval by the Procurement Department shall automatically become part of the contract.

5 **INSURANCE**

A. Throughout the Term of this Agreement or any extension thereof, Contractor shall maintain or cause to be maintained with insurers licensed to do business in the Commonwealth of Pennsylvania and otherwise satisfactory to the City, a minimum of the following insurance:

- (1) Commercial General Liability Insurance against claims for personal and advertising injury, bodily injury, death or property damage occurring on, in or about the Airport, with a combined single limit for each occurrence of not less than Two Million Dollars (\$2,000,000). Such liability insurance shall contain a broad form endorsement and, without limitation, coverage for premises and operations, aviation operations, collapse, explosion and underground hazard, products/completed operations, blanket contractual liability insurance specifically covering, but not limited to, the contractual obligations to indemnify, hold harmless and defend assumed by Contractor pursuant to this Agreement, broad form property damage, personal injury (employee exclusion deleted), independent contractors, owner's protective liability coverage, employees as additional insured, cross liability coverage, and have no limitations with respect to aircraft or aviation operations;
- (2) Comprehensive Automobile Liability Insurance insuring against liability arising from the maintenance and use of all owned, non-owned, hired, leased and rented trucks, automobiles and other vehicles for bodily injury, death or property damage, with a combined single limit for each occurrence of not less than One Million Dollars (\$1,000,000);
- (3) Workers Compensation and Employer's Liability Insurance affording statutory coverage in the Commonwealth of Pennsylvania and containing statutory limits with the employer's liability insurance at limits of One Million Dollars (\$1,000,000) each accident/ One Million Dollars (\$1,000,000) each employee/ One Million Dollars (\$1,000,000) policy limit. Policy shall include Waiver of Right to Recover from Others Endorsement (WC 00 03 13) naming the City.
- (4) Umbrella Liability Insurance with a limit of liability of Twenty-Five Million Dollars (\$25,000,000) per occurrence when combined with the insurance under (1), (2), and (3) above. Coverage shall be on an umbrella liability form, pay on behalf of basis, first dollar defense.

- (5) Professional Liability Insurance (Architectural and Engineering Services) with a limit of liability of Two Million Dollars (\$2,000,000) each claim and a deductible not to exceed One Hundred Thousand Dollars (\$100,000). Coverage shall include errors and omissions including liability assumed under Contract. Professional Liability Insurance may be written on a claims-made basis provided that coverage for occurrences arising out of the performance of the services required under the Contract shall be maintained in full force and effect under the policy or “tail” coverage for a period of at least two (2) years after expiration of the Contract.
- (6) “All Risk” Property Insurance covering business personal property and any other property in Contractor’s care, custody and control in the amount equal to the full replacement value with no penalty for coinsurance, including coverage during any construction or reconstruction period.

Contractor waives all rights of recovery and shall cause its insurers to waive their rights of subrogation against the City of Philadelphia for damages caused by fire or other causes of loss to the extent covered by property insurance maintained by Contractor pursuant to this agreement or otherwise.

B. With respect to the insurance listed above the following shall apply:

- (1) All of the foregoing policies, except Professional Liability Insurance, shall be provided on an “occurrence” basis and not on a “claims made” basis.
- (2) Except for Workers Compensation & Employer’s Liability and Professional Liability, all insurance shall name the City of Philadelphia, its officers, employees and agents as additional insureds. All such policies shall include an endorsement stating that the coverage afforded these parties as additional insureds will be primary to any other coverage available to them.
- (3) Certificates of insurance evidencing the required coverage shall be submitted by Contractor to the Division of Aviation (Philadelphia International Airport, Terminal D/E, Philadelphia, Pennsylvania, 19153, Attention: Airport Properties Manager), and the City’s Risk Manager (One Parkway, 1515 Arch Street, 14th Floor, Philadelphia, PA 19102) at least ten (10) days before commencement of the Term. Contractor’s failure to furnish

certificates of insurance as required herein shall be considered as a default with a cure period of five (5) days after receipt of written notice thereof. Thereafter, and without further notice to Contractor, City may exercise any and all remedies set forth in the Agreement and/or at law or equity.

- (4) Contractor shall furnish copies of the original policies of all insurance required under this Agreement at any time with ten (10) days after written request by City.
 - (5) All insurance policies shall provide for at least thirty (30) days prior written notice to be given to the City in the event coverage is materially changed, canceled or not renewed. At least ten (10) days prior to the expiration of each policy, Contractor shall deliver to City a certificate or certificates evidencing a replacement policy to become effective immediately upon the termination of the previous policy.
 - (6) From time to time during the Term of the Agreement of any extension thereof and in any event not more frequently than every year, the City may adjust the amounts, types and deductibles of insurance coverage required to reflect changed circumstances affecting insurance requirements.
 - (7) If Contractor fails to cause such insurance to be maintained, City shall not be limited in the proof of any damages which City may claim against Contractor or any other person or entity to the amount of the insurance premium or premiums not paid or incurred and which would have been payable upon such insurance, but City shall also be entitled to recover as damages, expenses of suit and costs, including without limitation, reasonable cancellation fees, suffered or incurred during any period when Contractor shall have failed or neglected to provide insurance as required herein.
 - (8) The insurance requirements set forth herein shall in no way be intended to modify, limit or reduce the indemnifications made in this Agreement by Contractor to City or to limit City's liability under this Agreement to the limits of the policies of insurance required to be maintained by Contractor hereunder.
- C. Contractor shall not do, or suffer to be done, any matter or thing whereby, or in consequence whereof, the policy or policies of insurance shall become voided or suspended, or which increase the risk or hazard of fire in or on the Airport unless, in the latter case only, such increased

risk or hazard is adequately insured in the City's sole discretion and the use creating such increased risk or hazard is permitted hereunder.

- D. Contractor shall not permit separate insurance to be carried which relates to the Airport and is concurrent in form or contributing, in the event of loss, with that required to be maintained under this Agreement, or increase or permit to be increased the amounts of any then existing insurance relating to the Airport by securing as additional policy or additional policies, without including the applicable parties required in this Section as insured parties or additional insureds. Contractor immediately shall notify City whenever such separate insurance is obtained and deliver to City certificates evidencing such policies and, upon request, certified copies or duplicate originals of the same (as required in this Section and in accordance with the procedures set forth herein).

6 PRE-QUALIFICATION AND INFORMATION REQUEST

6.1 INSTRUCTIONS

- 6.1.1 Complete and provide all of the information requested in this *Section 6, Pre- Qualification and Information Request*.
- 6.1.2 Describe the experience of the prime bidder and subcontractors in providing maintenance services. Prime bidder may submit multiple subcontractors for each schedule. An additional information request sheet for each subcontractor shall be attached behind the sheet for the prime bidder. Cite recent installations of comparable size or nature; include full information on the installation(s), including agency, location, size, type, contact person(s), etc. Note experience applying quantitative performance measures and quality control programs that apply to management of personnel and systems. The use of subcontractors does not alleviate the OEO requirements as defined in *Exhibit A*.
- 6.1.3 Demonstrate service experience as generally described in Facilities similar in size and scope to those referred to in this document, minimum contract amount to be **\$4,000,000.00** per year (refer to *Section 1.3.2.1*).
- 6.1.4 Supply references and descriptions of these contracts (minimum 3). One of these references can be the City of Philadelphia (refer to *Section 1.3.2.2*).
- 6.1.5 Provide a copy of the NBIC “R” Stamp certificate (refer to *Section 1.3.2.7*).
- 6.1.6 Submit evidence of all permits, licenses and regulatory agency documentation as required by sections (refer to *Section 1.3.2.9*).
- 6.1.7 Include a statement that all personnel requirements contained herein shall be met by the prime and the subcontractors. For on-site managers, bidder shall include their required experience, training, etc. (refer to *Section 1.3.2.11*).
- 6.1.8 Submit a **Comprehensive Management and Supervision Program** (refer to *Section 1.4.1*).

- 6.1.9 Submit CMMS examples as described in *Section 1.4.3*.
- 6.1.10 Submit a written and comprehensive **Quality Control Plan** (refer to *Section 1.4.4*).
- 6.1.11 Submit a written comprehensive **Ramp-Up Plan** (refer to *Section 1.5.1*)
- 6.1.12 Submit all financial information required in *Section 1.6*.

6.2 BIDDER QUALIFICATIONS

1. Company Name:

2. Years In Business: _____

3. Type of Organization: _____ Corporation:

Other (explain)

4. If a Corporation, answer the following:

Date of Incorporation: _____

State of Incorporation: _____

President's Name: _____

Vice President's Name: _____

Secretary's Name: _____

Treasurer's Name: _____

5. If other than a Corporation, describe organization and name Principals:

6.3 REFERENCES AND EXPERIENCE

1. State the types of systems your firm has sold, installed and/or maintained in the last three (3) years. Indicate the customer for each system. Use additional sheets if necessary.

Type of System: _____

Name	Address
------	---------

Contact Name	Phone Number
--------------	--------------

2. State the systems your company is actively maintaining and for whom you maintain them. Use additional sheets if necessary.

Type of System: _____

Name	Address
------	---------

Contact Name	Phone Number
--------------	--------------

Type of System: _____

Name	Address
------	---------

Contact Name	Phone Number
--------------	--------------

3. Identify the end-user customers in your customer base. Provide the company name, address, telephone number, and the name of a principal of the company (together with that person's position) who may be contacted for reference. Identify systems your organization has sold, installed and/or maintained. Identify systems you did not sell initially but now maintain. It is understood that the responding bidder gives City permission to call or write to these end users. Use additional sheets if necessary.

Type of System: _____

Name	Address
------	---------

Contact Name	Phone Number
--------------	--------------

Type of System: _____

Name	Address
------	---------

Contact Name	Phone Number
--------------	--------------

4. State the number of employees in your organization by the following categories:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____
Total	_____	_____

5. How many of maintenance personnel have attended system schools and been certified by the manufacturer as qualified to perform maintenance on their systems? Specify the systems by manufacturer, type and the number of employees who attended for each. In particular, identify the trained service personnel by name and their work locations. Identify the installation personnel and maintenance personnel separately.

6. Identify the service location that will maintain the City's systems.

6.4 SCHEDULE A - ESCALATOR/ELEVATOR/MOVING WALKWAYS

6.4.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.5 SCHEDULE E – STORM WATER AND SANITARY DRAINAGE

6.5.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.6 SCHEDULE E – FIRE PROTECTION SYSTEMS

6.6.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.7 SCHEDULE G – HVAC

6.7.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.8 SCHEDULE H – FACILITIES AUTOMATED CONTROL SYSTEMS

6.8.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.9 SCHEDULE I – UNINTERRUPTED POWER SUPPLY

6.9.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.10 SCHEDULE J – SWITCHGEAR

6.10.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.11 SCHEDULE K – HIGH VOLTAGE CABLE REPAIR

6.11.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.12 SCHEDULE L – FIRE ALARM AND DETECTION SYSTEMS

6.12.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.13 SCHEDULE M – FENCING AND GUIDERAILS

6.13.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.14 SCHEDULE N – BIRD CONTROL

6.14.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.15 SCHEDULE O – AIRFIELD SUPPORT SERVICES

6.15.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.16 SCHEDULE P – BUILDING MOUNTED SIGNAGE

6.16.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.17 SCHEDULE Q – GLASS, PLASTIC REPLACEMENT

6.17.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.18 SCHEDULE R – INTERIOR & EXTERIOR MAINTENANCE

6.18.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.19 SCHEDULE T – SPECIALIZED EQUIPMENT SERVICES

6.19.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.20 SCHEDULE U – ROOFING

6.20.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.21 SCHEDULE V – LANDSCAPING

6.21.1 Answer the questions in the spaces provided. If additional space is required, attach additional sheets.

_____ CHECK HERE IF SAME AS PRIME. IF NOT, PROVIDE SUB CONTRACTOR INFORMATION BELOW.

FIRM NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____

CONTACT NAME: _____

CONTACT PHONE: _____

YEARS IN BUSINESS UNDER THIS NAME: _____

GROSS SALES:

2012: _____ (Actual)

2013: _____ (Actual)

2014: _____ (Actual)

2015: _____ (Estimate)

STATE THE NUMBER OF EMPLOYEES IN THE ABOVE REFERENCE ORGANIZATION BY THE FOLLOWING CATEGORIES:

	Local Area	Nationally
Management	_____	_____
Sales	_____	_____
Clerical	_____	_____
Technical	_____	_____
Installation	_____	_____
Maintenance/Service	_____	_____
Other	_____	_____

6.22 CERTIFICATION STATEMENT

I certify that the information presented in this Pre-qualification Information Request is complete and accurate and that the firm authorizes me named to submit this information request on its behalf.

Firm Name

Authorized Signature

Name

Title

Date

7 NETWORKING SESSION

7.1 EVENT DETAILS

- 7.1.1 The Procurement Department in conjunction with the Philadelphia International Airport and Office of Economic Opportunity invites all potential contractors and potential subcontractors to:

CITY OF PHILADELPHIA AIRPORT FACILITY MAINTENANCE CONTRACT NETWORKING EVENT

**WEDNESDAY, SEPTEMBER 2, 2015
2 PM – 4 PM
MUNICIPAL SERVICES BUILDING
1401 JFK BLVD. – 16TH FLOOR, ROOM X
PHILADELPHIA, PA 19102**

**EXHIBIT A – CONTRACTOR’S CERTIFICATION OF
COMPLIANCE WITH CHAPTER 17-600 OF THE
PHILADELPHIA CODE**

City of Philadelphia
Economic Opportunity Plan
[City Prequalification S6-Z6167-PIR]

I. Introduction, Definitions and Goals

- A. Chapter 17-1600 of The Philadelphia Code requires the development and implementation of “Economic Opportunity Plan(s)” for certain classes of contracts and covered projects as defined in Section 17-1601. The Economic Opportunity Plan (“Plan”) memorializes the successful Bidder’s best and good faith efforts to provide meaningful and representative opportunities for Minority Business Enterprises (“MBEs”), Woman Business Enterprises (“WBEs”) and Disabled Business Enterprises (“DSBEs”), Disadvantaged Business Enterprises³ (“DBEs”) (collectively, “M/W/DSBEs”) and an appropriately diverse building trades workforce in connection with the contract or covered project.

This Invitation and Bid and any resulting contract are subject to the Plan requirements as described in Section 17-1603 (2). Accordingly, by submission of its Bid, a responsive and responsible Bidder makes a legally binding commitment to abide by the provisions of this Plan which include Bidder’s commitment to exercise its best and good faith efforts throughout the contract term to provide meaningful and representative contracting opportunities for M/W/DSBEs and to employ an appropriately diverse workforce of tradespeople including minority and female persons in all phases of any contract awarded under this Bid.

Bidder hereby verifies that all information submitted to the City including without limitation, the Plan and all forms and attachments thereto, are true and correct and is notified that the submission of false information by Bidder is subject to the penalties of 18 Pa.C.S. Section 4904 relating to unsworn falsification to authorities. Bidder also acknowledges that if it is awarded a contract resulting from this Invitation and Bid, it is a felony in the third degree under 18 Pa.C.S. Section 4107.2 (a)(4) if, in the course of this contract, it fraudulently obtains public moneys reserved for or allocated or available to minority business enterprises or women's business

³ Disadvantaged Business Enterprises (“DBEs”) are those socially or economically disadvantaged minority and woman owned businesses certified under 49 C.F.R. Part 26. If Bidder makes solicitation(s) and commitment(s) with a DBE, Bidder shall indicate which category, MBE or WBE, is submitted for credit.

enterprises.

- B. For the purposes of this Plan, MBE, WBE, DBE and DSBE shall refer to certified businesses so recognized by the City of Philadelphia through its Office of Economic Opportunity (“OEO”). Only the work or supply effort of firms that are certified as M/W/DSBEs by an OEO approved certifying agency⁴ at the time of bid opening will be eligible to receive credit as a Best and Good Faith Effort. In order to be counted, certified firms must successfully complete and submit to the OEO an application to be included in the OEO Registry which is a list of registered M/W/DSBEs maintained by the OEO and available online at www.phila.gov/oEO/directory. If bidder or bidder’s subcontractor(s) is certified by an approved certifying agency, a copy of that certification should be furnished with the bid.
- C. For this Plan, the term “Best and Good Faith Efforts,” the sufficiency of which shall be in the sole determination of the City, means: a Bidder’s efforts, the scope, intensity and appropriateness of which are designed and performed to foster meaningful and representative opportunities for participation by M/W/DSBEs and an appropriately diverse workforce and to achieve the objectives of Chapter 17-1600. Best and Good Faith Efforts are rebuttably presumed met, when a Bidder makes commitments within the M/W/DSBE Participation Ranges established for this Bid and commits to employ a diverse workforce as enumerated herein.
- D. Goals
1. M/W/DSBE Participation Ranges

As a benchmark for the Bidder’s expression of its Best and Good Faith Efforts to provide meaningful and representative opportunities for M/W/DSBEs in the contract, the following participation ranges have been developed. These participation ranges represent, in the absence of discrimination in the solicitation and selection of M/W/DSBEs, the percentage of MBE, WBE and DSBE participation that is reasonably attainable on this contract through the exercise of Bidder’s Best and Good Faith Efforts. In order to maximize opportunities for as many

⁴ A list of “OEO approved certifying agencies” can be found at www.phila.gov/oEO

businesses as possible, a firm that is certified in two or more categories (e.g. MBE and WBE and DSBE or WBE and DSBE) will only be credited toward one participation range as either an MBE or WBE or DSBE. The firm will not be credited toward more than one category. These ranges are based upon an analysis of factors such as the size and scope of the contract and the availability of MBEs, WBEs and DSBEs to perform various elements of the contract:

PREQUALIFICATION NO.	MBE		WBE	DSBE
S6-Z6167-PIR	5% - 10%	AND/OR		5% - 10%

2. Employment Goals

Bidder agrees to exhaust its Best and Good Faith Efforts to employ minority persons and females in its workforce of apprentices and journeymen at the following levels⁵:

Minority Apprentices – 50% of all hours worked by all apprentices

Minority Journeymen – 32% of all journey hours worked across all trades

Female Apprentices – 7% of all hours worked by all apprentices

Female Journeypersons - 7% of all hours worked across all trades

II. Bidder Responsiveness and Responsibility

- A. Bidder shall identify all its M/W/DSBE commitments and evidence its agreement to employ minority persons and females at the levels stated herein on the form entitled, “M/W/DSBE Participation and Workforce Commitments.” The Bidder’s identified commitment to use an M/W/DSBE on this form constitutes a representation by Bidder, that the M/W/DSBE is capable of completing the subcontract with its own workforce, and that the Bidder has made a legally binding commitment with the firm.

⁵ These goals, which have been adopted by the Economic Opportunity Cabinet, are the recommendations of the Mayor’s Commission on Construction Industry Diversity.

The listing of the M/W/DSBE firm by Bidder further represents that if Bidder is awarded the contract, Bidder will subcontract with the listed firm(s) for the work or supply effort described and the dollar/percentage amount(s) set forth on the form. In calculating the percentage of M/W/DSBE participation, Bidder shall apply the standard mathematical rules in rounding off numbers. In the event of inconsistency between the dollar and percentage amounts listed on the form, the percentage will govern. Bidder is to maintain the M/W/DSBE percentage commitments throughout the term of the contract which shall apply to the total amount of the contract and any additional increases. In the event the Successful Bidder's contract is increased by change order and/or modification, or amendment, it shall be the responsibility of the Successful Bidder to apply its Best and Good Faith Efforts to the amended amount in order to maintain any participation ranges committed to on the total dollar amount of the contract at the time of contract completion.

1. Commercially Acceptable Function

A Bidder that enters into a subcontract with an M/W/DSBE shall be considered to have made a Best and Good Faith Effort in that regard only if its M/W/DSBE subcontractor performs a commercially acceptable function ("CAF"). An M/W/DSBE is considered to perform a CAF when it engages in meaningful work or supply effort that provides for a distinct element of the subcontract (as required by the work to be performed in accordance with Bid specifications), where the distinct element is worthy of the dollar amount of the subcontract and where the M/W/DSBE carries out its responsibilities by actually performing, managing and supervising the work involved; M/W/DSBE subcontractors must perform at least twenty percent (20%) of the cost of the subcontract (not including the cost of materials, equipment or supplies incident to the performance of the subcontract) with their own employees.

The City may evaluate the amount of work subcontracted, industry practices and any other relevant factors in determining whether the M/W/DSBE is performing a CAF and in determining the amount of credit the Bidder receives towards the participation ranges. For example, a Bidder using an M/W/DSBE non-stocking supplier (i.e., a firm that does not manufacture or warehouse the materials or

equipment of the general character described by the Bid specifications and required under the contract) to furnish equipment or materials will only receive credit towards the participation ranges for the fees or commissions charged, not the entire value of the equipment or materials furnished.

- B. Upon award, letters of intent, quotations, and any other accompanying documents regarding commitments with M/W/DSBEs, including the M/W/DSBE Participation and Workforce Commitments Form, become part of the contract. M/W/DSBE commitments are to be memorialized in a written subcontract agreement and are to be maintained throughout the term of the contract and shall apply to the total contract value (including approved change orders and amendments). Any change in commitment, including but not limited to termination of the subcontract, reduction in the scope of committed work, substitutions for the listed firms, changes or reductions in the listed dollar/percentage amounts, must be pre-approved in writing by OEO. Throughout the term of the contract, Bidder is required to continue its Best and Good Faith Efforts.
- C. In the event Bidder does not identify on the M/W/DSBE Participation and Workforce Commitments Form that it has made M/W/DSBE commitments within the participation ranges established for this Bid and/or does not agree to the employment goals described herein, Bidder must complete and submit a *Documentation of Best and Good Faith Efforts Form* (“BGFE Form”), documenting its solicitations and any commitments with M/W/DSBEs, and detailing any efforts made to include M/W/DSBEs in the contract and to employ a diverse workforce. The submission of the BGFE Form is an element of bid responsiveness and failure to include this form may result in the rejection of the Bid. The BGFE Form must include at a minimum, certification and documentary evidence that the following actions were taken:
1. Solicitation directed to both qualified M/W/DSBEs registered with OEO and qualified M/W/DSBEs certified by agencies approved by OEO. Bidder must provide a list of all certification directories used for soliciting participation for this Bid. Bidder must determine with reasonable certainty if the M/W/DSBEs are interested by taking appropriate steps

to follow up on initial solicitations; one time contact, without follow up, is not acceptable; and

2. Bidder provided interested M/W/DSBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation; and
3. Bidder negotiated in good faith with interested M/W/DSBEs. A Bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including M/W/DSBE subcontractors, and would take a firm's price and capabilities as well as the objectives of the Plan into consideration; and
4. Documentation of the following:
 - i. Any commitments to use M/W/DSBEs in its bid for subcontracted services and materials supply even when Bidder would otherwise prefer to self-perform/supply these items; and
 - ii. Correspondence between the Bidder and any M/W/DSBE(s) related to this Bid; and
 - iii. Attendance logs and/or records of any scheduled pre-bid meeting; and
5. Certification and evidence that the following actions were taken or documentation of the following, or an explanation why these actions were not taken or why documentation does not exist:
 - i. Any arm's length business assistance provided to interested M/W/DSBEs which may include access/introduction to major manufacturer/suppliers, lines of credit and union halls; and
 - ii. Solicitation through job fairs, newspapers, periodicals, advertisements and other organizations or media that are owned by M/W/DSBEs and/or focus on M/W/DSBEs; and

- iii. Telephone logs of communications related to this Bid; and
- iv. Notification of and access to bid documents at the Bidder's office or other office locations for open and timely review; and
- v. Bidder sought assistance from the Urban Affairs Coalition, Careerlink Philadelphia, Opportunity Industrial Center and the Philadelphia Workforce Development Corporation to perform employment outreach; and
- vi. Bidder published its policy of nondiscrimination in the hiring, retention and promotion of employees; and
- vii. Any agreement with an apprenticeship or training program that targets the employment of minority persons, disabled persons and women.

III. Evaluation of Responsiveness and Responsibility

A. Evaluation and Determination

The City, acting through its OEO, will evaluate the responsiveness of the Bidder's Plan to these requirements. OEO reserves the right to request further documentation and/or clarifying information at any time prior to the award of the contract which may result in Bidder's amendment of its M/W/DSBE Participation and Workforce Commitments Form or BGFE Form.

B. Administrative Reconsideration

- 1. If the OEO determines that the apparent low Bidder has not made sufficient Best and Good Faith Efforts, the Bidder will be notified and may file a written appeal with OEO within forty-eight (48) hours of the date of notification. The decision of OEO may be appealed in writing within forty-eight (48) hours of the date of OEO's decision to chief Operating Officer of the Commerce Department or his designee whose decision shall be final. If it is determined that the apparent low Bidder did not male sufficient Best and Good Faith Efforts,

its Bid will be rejected.

2. Notwithstanding compliance with the requirements set forth herein, the City reserves the right to reject any or all bids as deemed in the best interest of the City.

IV. Compliance and Monitoring of Best and Good Faith efforts

- A. A copy of the Successful Bidder's Plan, as certified below by OEO, will be filed with the Chief Clerk of Council by the Procurement department on behalf of the Successful Bidder, within fifteen (15) days of the Procurement Department's issuance of the notice of award.

The Successful Bidder agrees to cooperate with OEO in its compliance monitoring efforts, and to submit, within the time limits prescribed by OEO, all documentation which may be requested by OEO relative to the awarded contract, including the items described below. The Successful Bidder must provide as required and maintain the following contract documentation for a period of three (3) years following acceptance of final payment under the contract:

- Copies of signed contracts and purchases orders with M/W/DSBE subcontractors;
- Evidence of payments (cancelled checks, invoices, etc.) to subcontractors and suppliers to verify participation;
- Telephone logs and correspondence relating to M/W/DSBE commitments.

- B. The Successful Bidder shall ensure that all its on-site contractors submit, to the extent required by law, certified payrolls to the City's Labor Standards Unit in the format prescribed by that agency which includes hours worked by minority and female apprentices and journeypersons.

C. Prompt Payment of M/W/DSBEs

1. The Successful Bidder shall within five (5) business days after receipt of a payment from the City for work performed

under the contract, deliver to its M/W/DSBE subcontractors their proportionate share of such payment for work performed (including the supply of materials). In connection with payment of its M/W/DSBE subcontractors, the Successful Bidder agrees to fully comply with the City's payment reporting process which may include the use of electronic payment verification systems.

2. Each month of the contract term and at the conclusion of the contract, the Successful Bidder shall provide to the OEO documentation reconciling actual dollar amounts paid to M/W/DSBE subcontractors to M/W/DSBE commitments presented in the Plan.

D. Oversight Committee

1. For this project, the City, in its sole discretion, may establish a Project Oversight Committee consisting of representatives from the Bidder's company, representatives of the building trades, the construction manager, and the City which may include the Project site's District Councilperson, OEO, and appropriate community organizations ("Committee"). The Committee will meet regularly to provide advice for the purpose of facilitating compliance with the Plan.
2. If a Project Oversight Committee is established, the City will convene meetings of the Committee no later than one (1) month after issuance of the Notice To Proceed.

V. Remedies and Penalties for Non-Compliance

- A. The Successful Bidder agrees that its compliance with the requirements of the Plan is material to the contract. Any failure to comply with these requirements may constitute a substantial breach of contract. It is further agreed and understood that in the event the City determines that the Successful Bidder hereunder has failed to comply with these requirements the City may, in addition to remedies reserved under Section 17-1605 of The Philadelphia Code, any other rights and remedies The City may have under the contract, or any bond filed in connection therewith or at law or in equity, exercise one or more of the remedies below, which shall be deemed cumulative and concurrent:

- a. Withhold payment(s) or any part thereof until corrective action is taken.
- b. Terminate the contract, in whole or in part.
- c. Suspend/Debar the successful bidder from bidding on and/or participating in any future City contracts for a period of up to three (3) years.
- d. Recover as liquidated damages, one percent of the total dollar amount of the contract for each one percent (or fraction thereof) of the commitment shortfall. (NOTE: The “total dollar amount of the contract” shall include approved change orders, amendments and for requirements contracts shall be based on actual quantities ordered by the City.)

The remedies enumerated above are for the sole benefit of the City and City's failure to enforce any provision or the City's indulgence of any non-compliance with any provision hereunder, shall not operate as a waiver of any of the City's rights in connection with any contract resulting from this Invitation and Bid nor shall it give rise to actions by any third parties including identified M/W/DSBE subcontractors. No privity of contracts exists between the City and the M/W/DSBE subcontractor identified in any contract resulting from this Invitation and Bid. The City does not intend to give or confer upon any such M/W/DSBE subcontractor(s) any legal rights or remedies in connection with subcontracted services under any law or Executive Order or by any reason of any contract resulting from the Invitation and Bid except such rights or remedies that the M/W/DSBE subcontractor to which it may be a party.

SIGNATURE OF BIDDER AND TITLE⁶

DATE

ANGELA DOWD-BURTON, Executive Director, Office of Economic Opportunity⁷ DATE

[See Forms on following pages; these Forms, as completed by Bidder, must be submitted with the Bid as a matter of Responsiveness and Responsibility]

⁶ Bidder is required to sign and date, but the City reserves the right to obtain the Successful Bidder's signature thereon at any time prior to Plan certification. The Successful Bidder will receive from the City a certified copy of its Plan which will be filed by the Procurement Department with the Chief Clerk of City Council within fifteen (15) days of the Procurement Department's issuance of a notice of award and published by OEO, in a downloadable format, on the OEO website.

⁷ Pursuant to Section 17-1603 (2) of The Philadelphia Code, the representative of the City of Philadelphia's Office of Economic Opportunity, the "certifying agency", certifies that the contents of this Plan are in compliance with Chapter 17-1600.

OEO Official Use Only

M/W/DSBE Commitments

Percent

_____ [MBE]	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____ [WBE]	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____ [DSBE]	_____
_____	_____

**EXHIBIT B – CITY OF PHILADELPHIA PREVAILING
WAGE RATE SCHEDULE**

**PREVAILING WAGE RATE SCHEDULE
 FOR CONSTRUCTION WORK DONE ON BEHALF OF CITY OF
 PHILADELPHIA INCLUDING REPAIR, ALTERATION, AND REMODELING
 WORK**

I. BUILDING CONSTRUCTION

A. Job Classification and Wage Rates

	Basic Hourly Rate	Fringe Benefits
ASBESTOS WORKER		
Journeyman	44.44	31.85
(as of 5/1/16)	47.29	31.85
Handler Level 1	25.65	20.69
Handler Level 2	36.75	20.69
BOILERMAKER	39.06	32.81
BRICKLAYER	38.06	25.35
CARPENTER	42.95	25.79
(as of 5/1/16)	45.20	25.79
CEMENT MASON	34.15	30.51
(as of 5/1/16)	35.85	30.51
(as of 5/1/17)	37.70	30.51
DRY WALL FINISHER	36.36	25.90
ELECTRICIAN	52.68	34.06
(as of 5/02/16)	54.52	35.22
ELEVATOR CONSTRUCTOR	51.01	28.685

FOOTNOTES FOR ELEVATOR MECHANICS:

- A. PAID VACATION: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% for 6 months to 5 years of service.**
- B. Eight Paid Holidays (provided employee has worked 5 consecutive days before and the working day after the holiday): New Year's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day and the Friday after Thanksgiving Day, and Christmas Day.**

	Basic Hourly Rate	Fringe Benefits
GLAZIER	40.60	28.70
IRONWORKER		
Structural & Ornamental	44.70	27.25
Reinforcing (Rodsetter)	39.63	26.60
Rigger & Machinery Mover	37.00	25.20
LABORER		
Journeyman Class One	27.00	24.85
(as of 5/1/16)	28.65	24.85
(as of 5/1/17)	30.42	24.85
Journeyman Class Two	27.10	24.85
(as of 5/1/16)	28.75	24.85
(as of 5/1/17)	30.52	24.85
Journeyman Class Three	27.15	24.85
(as of 5/1/16)	28.80	24.85
(as of 5/1/17)	30.57	24.85
Journeyman Class Four	27.30	24.85
(as of 5/1/16)	27.95	24.85
(as of 5/1/17)	30.72	24.85
Journeyman Class Five	27.40	24.85
(as of 5/1/16)	28.05	24.85
(as of 5/1/17)	30.82	24.85
Journeyman Class Six	28.14	24.85
(as of 5/1/16)	28.79	24.85
(as of 5/1/17)	30.56	24.85
Journeyman Class Seven	28.25	24.85
(as of 5/1/16)	29.90	24.85
(as of 5/1/17)	31.67	24.85
Journeyman Class Eight	28.30	24.85
(as of 5/1/16)	29.95	24.85
(as of 5/1/17)	31.72	24.85
Journeyman Class Nine	28.40	24.85
(as of 5/1/16)	30.05	24.85
(as of 5/1/17)	31.82	24.85
Journeyman Class Ten	28.55	24.85
(as of 5/1/16)	30.20	24.85
(as of 5/1/17)	31.97	24.85

	Basic Hourly Rate	Fringe Benefits
Journeyman Class Eleven	28.80	24.85
(as of 5/1/16)	30.45	24.85
(as of 5/1/17)	32.22	24.85
Journeyman Class Twelve	27.52	24.85
(as of 5/1/16)	29.17	24.85
(as of 5/1/17)	30.94	24.85
LABORER: ASBESTOS ABATEMENT, LEAD ABATEMENT, TOXIC WASTE HANDLING, HAZARDOUS WASTE HANDLING		
MASTER ABATEMENT TECHNICIAN	28.30	24.70
LANDSCAPE LABORER		
Class I	19.76	22.18
Class II	19.76	22.18
LATHER	42.95	25.49
(as of 5/1/16)	45.20	25.49
LINE CONSTRUCTION		
Lineman	48.79	20.61
Winch Truck Operator	34.15	16.65
Line Truck Driver	31.71	16.00
Ground hand	29.27	15.34
Watch/Flag Person	20.86	13.09
MARBLE SETTER	38.30	24.72
MARBLE FINISHER	31.98	22.54
MILLWRIGHT	37.26	29.89
PAINTER		
Brush & Roller	35.03	24.50
Spray, Steel, & Swing Bridges	36.63	24.50
Bridges	50.88	24.38
PILEDRIVERMAN	39.65	29.67
(Diver)	47.58	29.67
PLASTERER	36.87	27.83
PLUMBER	47.38	30.60
POINTER, CAULKER, & CLEANER	37.76	24.09

	Basic Hourly Rate	Fringe Benefits
POWER EQUIPMENT OPERATOR		
Group One	42.85	26.56
As of 5/01/16	44.09	26.92
Group One A	45.86	27.44
As of 5/1/16	47.10	27.80
Group Two	42.61	
As of 5/1/16	43.84	26.85
Group Two A	45.61	27.37
As of 5/1/16	46.84	27.74
Group Three	38.53	25.27
As of 5/1/16	39.76	25.64
Group Four	38.23	25.18
As of 5/1/16	39.46	25.25
Group Five	36.50	24.68
As of 5/1/16	37.74	25.04
Group Six	35.51	24.39
As of 5/1/16	36.75	24.75
Group Seven A	51.42	30.87
As of 5/1/16	52.91	31.30
Group Seven B	51.13	30.78
As of 5/1/16	52.61	31.22

*****TOXIC/HAZARDOUS WASTE REMOVAL*****

Add 20 percent to basic hourly rate for all classifications

ROOFER	31.05	28.40
SHEET METAL WORKER	42.95	36.48
(Sign Makers and Hangers)	24.02	18.12
SOFT FLOOR LAYER (Resilient Floor)	41.51	26.11
SPRINKLER FITTER	51.35	23.87
STEAM FITTER	51.08	30.38
(as of 5/1/16)	53.93	30.38
STONE MASON	38.13	24.72
Surveying and Layout		
(Chief of Party)	49.58	25.59
(as of 5/1/16)	51.42	25.59

	Basic Hourly Rate	Fringe Benefits
(Instrument Person)	43.11	25.59
(as of 5/1/16)	44.71	25.59
(Rodman)	34.49	20.16
(as of 5/1/16)	35.77	20.16
TERRAZZO MECHANIC	39.48	24.72
TERRAZZO FINISHER (Grinder)	36.24	21.82
TERRAZZO FINISHER (Finisher)	35.97	21.82
TILE SETTER	40.21	23.77
TILE FINISHER	32.54	23.18
TRUCK DRIVER		
Journeyman Class I	28.1225	14.8225
Journeyman Class II	28.1225	14.8225
Journeyman Class III		
And Low Boy	28.6225	14.8225
WALL COVERER	36.41	24.50
WELDER - Rate for craft to which, welding work is incidental.		

B. Job Classification Definitions: Building Construction,

1. Laborer Classifications:

Class One: Strip concrete, dismantle concrete, load, unload, handle and/or transport reinforced steel and steel mesh, carry lumber, handle miscellaneous building materials operate jack hammers, use paving breakers and other pneumatic tools, build scaffolds, perform raking, handle asphalt, perform spading and concrete pit work, perform grading, perform form pinning or shorting, perform demolition work with exception of burners, lay conduits, lay ducts, perform sheathing or lagging, lay non-metallic pipe, perform caulking.

Class Two: Mason Tender, Power Buggies, Burners on Demolition.

Class Three: Wagon drill operator (single)

Class Four: Powderman, wagon drill operator (multiple), perform circular caissons excavations, caisson groundman, perform underpinning excavation, perform laborers' work at depth of eight (8) feet or below.

- Class Five:** Caisson bottom worker.
- Class Six:** Yard worker.
- Class Seven:** Trackmen, Brakemen, Groutmen, Bottom Shaft Men, all Other Men in Free Air Tunnels.
- Class Eight:** Caisson Foreman
- Class Nine:** Miner Helper, Form Setters.
- Class Ten:** Miners Bore Driver, Blasters, Drillers, Pneumatic Shield Operator.
- Class Eleven:** Welders & Burners.

Landscape Laborers:

- Class I:** Landscape laborer
- Class II:** Farm tractor driver, hydro seeder, mulched nozzle worker, backhoe operator, bulldozer crawler type loader, tree crane operator.

Laborer - Lather and Plasterer: Wheel and/or hod carry any lather and plaster materials used by lathering and plastering contractors' build scaffolds; build runways; perform clean-up and removal of debris as covered by lathering and plastering contractor's contract; deliver any material used by lathering and plastering contractor, from curbside to building and back, unless motor vehicles are permitted to enter building with required materials; all mortar designated for use by plasterer shall be carried via wheel barrow or hod; all plastering and fire proofing machines, as well as guns and mixers requiring the assistance of a worker other than plasterer operator, shall be manned by helper (tender).

2. Truck driver classifications:

- Class I:** Helper, stake body truck operator (single axle, dumpster).
- Class II:** Dump truck operator, tandem truck operator, batch truck operator, semi-trailer truck operator, agitator-mixer truck operator, dump Crete type vehicle operator, asphalt distributor, farm tractor operator (when tractor used to transport materials), stake body truck (tandem) operator.
- Class III:** Euclid type; off highway equipment back truck operator; belly dump truck operator; double-hitched equipment trailer operator; straddle carrier (Ross) operator; low- bed trailer truck operator.

3. Power Equipment Operator Classifications - Building

Group One:

Handling steel and stone in connection with erection Cranes doing hook work

Any machines handling machinery

Cable spinning machine

Helicopters

Concrete Pumps (building)

Machines similar to above, including remote control equipment

Group One A:

Handling steel and stone in connection with erection. Cranes doing hook work

Any machines handling machinery

Concrete Pumps (Building)

High Rail/Burro Crane

Rail Loader (Winch Boom Type)

All equipment in this group which previously received the hour in lieu of an oiler will receive

Wage Group I (A). Equipment in this Wage Group that does not require an oiler.

Machines similar to above, including remote control equipment

Group Two:

All types of cranes

All types of backhoes

Cableways

Draglines

Keystones

All types of shovels

Derricks

Pavers 21E and over

Trenching machines

Trench shovels

Gradalls

Front- end Loaders

Boat Captain

Hoist with Two Towers

Building Hoists-double drum (unless used as a single drum)

Pippin type backhoes
Tandem scrapers
Tower type crane operation erecting dismantling jumping or jacking
Drills self-contained (Drillmaster type)
Fork lift (20ft. and over)
Motor Patrols (fine grade)
Batch Plant with Mixer
Carryalls, Scrapers, Tournapulls
Roller (High Grade Finishing)
Spreaders (Asphalt)
Bulldozers and Tractors
Mechanic-Welder
Conveyor Loaders (Euclid-Type Wheel)
Concrete Pumps (Heavy Highway)
Milling Machine
Bobcat
Side Boom
Directional Boring Machines
Vermeer Saw Type Machine (other than hand held)
Tractor Mounted Hydro Axe
Chipper with boom
All Autograde and concrete finishing machines
Bundle Pullers/Extractors (Tubular)

Machines similar to the above including remote control equipment

*Surcharge

Group Two (A):

Crawler backhoes and Crawler gradalls over one (1) cubic yard factory rating
Hydraulic backhoes over one (1) cubic yard factory rating
Single person operation truck cranes 15 ton and over factory rating
Cherry picker type machinery and equipment 15 ton and over factory rating, etc. Cranes doing hook work will be paid Wage Group I (A).
All equipment in this Group which previously received the hour in lieu of an oiler will receive Wage Group II (A) including concrete pumps (Heavy/Highway).

Machines similar to the above including remote control equipment

*Surcharge

Group Three:

Asphalt Plant Engineers
Conveyors (except building conveyors)
Well Drillers
Forklift Trucks of all types
Ditch Witch (small trenchers)
Motor Patrols
Fine Grade machines
Rollers
Concrete Breaking Machines (Guillotine Only)
Stump Grinder
High or Low Pressure Boilers
Building Hoist (single drum)
Elevator Operator (New Construction)

Machines similar to above including remote control equipment

Group Four:

Seamen Pulverizing Mixer
Form Line Graders
Farm Tractors
Road Finishing Machines
Concrete Spreaders (Heavy Highway)
Power Broom (self-contained)
Seed Spreader
Grease Truck

Machines similar to the above including remote control equipment

Group Five:

Compressors
Pumps
Well pint pumps
Conveyors (Building)
Welding Machines
Heaters
Tireman, Power Equipment
Maintenance Engineers (Power Boats)
Miscellaneous Equipment
Operator
Elevator Operator (Renovations)
House Car
Machines similar to above including remote control equipment

Group Six:

Fireman
Oilers and Deck Hands (Personnel Boats)/Grease Truck Helpers
*Surcharge

Group Seven (A):

Handling steel and stone in connection with erection
Cranes doing hook work
Any machines handling machinery
Cable spinning machine
Helicopters
Concrete pumps (Building)
High Rail/Burro Crane
Rail Loader (Winch Boom Type)
Machines similar to above, including remote control equipment

Group Seven B:

All types of cranes
All types of backhoes
Cableways
Conveyor Loader (Euclid-Type Wheel)
Drag Lines
Keystones
All types of shovels
Derricks
Pavers 21E and over
Trench shovels
Trenching machines
Gradalls
Front-end Loaders
Boat Captain
Hoist with two towers
Concrete Pumps (Heavy, Highway)
Building Hoists-double drum (unless used as a single drum)
Milling Machine
Mucking Machines in Tunnel
Pippin type backhoes
Bobcat
Tandem scrapers
Side Boom
Tower type crane-operation, erecting, dismantling, jumping or jacking
Directional Boring Machines
Vermeer Saw Type Machine (other than hand held)
Drills self-contained (Drillmaster type)
Fork Lift (20 ft & over)

Track or Mounted Hydro Axe
 Motor Patrols (Fine Grade)
 Chipper with boom
 Batch Plant with Mixer
 All autograde and concrete finishing machines
 Carryalls, Scapers & Tournapulls
 Rollers (High Grade Finishing)
 Bundle Pullers/Extractors (Tubular)
 Spreaders (Asphalt)
 Bulldozers and Tractors
 Mechanic – Welders
 Production Switch Tamper
 Ballast Regulators
 Tie Replacer
 Rail/Road Loader
 Power Jack liner
 Machines similar to above, including remote control equipment

II. HEAVY AND HIGHWAY CONSTRUCTION

A. JOB CLASSIFICATION AND WAGE RATES

	Basic Hourly Rate	Fringe Benefits
BOILERMAKER	39.06	32.81
CARPENTER	43.11	25.59
(as of 5/1/16)	44.71	25.59
CEMENT MASON	32.55	30.26
(as of 5/01/16)	34.05	30.26
ELECTRICIAN	52.68	34.06
(as of 5/02/16)	54.52	35.22
IRONWORKERS		
Rigger & Machinery Mover	37.00	25.20
Structural & Ornamental	44.70	27.25
Reinforcing Steel Mesh, Rebar Work	39.63	26.60
LABORERS		
Group One	27.30	25.35
Group Two	27.55	25.35
Group Three	27.55	25.35
Group Four	22.15	25.35
Group Five	28.20	25.35
Group Six	28.25	25.35
Group Seven	28.10	25.35
Group Eight	27.40	25.35

	Basic Hourly Rate	Fringe Benefits
Group Nine	27.70	25.35
Group Ten	27.85	25.35
Group Eleven	27.75	25.35
Group Twelve	29.45	25.35
Group Thirteen	31.48	25.35
Group Fourteen	27.50	25.35
LANDSCAPING LABORER		
Class I	19.89	21.45
Class II	19.89	21.45
LINE CONSTRUCTION		
Lineman	48.79	20.61
Winch Truck Operator	34.15	16.65
Truck Driver	31.71	16.00
Groundman	29.27	15.34
Watch/Flag Person	20.86	13.09
MILLWRIGHT	38.21	28.74
PAINTERS		
Brush & Roller	36.03	24.50
Spray, Steel & Swing	37.28	24.50
Bridges	50.88	24.38
POWER EQUIPMENT OPERATOR		
Group One	42.85	26.56
As of 5/01/16	44.09	26.92
Group One A	45.86	27.44
As of 5/1/16	47.10	27.80
Group Two	42.61	26.48
As of 5/01/16	43.84	26.85
Group Two A	45.61	27.37
As of 5/01/16	46.84	27.74
Group Three	38.53	25.27
As of 5/1/16	39.76	25.64
Group Four	38.23	25.18
As of 5/1/16	39.46	25.25
Group Five	36.50	24.68
As of 5/1/16	37.74	25.04
Group Six	35.51	24.39
As of 5/1/16	36.75	24.75
Group Seven A	51.42	30.87
As of 5/1/16	52.91	31.30
Group Seven B	51.13	30.78
As of 5/1/16	52.61	31.22

*****TOXIC/HAZARDOUS WASTE REMOVAL*****
Add 20 percent to basic hourly rate for all classifications

	Basic Hourly Rate	Fringe Benefits
PILED RIVERMAN	39.65	29.67
(Diver)	47.58	29.67
STEAM FITTER	51.08	30.38
(as of 5/1/16)	55.18	29.13
STONE MASON	38.13	24.72
Surveying and Layout		
(Chief of Party)	49.58	25.59
(as of 5/1/16)	51.42	25.59
(Instrument Person)	43.11	25.59
(as of 5/1/16)	44.71	25.59
(Rodman)	34.49	20.16
(as of 5/1/16)	35.77	20.16
TRUCK DRIVER Class I		
Class I	28.1225	14.8225
Class II	28.1225	14.8225
Class III	28.6225	14.8225

B. Job Classification Definitions: Heavy and Highway Construction

1. Laborer Classifications:

- Group One:** Yard workers: (laborer, scale mixerman, burnerman, dustman, feeder)
- Group Two:** General laborer; Asphalt Shovelers; Sheeting, Shoring & Lagging – Laborer; Stone, Granite & Artificial Stone Setting Laborer; Hod Carriers; Scaffold Building; Relief Joint & Approach Slabs; Assembling & Placing Gabions; Pneumatic Tool Laborers; Concrete Forms & Stripping Laborers; Concrete Lumber Material Laborers; Steel & Steel Mesh (carrying & handling); Form Pinner; Mortar Mixers; Pouring & Placing Concrete; Grade Men
- Group Three:** Vibrator Laborers; Finish Surface Asphalt Racker; Jackhammer Operators; Paving Breaker Operator; Pipelayer & Caulker (all joints up to within 5 feet of the Building Foundation Line); Conduit & Duct Layers

- Group Four:** Flagperson
Group Five: Miners
Group Six: Welders and Burners.
Group Seven: Miner Bore Driver; Blasters; Drillers Pneumatic
Shield Operator
Group Eight: Form Setters
Group Nine: Trackmen; Brackmen; Groutmen; Bottom
Shaft Men; All other Laborers in Free Air
Tunnels; Underpinning (When an
underpinning excavation for a pier hole of five
feet square or less and eight feet or more deep
is dug, the rate shall apply only after a depth
of eight feet is reached, to the men working in
the bottom)
Group Ten: Circular Caissons (Where an excavation for
circular caissons are dug eight feet or more
below the natural grade level adjacent to the
starting point of the caisson hole, at ground
level, for the men working in the bottom);
Welders, Burners & Air Tuggers
Group Eleven: Powdermen; Multiple Wagon Drill Operator
Laborer
Group Twelve: Caisson Laborer Foreman
Group Thirteen: Toxic/Hazardous waste Handler
Group Fourteen: Wagon Drill/Hydraulic Track Drill Operator
Laborer
- Landscape Laborers:**
Class I: Landscape laborer
Class II: Farm tractor driver, hydroseeder, mulcher nozzle
worker, backhoe operator, bulldozer crawler type
loader, tree crane operator.

2. Power Equipment Operator Classifications - Heavy, & Highway

Group One:

Handling steel and stone in connection with erection Cranes doing hook
work
Any machines handling machinery
Cable spinning machine
Helicopters
Concrete Pumps (building)
Machines similar to above including remote control equipment

Group One A:

Handling steel and stone in connection with erection.
Cranes doing hook work
Any machines handling machinery
Concrete Pumps (Building)
High Rail/Burro Crane
Rail Loader (Winch Boom Type)
All equipment in this group which previously received the hour in lieu of an oiler will receive
Wage Group I (A). Equipment in this Wage Group that does not require an oiler.

Machines similar to above, including remote control equipment

Group Two:

All types of cranes
All types of backhoes
Draglines
Keystones
All types of shovels
Derricks
Pavers 21E and over
Trenching machines
Trench shovels
Gradalls
Front- end Loaders
Boat Captain
Hoist with Two Towers
Building Hoists-double drum (unless used as a single drum)
Pippin type backhoes
Tandem scrapers
Tower type crane operation erecting dismantling jumping or jacking
Drills self-contained (Drillmaster type)
Fork lift (20ft. and over)
Motor Patrols (fine grade)
Batch Plant with Mixer Carryalls, Scrapers, Tournapulls
Roller (High Grade Finishing)
Spreaders (Asphalt)
Bulldozers and Tractors
Mechanic-Welder
Conveyor Loaders (Euclid-Type Wheel)
Concrete Pumps (Heavy Highway)
Milling Machine

Bobcat
Side Boom
Directional Boring Machines
Vermeer Saw Type Machine (other than hand held)
Tractor Mounted Hydro Axe
Chipper with boom
All Autograde and concrete finishing machines
Bundle Pullers/Extractors (Tubular)
Machines similar to the above including remote control equipment

Group Two A:

Crawler backhoes and Crawler gradalls over one (1) cubic yard factory rating
Hydraulic backhoes over one (1) cubic yard factory rating
Single person operation truck cranes 15 ton and over factory rating
Cherry picker type machinery and equipment 15 ton and over factory rating, etc.
Cranes doing hook work will be paid Wage Group I (A).
All equipment in this Group which previously received the hour in lieu of an oiler will receive Wage Group II (A) including concrete pumps (Heavy/Highway).

Machines similar to the above including remote control equipment

Group Three:

Asphalt Plant Engineers
Conveyors (except building conveyors)
Well Drillers
Forklift Trucks of all types
Ditch Witch (small trenchers)
Motor Patrols
Fine Grade machines
Rollers
Concrete Breaking Machines (Guillotine Only)
Stump Grinder
High or Low Pressure Boilers
Building Hoist (single drum)
Elevator Operator (New Construction)
Machines similar to above including remote control equipment

Group Four:

Seamen Pulverizing Mixer
Form Line Graders
Farm Tractors
Road Finishing Machines
Concrete Spreaders (Heavy Highway)
Power Broom (self-contained)
Seed Spreader
Grease Truck

Machines similar to the above including remote control equipment

Group Five:

Compressors
Pumps
Well pint pumps
Conveyors (Building)
Welding Machines
Heaters
Tireman, Power Equipment
Maintenance Engineers (Power Boats)
Miscellaneous Equipment
Operator
Elevator Operator (Renovations)
House Car

Machines similar to above including remote control equipment

Group Six:

Fireman
Oilers and Deck Hands (Personnel Boats)
Grease Truck Helpers

Group Seven A:

Handling steel and stone in connection with erection
Cranes doing hook work
Any machines handling machinery
Cable spinning machine
Helicopters
Concrete pumps (Building)
High Rail/Burro Crane
Rail Loader (Winch Boom Type)

Machines similar to above, including remote control equipment

Group Seven B:

All types of cranes
All types of backhoes
Cableways
Conveyor Loader (Euclid-Type Wheel)
Drag Lines
Keystones
All types of shovels
Derricks
Pavers 21E and over
Trench shovels
Trenching machines
Gradalls
Front-end Loaders
Boat Captain
Hoist with two towers
Concrete Pumps (Heavy, Highway)
Building Hoists-double drum (unless used as a single drum)
Milling Machine
Mucking Machines in Tunnel
Pippin type backhoes
Bobcat
Tandem scrapers
Side Boom
Tower type crane operation, erecting, dismantling,
Jumping or jacking
Directional Boring Machines
Vermeer Saw Type Machine (other than hand held)
Drills self-contained (Drillmaster type)
Fork Lift (20 ft & over)
Tractor Mounted Hydro Axe
Motor Patrols (Fine Grade)
Chipper with boom
Batch Plant with Mixer
All autograde and concrete finishing machines
Caryalls, Scapers & Tournapulls
Rollers (High Grade Finishing)
Bundle Pullers/Extractors (Tubular)
Spreaders (Asphalt)

Group Seven B (cont'd)

Bulldozers and Tractors
Mechanic – Welders
Production Switch Tamper
Ballast Regulators
Tie Replacer
Rail/Road Loader
Power Jack liner

Machines similar to above, including remote control equipment

*Surcharge

3. Truck Driver Classifications:

Class I: Helper, stake body truck operator (single axle, dumpster)

Class II: Dump truck operator, tandem truck operator, batch truck operator, semi-trailer truck operator, agitator-mixer truck operator, dumpcrete type vehicle operator, asphalt distributor, farm tractor operator (when used to transport materials), stake body truck (tandem) operator.

Class III: Euclid type, off highway equipment back truck operator, belly dump truck operator, double-hitched equipment trailer operator, straddle carrier (Ross) operator; lowbed trailer truck operator.

NOTE:

1. Contractors are advised to contact the Philadelphia Labor Standards Unit with any questions regarding job classification, prevailing wage rates, and fringe benefits.
2. Prior to employing apprentices on a public works project, the contractor is required to provide written evidence of employee's registration with a statewide training program recognized by the U.S. Bureau of Apprenticeship and Training (BAT). Contractors shall forward proper documentation for each bona fide apprentice to:

**Philadelphia Labor Standards Unit
Municipal Services Building
1401 John F. Kennedy Boulevard – 1st Floor, Room 170C
Philadelphia, PA 19102-1670
Telephone Number: (215) 686-2132
Fax Number: (215) 686-2116**

EXHIBIT C – SCHEDULE DETAILS

SCHEDULE A – ESCALATOR/ELEVATOR/MOVING WALKWAYS

OVERALL EQUIPMENT

	EXISTING	FUTURE
A-EAST TERMINAL	8 ESCALATORS	
	24 ELEVATORS	
	1 MOVING WALKWAYS	
B TERMINAL:	5 ESCALATORS	
	15 ELEVATORS	
	4 MOVING WALKWAYS	
C TERMINAL:	9 ESCALATORS	
	8 ELEVATORS	
	6 MOVING WALKWAYS	
D TERMINAL:	7 ESCALATORS	
	9 ELEVATORS	
	2 MOVING WALKWAYS	
E TERMINAL:	6 ESCALATORS	
	8 ELEVATORS	
	2 MOVING WALKWAYS	
F TERMINAL:	5 ELEVATORS	
	2 ESCALATORS	
A/B LINK:	4 MOVING WALKWAYS	
A-WEST TERMINAL:	20 ELEVATORS	
	17 ESCALATORS	
	7 MOVING WALKWAYS	
RAMP CONTROL TOWER	1 ELEVATOR	
TOTAL UNITS:	170 EXISTING UNITS	0 FUTURE UNITS

ESCALATORS

MFGR.	NO.	TYPE	RISE	F/M	SERVICE LEVEL
TERMINAL A-EAST ESCALATORS					
MECO	AE-17E	40" ESCAL	20'-11"	90	G TO T
MECO	AE-18E	40" ESCAL	20'-11"	90	G TO T
MECO	AE-19E	24" ESCAL	20'-11"	90	G TO T
MECO	AE-20E	40" ESCAL	20'-11"	90	G TO T
MECO	AE-21E	40" ESCAL	20'-11"	90	G TO T
MECO	AE-22E	40" ESCAL	20'-11"	90	G TO T
MECO	AE-29E	40" ESCAL	13'-8"	100	G TO T
MECO	AE-30E	40" ESCAL	13'-8"	100	G TO T
TERMINAL A-WEST ESCALATORS					
KONE	AW-23E	32" ESCAL	16'-0"	100	2 ND TO 3 RD
KONE	AW-24E	32" ESCAL	16'-0"	100	2 ND TO 3 RD
KONE	AW-25E	32" ESCAL	16'-0"	100	2 ND TO 3 RD
KONE	AW-26E	32" ESCAL	16'-0"	100	2 ND TO 3 RD
KONE	AW-27E	32" ESCAL	16'-0"	100	2 ND TO 3 RD
KONE	AW-28E	40" ESCAL	15'-0"	100	GRND TO 2 ND
KONE	AW-29E	40" ESCAL	15'-0"	100	GRND TO 2 ND
KONE	AW-30E	32" ESCAL	22'-8"	100	2 ND TO 3 RD
KONE	AW-31E	32" ESCAL	41'-2"	100	2 ND TO MEZZ
KONE	AW-32E	32" ESCAL	41'-2"	100	2 ND TO MEZZ
KONE	AW-33E	32" ESCAL	22'-8"	100	2 ND TO 3 RD
KONE	AW-34E	40" ESCAL	15'-0"	100	GRND TO 2 ND
KONE	AW-35E	40" ESCAL	15'-0"	100	GRND TO 2 ND
KONE	AW-36E	40" ESCAL	20'-11"	100	2 ND TO 3 RD
KONE	AW-37E	40" ESCAL	20'-11"	100	2 ND TO 3 RD
KONE	AW-38E	40" ESCAL	20'-11"	100	1 ST TO 2 ND
KONE	AW-39E	40" ESCAL	20'-11"	100	1 ST TO 2 ND
KONE	AE-34E	32" ESCAL	28'-4"	100	1 ST TO 3 RD
KONE	AE-35E	32" ESCAL	28'-4"	100	1 ST TO 3 RD
TERMINAL B ESCALATORS					
MECO	B1E	40" ESCAL	21'-6"	90	G TO T
MECO	B2E	40" ESCAL	21'-6"	90	G TO T
MECO	B4E	24" ESCAL	21'-6"	90	G TO T
MECO	B23E	40" ESCAL	17'-4"	90	G TO T
MECO	B24E	40" ESCAL	17'-4"	90	G TO T
TERMINAL C ESCALATORS					
MECO	C1E	40" ESCAL	20'-0"	90	G TO T
MECO	C2E	40" ESCAL	20'-0"	90	G TO T
WEST.	C4E	24" ESCAL	20'-6"	90	G TO T
MECO	C21E	40" ESCAL	16'-10"	90	G TO T
MECO	C22E	40" ESCAL	16'-10"	90	G TO T

MFGR.	NO.	TYPE	RISE	F/M	SERVICE LEVEL
MECO	C23E	40" ESCAL	17'	90	T TO 3 RD
MECO	C24E	40" ESCAL	17'	90	T TO 3 RD
MECO	C26E	40" ESCAL	17'-2"	90	G TO T
MECO	C27E	40" ESCAL	17'-2"	90	G TO T
TERMINAL D ESCALATORS					
MECO	D1E	40" ESCAL	20'-6"	90	G TO T
MECO	D2E	40" ESCAL	20'-6"	90	G TO T
MECO	D3E	24" ESCAL	20'-6"	90	G TO T
MECO	D4E	24" ESCAL	20'-6"	90	G TO T
MECO/OTIS	D11E	24" ESCAL	13'-6"	90	G TO T
THYSSEN KRUPP	D16E				G TO T
THYSSEN KRUPP	D17E				G TO T
TERMINAL E ESCALATORS					
MECO	E-1E	40" ESCAL	20'-0"	90	G TO T
MECO	E-2E	40" ESCAL	20'-0"	90	G TO T
MECO	E-3E	24" ESCAL	20'-6"	90	G TO T
MECO	E-4E	24" ESCAL	20'-6"	90	G TO T
THYSSEN KRUPP	E-19E	40" ESCAL	18'-0"	90	G TO T
THYSSEN KRUPP	E-20E	40" ESCAL	18'-0"	90	G TO T
TERMINAL F ESCALATORS					
KONE	F-6E	40" ESCAL	18'-0"	100	1 ST TO 2 ND
KONE	F-7E	40" ESCAL	18'-0"	100	1 ST TO 2 ND
A/B LINK ESCALATORS					
KONE	AE-33P	PASSENGER- HOLELESS HYDRAULIC	3500	100	2/2 (F)

ELEVATORS

MFGR.	NO.	TYPE	CAP LBS.	F/M	STOPS/ OPENINGS
TERMINAL A-EAST ELEVATORS					
MECO	AE-1PK	OH GEARED TRACTION	4000	350	6/6 (F)
MECO	AE-2PK	OH GEARED TRACTION	4000	350	6/6 (F)
MECO	AE-3PK	OH GEARED TRACTION	4000	350	6/6 (F)
MECO	AE-4P	HYDRO	2500	125	2/2 (F)
MECO	AE-5P	HYDRO	2500	125	2/2 (F&R)
MECO	AE-6P	HYDRO	2500	125	2/2 (F&R)
MECO	AE-7F	HYDRO	3000	125	2/2 (F)
MECO	AE-8P	HYDRO	2500	125	2/2 (F&R)
MECO	AE-9P	HYDRO	3000	125	2/2 (F&R)
MECO	AE-10P	HYDRO	2500	125	2/2 (F)
MECO	AE-11P	HYDRO	2500	125	2/2 (F&R)
MECO	AE-12P	HYDRO	2500	125	2/2 (F&R)
MECO	AE-13S	HYDRO	4000	125	2/2 (F)
MECO	AE-14P	HYDRO	2500	125	2/2 (F&R)
MECO	AE-15F	HYDRO BAGGAGE LIFT	2500	125	2/2 (F)
MECO	AE25P	HYDRO	2500	125	2/2 (F)
MECO	AE26P	HYDRO	2500	125	2/2 (F)
KONE	AE-32P	PASSENGER – IN GROUND HYDRAUL.	3500	125	2/2
KONE	AE-33P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AE-34E	32" ESCAL	28'-4"	100	1 ST TO 3 RD
KONE	AE-35E	32" ESCAL	28'-4"	100	1 ST TO 3 RD
KONE	AE-36E	40" ESCAL	19'-3"	100	G TO F
KONE	AE-37E	40" ESCAL	19'-3"	100	G TO F
KONE	AE-40P	PASSENGER – IN GROUND HYDRAULIC	3500	125	2/2
TERMINAL A-WEST ELEVATORS					
KONE	AW-1P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AW-2P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AW-3P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AW-4P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AW-5F	SERVICE IN GROUND HYDRAULIC	8000	100	2/2 (F&R)
KONE	AW-6P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)

MFGR.	NO.	TYPE	CAP LBS.	F/M	STOPS/ OPENINGS
KONE	AW-7F	SERVICE IN GROUND HYDRAULIC	8000	125	4/4 (F&R)
KONE	AW-9P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AW-10P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AW-11P	PASSENGER-TRACTION	3500	350	2/2
KONE	AW-12P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AW-13P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AW-14F	SERVICE IN GROUND HYDRAULIC	8000	125	4/4
KONE	AW-15F	SERVICE IN GROUND HYDRAULIC	8000	125	4/4
KONE	AW-18P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
KONE	AW-19PK	PASSENGER TRACTION	8000	200	7/7 (F)
KONE	AW-20PK	PASSENGER TRACTION	8000	200	7/7 (F)
KONE	AW-21PK	PASSENGER TRACTION	8000	200	7/7 (F)
KONE	AW-22PK	PASSENGER TRACTION	8000	200	7/7 (F)
KONE	AW-24	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
TERMINAL B ELEVATORS					
MECO	B1PK	OH GEARED TRACTION	4000	350	6/6 (F)
MECO	B2PK	OH GEARED TRACTION	4000	350	6/6 (F)
MECO	B3PK	OH GEARED TRACTION	4000	350	6/6 (F)
MECO	B4PK	OH GEARED TRACTION	4000	350	6/6 (F)
MECO	B7P	HYDRO	2500	125	2/2 (F&R)
MECO	B9P	HYDRO	2500	125	2/2 (F&R)
MECO	B11F	HYDRO	3000	75	4/4 (F)
SECURITY	B12P	HYDRAULIC	2500	125	3/2 (F&R)
MECO	B15P	HYDRO	2500	125	2/2 (F)
MECO	B20S	HYDRO	5,000	100	2/2 (F&R)
MECO	B21F	HYDRO	10,000	60	2/2
MECO	B22P	HYDRO	2500	125	
MECO	B25HP	HOLELESS HYDRAULIC	2500	125	2/2 (F&R)
MECO	B26HP	HOLELESS HYDRAULIC	2500	125	2/2 (F&R)
SECURITY	B-27P	HYDRO	6000	125	3/3 (F&R)
TERMINAL C ELEVATORS					
MECO	C5PK	OH GEARED TRACTION	2500	350	6/6 (F)
MECO	C6PK	OH GEARED TRACTION	2500	350	6/6 (F)
MECO	C7PK	OH GEARED TRACTION	2500	350	6/6 (F)
MECO	C7P	HYDRO	2500	125	2/2 (F&R)
MECO	C9P	HYDRO	2500	125	2/2 (F&R)

MFGR.	NO.	TYPE	CAP LBS.	F/M	STOPS/ OPENINGS
MECO	C20P	HYDRO	2500	125	2/2 (F)
OTIS	C23P	HYDRO	2500	100	3/3 (F&R)
MECO	C25P	HYDRO	2500	125	
TERMINAL D ELEVATORS					
MECO	D8PK	OH GEARED TRACTION	2500	125	6/6 (F)
MECO	D9PK	OH GEARED TRACTION	2500	125	6/6 (F)
MECO	D10PK	OH GEARED TRACTION	2500	125	6/6 (F)
WEST.	D7P	HYDRO	2500	125	2/2 (F&R)
DOVER	D8P	HYDRO	2500	125	2/2 (F&R)
SECURITY	D9P	HYDRO	2500	125	2/2 (F&R)
WEST.	D10P	HYDRO	3000	125	2/2 (F)
MECO	D12F	OH GEARED TRACTION	4000	200	2/2 (F)
DOVER	D15S	HYDRO	6000	100	2/2(F)
THYSSEN KRUPP	D22P				
THYSSEN KRUPP	D23P				
THYSSEN KRUPP	D18P				
TERMINAL E ELEVATORS					
FUJITECH	E1-PK	TRACTION	3500	350	8/8 (F)
FUJITECH	E2-PK	TRACTION	3500	350	8/8 (F)
FUJITECH	E3-PK	TRACTION	3500	350	8/8 (F)
FUJITECH	E4-PK	TRACTION	3500	350	8/8 (F)
WEST./THYSSEN KRUPP	E1-P	HYDRO	2000	125	2/2 (F)
MECO	E7-P	HYDRO	2500	125	2/2 (F&R)
MECO	E8-P	HYDRO	2500	125	2/2 (F&R)
MECO	E9-P	HYDRO	2500	125	2/2 (F&R)
MECO	E10-P	HYDRO	3000	125	2/2 (F)
MECO	E11-P	HYDRO	3000	125	2/2 (F)
MECO	E12-P	HYDRO	3000	125	2/2 (F)
MECO	E13-P	HYDRO	2500	100	2/2
WEST.	E30-S	HYDRO	3000	125	2/2 (F)
THYSSEN KRUPP	E17P		4500		
THYSSEN KRUPP	E18P		4000		
THYSSEN KRUPP	E21P				
THYSSEN KRUPP	BAGGAGE CLAIM(DB1)		4000		
TERMINAL F ELEVATORS					
KONE	F-1P	ECOSYSTEM "MONOSPACE"	2500	200	4/4 (F)
KONE	F-2P	IN GROUND HYDRAULIC	2500	100	2/2 (F)
KONE	F-3P	IN GROUND HYDRAULIC	4000	80	2/2 (F&R)
KONE	F-4S	IN GROUND HYDRAULIC	4000	125	3/3 (F&R)
KONE	F-5P	IN GROUND HYDRAULIC	2500	100	2/2 (F)
FUJITECH	E-5PK	TRACTION	3500	350	7/7

MFGR.	NO.	TYPE	CAP LBS.	F/M	STOPS/ OPENINGS
FUJITECH	E-6PK	TRACTION	3500	350	7/7
A/B LINK ELEVATORS					
KONE	AE-33P	PASSENGER-HOLELESS HYDRAULIC	3500	100	2/2 (F)
RAMP CONTROL TOWER ELEVATORS					
THYSSEN KRUPP/ SECURITY	A-B TOWER	PASSENGER TRACTION	4000	350	6/6

MOVING WALKWAYS

MFGR.	NO.	TYPE	RISE	F/M	LEVEL
TERMINAL A-EAST MOVING WALKWAYS					
MECO	AE-24	40" MOVING WALKWAY	150'-0"	110	G
TERMINAL A-WEST MOVING WALKWAYS					
KONE	AW-40W	48" WALK	318'-0"	120	2 ND
KONE	AW-41W	48" WALK	318'-0"	120	2 ND
KONE	AW-42W	48" WALK	140'-0"	120	3 RD
KONE	AW-43W	48" WALK	270'-0"	120	3 RD
KONE	AW-44W	48" WALK	200'-0"	120	3 RD
KONE	AW-45W	48" WALK	140'-0"	120	3 RD
KONE	AW-46W	48" WALK	225'-0"	120	3 RD
TERMINAL B MOVING WALKWAYS					
MECO	B16W	40" MOVING WALKWAY	188'-0"	120	T
MECO	B17W	40" MOVING WALKWAY	188'-0"	120	T
MECO	B18W	40" MOVING WALKWAY	212'	120	T
MECO	B19W	40" MOVING WALKWAY	212'	120	T
TERMINAL C MOVING WALKWAYS					
MECO	C16W	40" MOVING WALKWAY	210'-0"	110	T
MECO	C17W	40" MOVING WALKWAY	210'-0"	110	T
MECO	C18W	40" MOVING WALKWAY	248'	110	T
MECO	C19W	40" MOVING WALKWAY	248'	110	T
MECO	C28W	40" MOVING WALKWAY	364'	110	T
MECO	C29W	40" MOVING WALKWAY	364'	110	T
TERMINAL D MOVING WALKWAYS					
MECO	D-13W	40" MOVING WALKWAY	284'-0"	110	T
MECO	D-14W	40" MOVING WALKWAY	284'-0"	110	T
TERMINAL E MOVING WALKWAYS					
MECO	E-15W	40" MOVING WALKWAY	300'	110	T
MECO	E-16W	40" MOVING WALKWAY	300'	110	T
A/B LINK MOVING WALKWAYS					
MECO	A/B-25W	40" MOVING WALKWAY	150'	110	T
MECO	A/B-26W	40" MOVING WALKWAY	150'	110	T
KONE	AB-38W	48" WALK	144'-8"	120	2
KONE	AB-39W	48" WALK	144'-8"	120	2

SCHEDULE F – FIRE PROTECTION SYSTEMS

BACKFLOW PREVENTER SCHEDULE

BUILDING SERVED	DEVICE NO. (BFP)	SERVICE TYPE		TYPE OF DEVICE		SIZE 6"
		FIRE	DOMESTIC	REDUCED PRESSURE	DOUBLE CHECK	
BAGGAGE CLAIM A-EAST	BFP 1F	•			•	
	BFP#2F	•			•	
	BFP#10		•	•		
TICKETING A-EAST	BFP#3F	•			•	
	BFP#2D		•	•		
CONCOURSE A-EAST	BFP#4F	•			•	
	BFP#5F		•	•		
	BFP#3D	•			•	
BAGGAGE CLAIM B/C	BFP#6F	•				
	BFP#4D		•	•		
	BFP#7F	•			•	
	BFP#8F	•			•	
	BFP#5D		•	•		
TICKETING B/C	BFP#6D	•			•	
	BFP#7D		•	•		
	BFP#9F	•			•	
	BFP#10F	•			•	
BAGGAGE CLAIM D	BFP#11F	•			•	
	BFP#8D		•	•		
TICKETING D	BFP#12F	•			•	
	BFP#9D		•	•		
CONCOURSE D HAMMERHEAD	BFP #16F	•		•		
	BFP #27D		•		•	4"
BAGGAGE CLAIM E	BFP#13F	•			•	
	BFP#10D		•	•		
SATELLITE THERMAL PLANT	BFP#14F	•			•	
	BFP#11D		•	•		
TICKETING E	BFP#15F	•			•	
	BFP#12D		•	•		
CONCOURSE E	BFP#13D		•	•		
TERMINAL F	BFP #17F	•		•		
	BFP #15D		•		•	4"
	BFP #16D		•		•	4"
	BFP #18F	•		•		
	BFP #19F	•		•		
METER PIT NO. 5 (LOCATED IN THE VICINITY OF	BFP#14D		•	•		

BUILDING SERVED	DEVICE NO. (BFP)	SERVICE TYPE		TYPE OF DEVICE		SIZE
		FIRE	DOMESTIC	REDUCED PRESSURE	DOUBLE CHECK	6"
BAGGAGE CLAIM E)						
METER PIT NO. 9 (LOCATED WEST OF BAGGAGE CLAIM A)	BFP#19D	•			•	
METER PIT NO. 8 (LOCATED IN PARKING GARAGE A-B WEST OF MARRIOTT HOTEL)	BFP#20D		•	•		
CENTRAL UTILITIES BUILDING (RAC)	BFP#25D	•			•	
	BFP#26D		•	•		
TERMINAL A-WEST	BFP #20F	•			•	8"
	BFP#21D		•	•		
	BFP#22D		•	•		4"

FIRE PROTECTION SYSTEM ZONE SCHEDULE

LOCATION	SERV SIZE	ZONE	AREA	SQ. FT.	SERV SIZE
				ZONE / AREA	ZONE / AREA
TERMINAL A-WEST GROUND LEVEL SECT 1		100	10210		
		101	20300		
TERMINAL A-WEST GROUND LEVEL SECT 2		102	18780		
		103	18950		
TERMINAL A-WEST GROUND LEVEL SECT 3		104	6740		
		105	2270		
TERMINAL A-WEST GROUND LEVEL SECT 4		106	8200		
		107	15500		
TERMINAL A-WEST GROUND LEVEL SECT 5, 6, 9 & 10		108	39210		
TERMINAL A-WEST GROUND LEVEL SECT 5		109	34930		
		110	1490		
		111	995		
TERMINAL A-WEST GROUND LEVEL SECT 6		112	3720		
TERMINAL A-WEST GROUND LEVEL SECT 7		113	960		
		114	1600		
		115	32060		
TERMINAL A-WEST GROUND LEVEL SECT 8		116	15510		
TERMINAL A-WEST GROUND LEVEL SECT 6, 7, 10 & 11		117	39210		
TERMINAL A-WEST GROUND LEVEL SECT 8		118	1040/1730		
		119	9350		
TERMINAL A-WEST GROUND LEVEL SECT 13		120	10050		
TERMINAL A-WEST GROUND LEVEL SECT 11, 12 & 13		121	49010		
TERMINAL A-WEST GROUND LEVEL SECT 9, 10, 11 & 12		122	50760		
TERMINAL A-WEST, GARAGE CORE LEVEL "A"		123	3700		
TERMINAL A-WEST SECOND AND THIRD LEVEL SECT 1		200	3860/27215		
		201	7115		

LOCATION	SERV SIZE	ZONE	AREA	SQ. FT.		SERV SIZE	
				ZONE / AREA		ZONE / AREA	
TERMINAL A-WEST THIRD LEVEL SECT 1 & 2		202	3930				
TERMINAL A-WEST THIRD LEVEL SECT 2		203	5360				
		204	3890				
		205	5860				
TERMINAL A-WEST THIRD LEVEL SECT 3		206	8520	206A			
				206B			
		207	6605	207A			
				207B			
				207C			
TERMINAL A-WEST THIRD LEVEL SECT 3, 4 & 5		208	16950	208A	6905		
				208B	10045		
TERMINAL A-WEST THIRD LEVEL SECT 4 & 5		209	11510				
				210		210A	
						210B	
TERMINAL A-WEST SECOND LEVEL SECT 4, 5, 6, 9 & 10		211	12065/12890				
TERMINAL A-WEST SECOND LEVEL SECT 5 & 6		212	20725				
TERMINAL A-WEST THIRD LEVEL SECT 4 & 5		213	25675				
TERMINAL A-WEST THIRD LEVEL SECT 5 & 6		214	11580				
TERMINAL A-WEST THIRD LEVEL SECT 6 & 7		215	11580				
TERMINAL A-WEST SECOND LEVEL SECT 6 & 7		216	29745				
TERMINAL A-WEST THIRD LEVEL SECT 7 & 8		217	8105				
TERMINAL A-WEST THIRD LEVEL SECT 7 & 8		218	17488/3385				
TERMINAL A-WEST SECOND LEVEL SECT 6, 7, 10 & 11		219	12890				

LOCATION	SERV SIZE	ZONE	AREA	SQ. FT.	SERV SIZE
				ZONE / AREA	ZONE / AREA
TERMINAL A-WEST SECOND AND THIRD LEVEL SECT 8 & 14		220	3415/4820		
TERMINAL A-WEST SECOND LEVEL SECT 8		221	6555		
TERMINAL A-WEST THIRD LEVEL SECT 8		222	7250		
TERMINAL A-WEST SECOND LEVEL SECT 11, 13 & 14		223	12890		
TERMINAL A-WEST SECOND LEVEL SECT 13		224	12455		
TERMINAL A-WEST GARAGE CORE LEVEL "B"		225	7000		
TERMINAL A-WEST THIRD LEVEL SECT 5, 6, 9 & 10		300	49785		
TERMINAL A-WEST THIRD LEVEL SECT 5 & 6		301	32445		
TERMINAL A-WEST THIRD LEVEL SECT 6, 7, 10 & 11		302	45055		
TERMINAL A-WEST THIRD LEVEL SECT 6 & 7		303	34895		
TERMINAL A-WEST THIRD LEVEL SECT 12 & 13		304	33270		
TERMINAL A-WEST THIRD LEVEL SECT 7, 11 & 14		305	15554		
TERMINAL A-WEST THIRD LEVEL SECT 13		306	4890		
TERMINAL A-WEST GARAGE CORE LEVEL "C"		307	9280		
TERMINAL A-WEST MEZZANINE LEVEL SECTOR 5		400	10185		
TERMINAL A-WEST MEZZANINE LEVEL SECTOR 5 & 6		401	13550		

LOCATION	SERV SIZE	ZONE	AREA	SQ. FT.	SERV SIZE
				ZONE / AREA	ZONE / AREA
TERMINAL A-WEST MEZZANINE LEVEL SECTOR 5 & 6		402	10520		
TERMINAL A-WEST MEZZANINE LEVEL SECTOR 6 & 7		403	10660		
TERMINAL A-WEST MEZZANINE LEVEL SECTOR 6 & 7		404	10120		
TERMINAL A-WEST MEZZANINE LEVEL SECTOR 7		405	9505		
TERMINAL A-WEST GARAGE CORE LEVEL "D"		406	6286		
TERMINAL A-WEST GARAGE CORE LEVEL "E"		500	3730		
TERMINAL A-WEST GARAGE CORE LEVEL "F"		600	3730		
TERMINAL A-WEST GARAGE CORE LEVEL "G"		700	3730		
TERMINAL A-WEST GARAGE CORE MACHINE ROOM		800	1860		
BAGGAGE CLAIM A- EAST	6"	1-1		3,000	3"
		1-2		7,000	4"
		1-3		46,440	4"
	6"	2-1		8,000	3"
		2-2		27,000	4"
TERMINAL A-EAST	6"	3-1		74,300	6"
		3-2		3,600	4"
CONCOURSE A-EAST	6"	4-1		65,000	4"
		4-2		5,200	4"
	6"	5-1		70,000	4"
BAGGAGE CLAIM B/C	8"	7-1	7-1-1	65,000	600
		7-2	7-2-1	65,000	600
TICKETING BUILDING B/C	12"	9/10-1		9,840	
		9/10-2		13,600	
		9/10-3		9,800	
		9/10-4		11,700	
		9/10-5		400	

LOCATION	SERV SIZE	ZONE	AREA	SQ. FT.		SERV SIZE			
				ZONE / AREA		ZONE / AREA			
				9/10-6		550			
				9/10-7		23,000			
				9/10-8		26,700			
				9/10-9		25,800			
TICKETING BUILDING B/C	12"			9/10-10		26,500			
				9/10-11		32,000			
				9/10-12		240	N/A		
				9/10-13		510	N/A		
				9/10-14		320	N/A		
				9/10-15		640	N/A		
				TICKETING BUILDING B/C	12"			9/10-20	
9/10-21		28,100							
9/10-22		34,300							
9/10-23		32,300							
TICKETING BUILDING B/C	12"			9/10-16		2,300			
				9/10-17		3,460			
				9/10-18		2,050			
				9/10-19		7,900			
TICKETING BUILDING B/C 3 RD FLOOR	12"			9/10-24		2,700			
				9/10-25		10,400			
				9/10-28		13,400			
				9/10-29		8,900			
TICKETING BUILDING B/C 3 RD FLOOR	12"			9/10-26		15,400			
				9/10-27		1,920			
				9/10-31		2,120			
				9/10-32		3,100			
				9/10-30		5,000			
TICKETING BUILDING B/C 4 TH FLOOR	12"			9/10-33		4,600			
CONCOURSE "C" HAMMERHEAD	8"			9/10-1		9,300	4"		
				9/10-2		512	2"		
				9/10-3		60,240	4"		
				9/10-4		33,728	4"		
BAGGAGE CLAIM "D"	6"			11-1		8,560	5"		
CONCOURSE "D" HAMMERHEAD	6"			1-A		18,440	4"		
				1-B		1,570	4"		
				1-C		11,225	6"		
				2-A		26,000	4"		
TERMINAL E	8"			12-1		14,000	4"		
				12-2	12-2-1	18,400	2,160	6"	4"
					12-2-2		1,936		3"

LOCATION	SERV SIZE	ZONE	AREA	SQ. FT.		SERV SIZE	
				ZONE / AREA		ZONE / AREA	
		12-3	12-3-1	18,400	2,700		3"
BAGGAGE CLAIM "E"	6"	13-1		8,300		4"	
SATELLITE THERMAL PLANT	4"	14-1		6,400		4"	
TERMINAL "E" TICKETING BUILDING	6"	15-1		14,000		4"	
		15-2	15-2-1	18,400	2,180	8"	4"
			15-2-2		1,938		3"
15-3	15-3-1	18,400	2,700		3"		
TERMINAL F SECTOR 1 - TERMINAL BLDG	4"	16-1					
TERMINAL F SECTOR 1 - CONCOURSE 1	4"	16-2					
TERMINAL F SECTOR 1 - MEZZANINE	4"	16-3					
TERMINAL F SECTOR 2 HUB BLDG	6"	16-4					
TERMINAL F SECTOR 2 CONCOURSE 2	6"	16-5					
TERMINAL F SECTOR 3 CONCOURSE 3	6"	16-6					
TERMINAL F SECTOR 4 BAGGAGE	4"	16-7					
TERMINAL F TOWER	4"	16-8					

FM 200 SYSTEMS

FM 200 SYSTEM	LOCATION	AREA (SF)
FM1 – FLER	FIELD LIGHTING EQUIPMENT ROOM	1,000
FM2 – FLV2	FIELD LIGHTING VAULT 2	1,000
FM3 – FLV3	FIELD LIGHTING VAULT 3	1,500
FM4 – FLV4	FIELD LIGHTING VAULT 4	2,500
FM5 - B/C1	USAIRWAYS COMMUNICATION ROOM, MAIN TERMINAL COMPLEX 1ST FLOOR TERMINAL B	80
FM6 - B/C2	USAIRWAYS COMMUNICATION ROOM, MAIN TERMINAL COMPLEX 1ST FLOOR MIDWAY BETWEEN TERMINALS B AND C	144
FM7 - B/C3	USAIRWAYS COMMUNICATION ROOM, MAIN TERMINAL COMPLEX 1ST FLOOR MIDWAY BETWEEN TERMINALS B AND C	80
FM8 - B/C4	DOA MAIN COMMUNICATION ROOM, MAIN TERMINAL COMPLEX 1ST FLOOR MIDWAY BETWEEN TERMINALS B AND C	220
FM9 - B/C5	TELEPHONE EQUIPMENT ROOM, MAIN TERMINAL COMPLEX 1ST FLOOR TERMINAL B	594
FM10-AW1	TELE/COM ROOM, TERMINAL A-WEST, GROUND FLOOR SECTOR 2	208
FM11-AW2	BAGGAGE SYSTEM ROOMS, TERMINAL A-WEST, GROUND FLOOR SECTOR 2	525
FM12-AW3	AUDIO PAGING EQUIPMENT ROOM, TERMINAL A-WEST, GROUND FLOOR SECTOR 4	420
FM13-AW4	MAIN TELE/COM ROOM, TERMINAL A-WEST, GROUND FLOOR SECTOR 5	520
FM14-AW5	TELE/COM ROOM, TERMINAL A-WEST, GROUND FLOOR SECTOR 7	482
FM15-AW6	CUTE LAN ROOM, TERMINAL A-WEST, GROUND FLOOR SECTOR 7	635
FM16-AW7	COMPUTER ROOM, TERMINAL A-WEST, THIRD LEVEL SECTOR 7	243
FM17-AW8	TECS ROOM, TERMINAL A-WEST, THIRD LEVEL SECTOR 11	384
FM18-F1	DOA MDF AND US AIRWAYS MDF, TERMINAL F FIRST FLOOR SECTOR 1	208
FM19-F2	US AIRWAYS CLOSET "A" AND DOA CLOSET "A", TERMINAL F, FIRST FLOOR SECTOR 1	100
FM20-F3	US AIRWAYS CLOSET "B", TERMINAL F, FIRST FLOOR SECTOR 1	64
FM21-F4	US AIRWAYS CLOSET "C" AND DOA CLOSET "C", TERMINAL F, FIRST FLOOR SECTOR 2	106
FM22-F5	US AIRWAYS CLOSET "D" AND DOA CLOSET "D", TERMINAL F, FIRST FLOOR SECTOR 2	128
FM23-F6	US AIRWAYS CLOSET "E" AND DOA CLOSET "E", TERMINAL F, FIRST FLOOR SECTOR 3	94
FM24-F7	US AIRWAYS CLOSET "F" AND DOA CLOSET "F", TERMINAL F, FIRST FLOOR SECTOR 3	98
FM25-F8	COMM ROOM, TERMINAL F, MEZZ. LOWER LEVEL, SECTOR 1	182
FM26-AE1	BAGGAGE CONTROL ROOM E, TERMINAL A-EAST LOWER LEVEL, SECTOR 23	245

SCHEDULE G – HEATING, VENTILATION & AIR CONDITIONING (HVAC)

PUMP SCHEDULES

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
P-1	3,600 GPM @60 FT. HD.	CHILLED WATER	PRIMARY CHILLED WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A- WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-2	3,600 GPM @60 FT. HD.	CHILLED WATER	PRIMARY CHILLED WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A- WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-3	3,600 GPM @60 FT. HD.	CHILLED WATER	PRIMARY CHILLED WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A- WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-4	3,600 GPM @220 FT. HD.	CHILLED WATER	SECOND- ARY CHILLED WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A- WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-5	3,600 GPM @220 FT. HD.	CHILLED WATER	SECOND- ARY CHILLED WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A- WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-6	3,600 GPM @220 FT. HD.	CHILLED WATER	SECOND- ARY CHILLED WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A- WEST. 2010 HVAC MAINTENANCE CONTRACT -

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
						SCHEDULE G & 2013 HVAC ASSESSMENT
P-7	4,500 GPM @ 70 FT. HD.	CONDENSER WATER	CONDENSER WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-8	4,500 GPM @ 70 FT. HD.	CONDENSER WATER	CONDENSER WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-9	4,500 GPM @ 70 FT. HD.	CONDENSER WATER	CONDENSER WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-10	1,675 GPM @ 60 FT. HD.	HOT WATER	PRIMARY HOT WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-11	1,675 GPM @ 60 FT. HD.	HOT WATER	PRIMARY HOT WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-12	1,675 GPM @ 60 FT. HD.	HOT WATER	PRIMARY HOT WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G &

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
						2013 HVAC ASSESSMENT
P-13	1,675 GPM @ 220 FT. HD.	HOT WATER	SECONDARY HOT WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-14	1,675 GPM @ 220 FT. HD.	HOT WATER	SECONDARY HOT WATER PUMP	AURORA	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-15	18 GPM @ 95 PSI	FUEL OIL	FUEL OIL PUMP	TUTHILL	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-16	18 GPM @ 95 PSI	FUEL OIL	FUEL OIL PUMP	TUTHILL	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-17	18 GPM @ 25 PSI	FUEL OIL	FUEL OIL PUMP	RED-JACKET	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-18	18 GPM @ 25 PSI	FUEL OIL	FUEL OIL PUMP	RED-JACKET	A-WEST THERMAL PLANT	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G &

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
						2013 HVAC ASSESSMENT
P-1	3,600 GPM	CON-DENSER WATER	CON-DENSER WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	PHL-843; ROOFTOP REPLACEMENT PHASE II & 2013 HVAC ASSESSMENT
P-2	2,100 GPM	CON-DENSER WATER	CON-DENSER WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	PHL PROJECT NO. PHL-1098.26 & 2013 HVAC ASSESSMENT
P-3	4,350 GPM	CON-DENSER WATER	CON-DENSER WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	PHL-843; ROOFTOP REPLACEMENT PHASE II; REVISED UNDER PHL-1098.26, & 2013 HVAC ASSESSMENT
P-4	4,500 GPM	CON-DENSER WATER	CON-DENSER WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	PHL PROJECT NO. PHL-1098.26 & 2013 HVAC ASSESSMENT
P-5	2,880 GPM	CHILLED WATER	PRIMARY CHILLED WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	PHL-843; ROOFTOP REPLACEMENT PHASE II; REVISED UNDER PHL-1098.26, & 2013 HVAC ASSESSMENT
P-6	2,880 GPM	CHILLED WATER	PRIMARY CHILLED WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	PHL PROJECT NO. PHL-908; REVISED UNDER PHL1098.26, & 2013 HVAC ASSESSMENT
P-7	2,880 GPM	CHILLED WATER	PRIMARY CHILLED WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	PHL PROJECT NO. PHL-908; REVISED UNDER PHL1098.26, &

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
						2013 HVAC ASSESSMENT
P-8	2,100 GPM	CHILLED WATER	PRIMARY CHILLED WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	PHL PROJECT NO. PHL-1098.26 & 2013 HVAC ASSESSMENT
P-9	1,700 GPM @200 FT. HD.	CHILLED WATER	SECONDARY CHILLED WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	TERMINAL A-EAST. PHL-843; ROOFTOP REPLACEMENT PHASE II. REVISED UNDER PHL-908, & 2013 HVAC ASSESSMENT
P-10	1,700 GPM @200 FT. HD.	CHILLED WATER	SECONDARY CHILLED WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	TERMINAL A-EAST. PHL-843; ROOFTOP REPLACEMENT PHASE II. REVISED UNDER PHL-908, & 2013 HVAC ASSESSMENT
P-11	1,700 GPM @200 FT. HD.	CHILLED WATER	SECONDARY CHILLED WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	TERMINAL A-EAST, PHL-843; ROOFTOP REPLACEMENT PHASE II. REVISED UNDER PHL-908, & 2013 HVAC ASSESSMENT
P-12	1,700 GPM @ 200 FT HD.	CHILLED WATER	SECONDARY CHILLED WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	TERMINAL A-EAST; PHL PROJECT NO. PHL-908 & 2013 HVAC ASSESSMENT
P-13	1,700 GPM @ 200 FT HD.	CHILLED WATER	SECONDARY CHILLED WATER PUMP	AURORA	CENTRAL UTILITY BUILDING	TERMINAL A-EAST; PHL PROJECT NO. PHL-908 & 2013 HVAC ASSESSMENT

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
P-1	160 GPM@40 FT HD.	CHILLED WATER	CHILLED WATER PUMP	TACO	RAMP CONTROL TOWER	US AIRWAYS RAMP CONTROL TOWER PROJECT
P-2	160 GPM@40 FT HD.	CHILLED WATER	CHILLED WATER PUMP	TACO	RAMP CONTROL TOWER	US AIRWAYS RAMP CONTROL TOWER PROJECT
P-1 (P- BC-1)	2012 GPM@170 FT HD.	CHILLED WATER	CHILLED WATER PUMP	PACO	BAGGAGE CLAIM BC	PHL-1098.16; TERMINAL B-C IMPROVEMENT S PACKAGE 2 & 2013 HVAC ASSESSMENT
P-2 (P- BC-2)	2012 GPM@170 FT HD.	CHILLED WATER	CHILLED WATER PUMP	PACO	BAGGAGE CLAIM BC	PHL-1098.16; TERMINAL B-C IMPROVEMENT S PACKAGE 2 & 2013 HVAC ASSESSMENT
P-21	1825 GPM@45 FT. HD.	CHILLED WATER	CHILLED WATER SUPPLY PUMP	PACO	BAGGAGE CLAIM BC	PHL PROJECT NO. PHL- 1098.26 & 2013 HVAC ASSESSMENT
P-22	1825 GPM@45 FT. HD.	CHILLED WATER	CHILLED WATER SUPPLY PUMP	PACO	BAGGAGE CLAIM BC	PHL PROJECT NO. PHL- 1098.26 & 2013 HVAC ASSESSMENT
P-BC-4	1340 GPM@120 FT. HD.	HOT WATER	HOT WATER SUPPLY PUMP	AURORA	BAGGAGE CLAIM BC	PHL PROJECT NO. PHL- 1098.26 & 2013 HVAC ASSESSMENT
P-BC-5	1340 GPM@120 FT. HD.	HOT WATER	HOT WATER SUPPLY PUMP	AURORA	BAGGAGE CLAIM BC	PHL PROJECT NO. PHL- 1098.26 & 2013 HVAC ASSESSMENT
P-BC-3	10 GPM @ 70 FT. HD.	GLYCOL	GLYCOL CIRCULA- TION PUMP (CHW)	UN- KNOWN	BAGGAGE CLAIM BC	PHL PROJECT NO. PHL- 1098.26 & 2013 HVAC ASSESSMENT
P-BC-6	10 GPM @ 70 FT. HD.	GLYCOL	GLYCOL CIRCULA-	UN- KNOWN	BAGGAGE CLAIM BC	PHL PROJECT NO. PHL-

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
			TION PUMP (HW)			1098.26 & 2013 HVAC ASSESSMENT
P-14	2,400 GPM	CHILLED WATER	SECOND- ARY CHILLED WATER PUMP	AURORA	TERMINAL BC	PHL-908; TERMINAL A- EAST COMPLETION PROJECT & 2013 HVAC ASSESSMENT
P-15	2,400 GPM	CHILLED WATER	SECOND- ARY CHILLED WATER PUMP	AURORA	TERMINAL BC	PHL-908; TERMINAL A- EAST COMPLETION PROJECT & 2013 HVAC ASSESSMENT
P-19	75 GPM	CONDEN S-ATE	DUPLEX CONDEN S-ATE RECEIVE R PUMP	AURORA	TERMINAL BC	PHL-908; TERMINAL A- EAST COMPLETION PROJECT & 2013 HVAC ASSESSMENT
P-16	470 GPM@150 FT. HD.	HOT WATER	HOT WATER PUMP	AURORA	TERMINAL BC	PHL-908; TERMINAL A- EAST COMPLETION PROJECT & 2013 HVAC ASSESSMENT
P-17	470 GPM@150 FT. HD.	HOT WATER	HOT WATER PUMP	AURORA	TERMINAL BC	PHL-908; TERMINAL A- EAST COMPLETION PROJECT & 2013 HVAC ASSESSMENT
HP-5-1	925 GPM	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	TERMINAL BC	PHL-1098.36; TERMINAL B-C IMPROVMENTS PACKAGE III, 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G, & 2013 HVAC ASSESSMENT

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
HP-5-2	925 GPM	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	TERMINAL BC	PHL-1098.36; TERMINAL B-C IMPROVMENTS PACKAGE III, 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G, & 2013 HVAC ASSESSMENT
CRP-1BC	95#/HR, 9 GPM	CONDENSATE	DUPLEX CONDENSATE RECEIVER PUMP	MEPCO	TERMINAL BC	PHL-1098.36; TERMINAL B-C IMPROVMENTS PACKAGE III & 2013 HVAC ASSESSMENT
CRP-2BC	2470#/HR, 12 GPM	CONDENSATE	DUPLEX CONDENSATE RECEIVER PUMP	MEPCO	TERMINAL BC	PHL-1098.36; TERMINAL B-C IMPROVMENTS PACKAGE III & 2013 HVAC ASSESSMENT
CRP-3BC	2735#/HR, 12 GPM	CONDENSATE	CONDENSATE RECEIVER PUMP	MEPCO	TERMINAL BC	PHL-1098.36; TERMINAL B-C IMPROVMENTS PACKAGE III & 2013 HVAC ASSESSMENT
CRP-5BC	16,350#/HR, 75 GPM	CONDENSATE	CONDENSATE RECEIVER PUMP	MEPCO	TERMINAL BC	PHL-1098.36; TERMINAL B-C IMPROVMENTS PACKAGE III & 2013 HVAC ASSESSMENT
UN-KNOWN	325 GPM @40FT HD.	CHILLED WATER	CHILLED WATER PUMP (BOOSTER PUMP)	AURORA	TERMINAL BC	PHL-942-M; MECHANICAL ROOM 7 REHABILITATION & 2013 HVAC ASSESSMENT
UN-KNOWN	UN-KNOWN	CHILLED WATER	CHILLED WATER PUMP (BOOSTER PUMP)	UN-KNOWN	TERMINAL BC	2013 HVAC ASSESSMENT
P-1	40 GPM	HOT WATER	HOT WATER PUMP	AURORA	TERMINAL BC	PHL-1077.16 & 2013 HVAC ASSESSMENT

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
P-2	40 GPM	HOT WATER	HOT WATER PUMP	AURORA	TERMINAL BC	PHL-1077.16 & 2013 HVAC ASSESSMENT
P-5	400 GPM	CHILLED WATER	CHILLED WATER PUMP	AURORA	TERMINAL BC	2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G; INSTALLED PHL-843-M; ROOFTOP REPLACEMENT PHASE II & 2013 HVAC ASSESSMENT
P-6	400 GPM	CHILLED WATER	CHILLED WATER PUMP	AURORA	TERMINAL BC	2011 HVAC MAINTENANCE CONTRACT - SCHEDULE G; INSTALLED PHL-843-M; ROOFTOP REPLACEMENT PHASE II & 2013 HVAC ASSESSMENT
P-1	150 GPM	HOT WATER	HEATING HOT WATER PUMP	AURORA	TERMINAL BC	2012 HVAC MAINTENANCE CONTRACT - SCHEDULE G; INSTALLED PHL-843-M; ROOFTOP REPLACEMENT PHASE II & 2013 HVAC ASSESSMENT
P-2	150 GPM	HOT WATER	HEATING HOT WATER PUMP	AURORA	TERMINAL BC	2013 HVAC MAINTENANCE CONTRACT - SCHEDULE G; INSTALLED PHL-843-M; ROOFTOP REPLACEMENT PHASE II & 2013 HVAC ASSESSMENT
CP-2	22 GPM	CONDEN S-ATE	CONDEN S-ATE	ALYAN	TERMINAL BC	PHL-1077.16; MECHANICAL

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
			RECEIVE R			ROOMS 12 AND 13 & 2013 HVAC ASSESSMENT
P-1	900 GPM	CHILLED WATER	CHILLED WATER PUMP	PEER- LESS	CON- COURSE B	PHL-783; ROOFTOP REPLACEMENT PHASE I SITE SURVEY & 2013 HVAC ASSESSMENT
P-2	900 GPM	CHILLED WATER	CHILLED WATER PUMP	PEER- LESS	CON- COURSE B	PHL-783; ROOFTOP REPLACEMENT PHASE I SITE SURVEY & 2013 HVAC ASSESSMENT
P-1	575 GPM	HOT WATER	HOT WATER PUMP	AURORA	CON- COURSE B	PHL-783; ROOFTOP REPLACEMENT PHASE I SITE SURVEY & 2013 HVAC ASSESSMENT
P-2	575 GPM	HOT WATER	HOT WATER PUMP	AURORA	CON- COURSE B	PHL-783; ROOFTOP REPLACEMENT PHASE I SITE SURVEY & 2013 HVAC ASSESSMENT
UN- KNOW N	18 GPM	CONDEN S-ATE	CONDEN S-ATE RECEIVE R PUMP	BELL & GOSSETT	CON- COURSE B	PHL-783; ROOFTOP REPLACEMENT PHASE I SITE SURVEY & 2013 HVAC ASSESSMENT
UN- KNOW N	15 GPM	CONDEN S-ATE	CONDEN S-ATE RECEIVE R PUMP	ALYAN	CON- COURSE B	PHL-783; ROOFTOP REPLACEMENT PHASE I SITE SURVEY & 2013 HVAC ASSESSMENT
UN- KNOW N	45 GPM	CONDEN S-ATE	CONDEN S-ATE	ALYAN	CON- COURSE B	PHL-783; ROOFTOP REPLACEMENT

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
			RECEIVE R PUMP			PHASE I SITE SURVEY & 2013 HVAC ASSESSMENT
UN- KNOW N	UN- KNOWN	CONDEN S-ATE	CONDEN S-ATE RECEIVE R PUMP	UN- KNOWN	CON- COURSE B	PHL-783; ROOFTOP REPLACEMENT PHASE I SITE SURVEY & 2013 HVAC ASSESSMENT
P-1	900 GPM @105 FT HD.	CHILLED WATER	CHILLED WATER PUMP	AURORA	CON- COURSE C	PHL-843-M; ROOFTOP REPLACEMENT PHASE II, SITE SURVEY & 2013 HVAC ASSESSMENT
P-2	900 GPM @105 FT HD.	CHILLED WATER	CHILLED WATER PUMP	AURORA	CON- COURSE C	PHL-843-M; ROOFTOP REPLACEMENT PHASE II, SITE SURVEY & 2013 HVAC ASSESSMENT
P-1	575 GPM @ 110 FT. HD.	HOT WATER	HOT WATER PUMP	AURORA	CON- COURSE C	PHL-843-M; ROOFTOP REPLACEMENT PHASE II, SITE SURVEY & 2013 HVAC ASSESSMENT
P-2	575 GPM @ 110 FT. HD.	HOT WATER	HOT WATER PUMP	AURORA	CON- COURSE C	PHL-843-M; ROOFTOP REPLACEMENT PHASE II, SITE SURVEY & 2013 HVAC ASSESSMENT
UN- KNOW N	15 GPM	CONDEN S-ATE	CONDEN S-ATE RECEIVE R PUMP	SHIPCO	CON- COURSE C	PHL-843-M; ROOFTOP REPLACEMENT PHASE II, SITE SURVEY & 2013 HVAC ASSESSMENT
UN- KNOW N	6 GPM	CONDEN S-ATE	CONDEN S-ATE	BELL & GOSSETT	CON- COURSE C	PHL-843-M; ROOFTOP REPLACEMENT

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
			RECEIVE R PUMP			PHASE II, SITE SURVEY & 2013 HVAC ASSESSMENT
UN- KNOW N	UN- KNOWN	CONDEN S-ATE	CONDEN S-ATE RECEIVE R PUMP	UN- KNOWN	CON- COURSE C	PHL-843-M; ROOFTOP REPLACEMENT PHASE II, SITE SURVEY & 2013 HVAC ASSESSMENT
P-1	3,150 GPM	CHILLED WATER	PRIMARY CHILLED WATER PUMP	PACO	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-2	3,150 GPM	CHILLED WATER	PRIMARY CHILLED WATER PUMP	PACO	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-3	3,150 GPM	CHILLED WATER	PRIMARY CHILLED WATER PUMP	PACO	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-4	2,640 GPM @ 250 FT. HD.	CHILLED WATER	SECOND- ARY CHILLED WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G &

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
						2013 HVAC ASSESSMENT
P-5	2,640 GPM @ 250 FT. HD.	CHILLED WATER	SECONDARY CHILLED WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-6	3,600 GPM	CONDENSER WATER	CONDENSER WATER PUMP	PACO	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-7	3,600 GPM	CONDENSER WATER	CONDENSER WATER PUMP	PACO	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-8	3,600 GPM	CONDENSER WATER	CONDENSER WATER PUMP	PACO	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-9	2,500 GPM @250 FT. HD.	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT -

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
						SCHEDULE G & 2013 HVAC ASSESSMENT
P-10	2,500 GPM @250 FT. HD.	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-13	1,750 GPM @ 200 FT. HD.	CHILLED WATER	SECOND-ARY CHILLED WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-14	1,750 GPM @ 200 FT. HD.	CHILLED WATER	SECOND-ARY CHILLED WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-15	1,750 GPM @ 200 FT. HD.	CHILLED WATER	SECOND-ARY CHILLED WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-16	1,650 GPM	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
						CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-17	1,650 GPM	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-18	1,800 GPM@ 75 FT. HD.	CON-DENSER WATER	CON-DENSER WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-19	1,800 GPM@ 75 FT. HD.	CON-DENSER WATER	CON-DENSER WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-20	1,600 GPM @ 75 FT. HD.	CHILLED WATER	PRIMARY CHILLED WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-21	1,600 GPM @ 75 FT. HD.	CHILLED WATER	PRIMARY CHILLED WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
						MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-22	2,500 GPM @ 70 FT. HD.	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-23	2,500 GPM @ 70 FT. HD.	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-24	2,500 GPM @ 70 FT. HD.	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	SATELLITE THERMAL PLANT	PHL-930-M; ROOFTOP UNIT REPLACEMENT PHASE III. 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-3	347 GPM @132 FT HD.	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	CON-COURSE D	PHL-1521.16; STP COOLING TOWER REPLACEMENT & MECHANICAL ROOM 14 REHABILITATION, 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
P-4	347 GPM @132 FT HD.	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	CON-COURSE D	PHL-1521.16; STP COOLING TOWER REPLACEMENT & MECHANICAL ROOM 14 REHABILITATION, 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
CP-1	30 GPM	CONDENSATE	DUPLEX CONDENSATE RECEIVER PUMP	BELL & GOSSETT	CON-COURSE D	PHL-1521.16; STP COOLING TOWER REPLACEMENT & MECHANICAL ROOM 14 REHABILITATION, 2010 HVAC MAINTENANCE CONTRACT - SCHEDULE G & 2013 HVAC ASSESSMENT
P-1	527 GPM @ 50 FT. HD.	CHILLED WATER	CHILLED WATER PUMP	ARM-STRONG	CON-COURSE D	PHL-1121.26; HAMMERHEAD EXPANSION 2013 HVAC ASSESSMENT
P-2	527 GPM @ 50 FT. HD.	CHILLED WATER	CHILLED WATER PUMP (BOOSTER PUMP)	ARM-STRONG	CON-COURSE D	PHL-1121.26; HAMMERHEAD EXPANSION 2013 HVAC ASSESSMENT
UNKNOWN	404 GPM	CONDENSER WATER	CONDENSER WATER PUMP	SCOT PUMP	TERMINAL DE	PHL-1247; TERMINALS DE EXPANSION & MODERNIZATION & 2013 HVAC ASSESSMENT
UNKNOWN	404 GPM	CONDENSER WATER	CONDENSER WATER PUMP	SCOT PUMP	TERMINAL DE	PHL-1247; TERMINALS DE EXPANSION & MODERNIZATION & 2013 HVAC ASSESSMENT

NO.	GPM	DUTY	TYPE	MFGR.	LOC.	REF.
P1-DE	50 GPM	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	TERMINAL DE	PHL-1247; TERMINALS D-E EXPANSION & MODERNIZATION & 2013 HVAC ASSESSMENT
P2-DE	50 GPM	HOT WATER	HOT WATER PUMP	BELL & GOSSETT	TERMINAL DE	PHL-1247; TERMINALS D-E EXPANSION & MODERNIZATION & 2013 HVAC ASSESSMENT

MAKE-UP AIR UNITS

LOCATION	EQUIPMENT TAG	CAPACITY	TYPE AND MODEL	REFERENCE
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-1	10,000 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-2	10,000 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-3	8,800 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-4	8,800 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-5	9,600 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-6	9,600 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-7	19,600 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-8	20,300 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-9	7,800 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-WEST (BAGGAGE HANDLING)	MU1-10	32,400 CFM	TRANE	TERMINAL A-WEST SITE SURVEY & 2013 HVAC ASSESSMENT
CONCOURSE A-EAST (MR1-19)	MU-1-10	32,400 CFM	HASTINGS	TERMINAL A-WEST; CTX CHANGES & 2013 HVAC ASSESSMENT

BOILERS

TAG NUMBER	LOCATION	CAPACITY	MANUFACTURER	REFERENCE
B-1	A-WEST THERMAL PLANT	750 HP	CLEAVER BROOKS	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT – SCHEDULE G & 2013 HVAC ASSESSMENT
B-2	A-WEST THERMAL PLANT	750 HP	CLEAVER BROOKS	TERMINAL A-WEST. 2010 HVAC MAINTENANCE CONTRACT – SCHEDULE G & 2013 HVAC ASSESSMENT

TAG NUMBER	LOCATION	CAPACITY	MANUFACTURER	REFERENCE
B-1	CENTRAL UTILITY BUILDING	700 HP	YORK SHIPLEY	PHL PACKAGE 9, PHL PROJECT NO. PHL-1098.26 & 2013 HVAC ASSESSMENT
B-2	CENTRAL UTILITY BUILDING	700 HP	YORK SHIPLEY	PHL PACKAGE 9, PHL PROJECT NO. PHL-1098.26 & 2013 HVAC ASSESSMENT
B-3	CENTRAL UTILITY BUILDING	700 HP	YORK SHIPLEY	PHL PACKAGE 9, PHL PROJECT NO. PHL-1098.26 & 2013 HVAC ASSESSMENT
B-1	SATELLITE THERMAL PLANT	750 HP	CLEAVER BROOKS	PHL-1036; STP EXPANSION & 2013 HVAC ASSESSMENT
B-2	SATELLITE THERMAL PLANT	750 HP	CLEAVER BROOKS	PHL-1036; STP EXPANSION & 2013 HVAC ASSESSMENT
B-3	SATELLITE THERMAL PLANT	500 HP	CLEAVER BROOKS	PHL-1036; STP EXPANSION & 2013 HVAC ASSESSMENT

VARIABLE FREQUENCY DRIVES

LOCATION	DRIVES
CENTRAL UTILITY BUILDING	5-DRIVES
SATELLITE THERMAL PLANT #1	7-DRIVES
TERMINAL A-WEST THERMAL PLANT	5-DRIVES
A-MECHANICAL ROOM	4-DRIVES
B-MECHANICAL ROOM	2-DRIVES
C-MECHANICAL ROOM	2-DRIVES
MECHANICAL ROOM #13	2-DRIVES

CENTRAL PLANT #1

- York Shipley 596 series 700 HP Boiler (low pressure steam)
- York Shipley Condensate Tank
- 3-Grundfos Condensate Pumps
- York Shipley Deaerator
- 3-Grundfos Feed Water Pumps
- Automatic Water Softeners Flicks
- 6-Chemical charging stations
- 16-Chemical pumps
- 3-Oil storage tanks and oil pumps
- 4-TDS controllers
- Steam Flow Recorders
- Allis Chalmers Fire Pump 3000gpm
- 1-Domestic water jockey pumps 25HP

CENTRAL PLANT #2

- 2- 750 HP Cleaver Brooks Hot Water Boilers
- 500 HP Cleaver Brooks hot water boiler
- Oil storage tanks and 2-oil pump units
- Oil tank level control system
- Chemical treatment station
- Chemical feed pump

CENTRAL PLANT #3

- 2- 750 HP Cleaver Brooks Hot Water Boilers
- 2-Oil storage tanks and 4-oil pump units
- Oil tank level control system
- Combustion monitoring system

CENTRAL UTILITY BUILDING (CUB)

- Trane 1200 ton centrifugal liquid chiller model (CVHB-155N-AT) #4
- Trane 1200 ton centrifugal liquid chiller model (CVHE-125N-AV) #2
- Trane 1500 centrifugal liquid chiller model (HT-K1-E3-EC-A) #3
- Trane 1200 ton centrifugal liquid chiller model (CVHF-128N) #1
- Baltimore Air Coil Cooling Tower 2400 ton model 3000
- Marley Cooling Towers 1-1200 ton and 1-1500 ton

SATELLITE THERMAL PLANT (STP)

- 3-Trane centrifugal chillers 1200 ton, 123 refrigerant
- 2-Boilers, 500 horse power, Kewance
- Marley Towers, 2400 tons
- 1-Boiler, 500 horsepower, Clever Brooks
- Marley Towers, 1200 tons

TERMINAL A-WEST

- 3-Trane 1500 ton centrifugal chillers, 123 refrigerant
- 2-Clever Brooks boilers, 750 horsepower
- 5-Marley Cooling Towers, 1800 tons

SCHEDULE H – FACILITIES AUTOMATED CONTROL SYSTEMS

Lutron Equipment – Terminal A-West:

- 37 - CXP42-2774ML-20-CGP519
- 42 - Circuit Lighting Control Panels
- 2 - GR6MXINP (Lighting Control Processor)
- 15 - NTOMX-2B-WH (Sov Wall Control)
- 3 - MX-RPTR (Low Voltage Digital Signal Booster)
- 4 - OMX-AV (Contact Closure Input Device used to accept input from photo switch)
- 1 - Desktop P.C.
- 2 - NTOMX-62JWH (Wall jack to connect the PC to the lighting control system)
- 3 - PJ62P-ADPT-1
- RS-232 to RS-485 converter (Required to convert the output of the PC into RS-485 protocol)

SCADA System components:

- (6) Pentium-4, 1.8GHz IBM-compatible personal computers with Ethernet LAN cards GE Genius LAN card (PCIM), 153.6k, each with SVGA monitor, dot-matrix printer and keyboard and 20 Gigabyte hard disk drive.
- (3) GE Series 90-70 programmable logic controllers in 9-slot racks, with a total of 12 Genius Bus Controllers, 2 Programmable Processor Modules and Power Supplies.
- (50) GE Power Irac power monitoring devices.
- (11) GE Ethernet Gateway Serial Port Servers.
- (114) GE MicroVersa Trip Unit Circuit Breaker Protective Device.
- (40) GE PQM Power Quality Meters.
- (40) GE Multilin Feeder Protection Relays (either ML-750 or ML-735).
- (6) Modbus Concentrator Protocol Converters.
- (35) GE Genius Input/Output (I/O) blocks, 8 point.
- (53) GE Electronic Power Meters.
- (4) Cutler Hammer D-725 Data Collector Nodes.
- (2) Cutler Hammer Netlink Ethernet Gateway Serial Port Servers.
- (2) Master Network Translator Units.
- (12) Westinghouse Digitrip RMS 800 Circuit breaker trip units.
- Mimic Panel Control Wiring Belden #9182.

SCHEDULE I – UNINTERRUPTED POWER SUPPLY

- Terminal E UPS Room – UPS-1 and UPS-2
- UPS Unit – APC-Symmetra PX
- Batteries – SYBTU1-PLP
- Breakers – Merlin Gerin NSJ-400 and NSJ-600

SCHEDULE J – SWITCHGEAR

DEVICE DESCRIPTION	MODEL #	QUANTITY
MAIN TERMINAL SUBSTATION 15KV		
MAIN BREAKERS	GE VB1 13.2-500-3	2
FEEDER BREAKERS	GE VB1 13.2-500-4	25
TIE BREAKER	GE VB1 13.2-500-5	1
50/51 DIGITAL RELAYS	SEL 551	32
DIGITAL METERS	GE POWER LEADER EPM	28
BUSS DIFFERENTIAL RELAYS	GE PVD	6
SEQ & UV RELAYS	GE ICR	5
67 DIR. RELAY	BASLER BE1-67	2
27/59 UV/OV RELAY	BASLER BE1-27/59	6
81 FREQUENCY RELAYS	GE DFF	2
DIRECTIONAL POWER RELAY	BASLER BE1-52R	2
86 LOCKOUT RELAY	GE HEA	4
43 AUTO/MANUAL CONTROL	GE	29
VDC BATTERY BANK	SPH 90	136
CB LIFT TRUCK		1
INDICATOR LIGHTS	GE	120
MAIN TERMINAL SUBSTATION 5KV		
13.2-4.16KV TRANSFORMERS	8MVA SILICONE FILLED	2
MAIN BREAKERS	GE VB1 4.16-350-3	3
FEEDER BREAKERS	GE VB1 4.16-350-3	35
TIE BREAKER	GE VBI1 4.16-350-3	1
50/51 DIGITAL RELAYS	SEL 551	34
DIGITAL METERS	GE POWER LEADER EPM	34
BUSS DIFFERENTIAL RELAYS	GE PVD	6
SEQ & UV RELAYS	GE ICR	5
FAULT PRESSURE	TRANS SUDDEN	2
27/59 UV/OV RELAY	BASLER BE1-27/59	2
SYNC CHECK RELAYS	BASLER BE1-25	2
CB TEST STATION		1
GROUND TRUCK		1
EMERGENCY GENERATOR SWITCHGEAR G1 AND G2 5KV		
GENERATOR SWITCHGEAR	POWER VAC	1
AIR CIRCUIT BREAKER	GE VB1 4.16-350-3, 1200A	3
5KV LOAD BANK	POWER VAC	1
PT'S AND CT'S	POWER VAC	3
POWER ELECTRONIC MONITORING MODULE	GE FANUC GENIUS POWER TRAC	2
I/O BLOCKS	GE FANUC GENIUS POWER TRAC	8
DIGITAL RELAY	SEL 551	1
DIGITAL RELAY	SEL 300G	2
DIGITAL POWER MONITOR	SQUARE D POWER LOGIC ION 7550	2

DEVICE DESCRIPTION	MODEL #	QUANTITY
INDICATOR LIGHTS	WESTINGHOUSE PB	25
GENERATOR G3 5KV		
3124 KVA 4.16KV OLD GENSET	MAGNAPOWER MODEL 1020FDM5857	1
2000KW ONSITE ENERGY REFURBISHED GENSET	MODEL # 20000SXC6DT2	1
PRIMARY SWITCHGEAR 4.16 LINE SIDE	PCL PCLI0502	1
112.5KV RADIATOR XFMR	GE	1
MV CIRCUIT BREAKER	SQUARE D V5D4133Y000	1
GENERATOR RELAY	SEL-300G	1
ATS	ONSITE ENERGY	1
POWER MONITORING	SQUARE D POWER LOGIC ION6200	1
POWER MONITORING	SQUARE D POWER LOGIC ION7550	1
MIMIC BOARD AND GENERATOR CONTROL PANELS		
MIMIC BOARD	CONTROL GRAPHICS	1
MASTER CONTROL PANEL	PELG--CONT 210163-1	1
GENERATOR 1 AND 2 CONTROL PANELS	ATLANTIC ENERGY SERVICE	2
GENERATOR 3 CONTROL PANEL	PELG--CONT 210163-2	1
SYNCHRONIZER PANEL	PELG--SWP 210163-4	2
DIDGITAL SYNCHRONIZER AND LOAD CONTROL	WOODWARD 9905-795	4
SPEED CONTROL	WOODWARD 2301A	2
VOLTAGE REGULATOR	BASLER ELECTRIC	2
PLC	GE FANUC SERIES 90-30	4
I/O BLOCKS	GE FANUC IC660BBS102	24
NEMATRON WINDOWS XP PROFESSIONAL PC	EPCP1750T-T7500-26B-40SS-RAID- XP	1
POWER REMOTE DISPLAY	ON-SITE ENERGY	1
DIGITAL RELAY	SEL3032	1
POWER MONITOR	SQUARE D POWER LOGIC ION7550	1
VOLT METER	YOKAGAWA 103...	2
AMMETER METER	YOKAGAWA 103...	2
FREQUENCY METER	YOKAGAWA 103...	2
KWH METER	YOKAGAWA 103...	2
KVA METER	YOKAGAWA 103...	2
PF METER	YOKAGAWA 103...	2
INDICATOR LIGHTS	WESTINGHOUSE PB	44
INDICATOR LIGHTS IN PANEL	IDEC	72
INDICATOR LIGHTS	N/A	2
CARGO CITY SUBSTATION 15KV		
MAIN BREAKERS	GE VB1 13.8-500-3	2
FEEDER BREAKERS	GE VB1 13.8-500-3	22
TIE BREAKER	GE VB1 13.8-500-3	1

DEVICE DESCRIPTION	MODEL #	QUANTITY
DIGITAL METERS	GE POWER QUALITY METER PQM	22
DIGITAL RELAYS	GE SR750	2
DIGITAL RELAYS	GE SR735	22
PHASE SEQ. RELAY	GE ICR	2
BUSS DIFF RELAYS	GE PVD	6
86 LOCKOUT RELAY	GE HEA	4
43 AUTO/MANUAL CONTROL	GE	23
GROUND TRUCK	GE	1
CB TEST STATION	GE	1
CB LIFT TRUCK	GE	1
INDICATOR LIGHTS	GE	127
CT'S, PT'S AND CPT'S	GE	
CARGO CITY SUBSTATION 5KV		
MAIN BREAKERS	GE VB1 4.16-350-3	2
BREAKERS	GE VB1 4.16-350-3	20
TIE BREAKERS	GE VB1 4.16-350-3	1
DIGITAL METERS	GE POWER QUALITY METER PQM	18
DIGITAL RELAYS	GE SR735	16
DIGITAL RELAYS	GE SR745	2
DIGITAL RELAYS	GE SR750	2
SYNC CHECK RELAYS	BASLER	1
TRANSFORMER	4MVA 13.2-4.16KV	2
ATS	ZENITH CONTROLS	1
BATTERY BANK	ALCAD	136
RECTIFIER CHARGER	ALCAD	1
INDICATOR LIGHTS	GE	126
CT'S, PT'S AND CPT'S	GE	
ISLAND AVE SUBSTATION		
BREAKERS	CUTLER HAMMER150VCP-W500	13
TRIP UNIT	DIGITRIP 3000 51/50N	12
POWER MONITOR	IQDP-4000	12
86B LOCKOUT RELAY	GE HEA	6
43A LOCAL REMOTE SELECT SWITCH	GE	6
BUSS DIFFERENTIAL RELAYS	87B-2 ABB	6
UV/OV RELAY	BASLER BE1-27/59	3
SYNCRO VERIFIER RELAY	25 ABB	1
REVERSE PHASE VOLTAGE RELAY	27/47 ABB	2
AUX RELAY	MG-6 27/47X ABB	2
INDICATOR LIGHTS	CUTLER HAMMER	29
GROUND TRUCK	VCP-W	1
CB TEST STATION	CUTLER HAMMER	1
CB LIFT TRUCK	CUTLER HAMMER	1
CT'S, PT'S AND CPT'S	CUTLER HAMMER	1
PHILADELPHIA NORTHEAST AIRPORT		

DEVICE DESCRIPTION	MODEL #	QUANTITY
5KV ROLLOUT BREAKERS (MAINS & TIE)	I.T.E 7850-FVMLNR-5-A	3
5KV FUSED CONTACTORS	I.T.E L-35627-A	6
AMMETERS	WESTINGHOUSE	6
VOLTMETER	WESTINGHOUSE	1
KILOWATTHOUR METER	GE 701X	2
PROTECTIVE RELAYS	WESTINGHOUSE	1
GROUND RELAYS	WESTINGHOUSE	1
PHASING RELAYS	WESTINGHOUSE	4
CT'S, PT'S AND CPT'S	WESTINGHOUSE	
SUBSTATION TBD		
15KV SWITCHES	CUTLER HAMMER MVS	2
2000KVA TRANSFORMERS	CUTLER HAMMER DS	2
MAGNUM DRAW OUT BREAKER	MAGNUM DS MDS TYPE	19
TRIP UNIT	DIGITRIP 1150	19
POWER MONITOR	IQ ANALYZER	2
POWER MONITOR & SCADA	PANELMATE POWER PRO	2
SURGE PROTECTION	CLIPPER POWER SYSTEM SERIES IV	2
AUTO TRANSFER SYSTEM	DEVICE 83	4
UV/OV RELAY	DEVICE 27/59	2
SYNCH RELAY	DEVICE 25	1
MANUAL TRANSFER	DEVICE 43	1
CT'S, PT'S AND CPT'S	CUTLER HAMMER	
SUBSTATION TBE		
LOAD BREAK SWITCH	POWELL ELECTRICAL SYSTEMS	1
15KV FUSED SWITCHES	CUTLER HAMMER MVS	2
2500KVA TRANSFORMER	CUTLER HAMMER DS	2
MAGNUM DRAW OUT BREAKER	MAGNUM DS MDS TYPE	29
TRIP UNIT	DIGITRIP 1150	29
POWER MONITOR	IQ ANALYZER	2
POWER MONITOR & SCADA	PANELMATE POWER PRO	2
27/59 UV/OV RELAY	BASLER BE1-27/59	2
47 NEGATIVE SEQUENCE	BASLER BE1-47	2
SYNCH RELAY	BASLER BE1-25	1
SUBSTATION FPE-1		
15KV FUSED SWITCHES	CUTLER HAMMER MVS	2
2500KVA TRANSFORMER	CUTLER HAMMER DS	2
MAGNUM DRAW OUT BREAKER	MAGNUM DS MDS TYPE	31
TRIP UNIT	DIGITRIP 1150	31
POWER MONITOR	IQ ANALYZER	2
POWER MONITOR & SCADA	PANELMATE POWER PRO	2
27/59 UV/OV RELAY	BASLER BE1-27/59	2
47 NEGATIVE SEQUENCE	BASLER BE1-47	2
SYNCH RELAY	BASLER BE1-25	1

DEVICE DESCRIPTION	MODEL #	QUANTITY
SUBSTATION CUB 15KV		
15KV SWITCHES	WESTINGHOUSE DS	2
1500/2000 KVA AA/FA TRANSFORMER 13.2KV-480V	WESTINGHOUSE 24-34281-01	2
POWER METER	IQ DATA PLUS II	2
IQ POWER SUPPLY MODULE	STYLE NO. 9966D75G01	2
OV RELAY DEVICE 47-1	TIME MARK MODEL 263	2
UV RELAY DEVICE 27-1	TIME MARK MODEL C2644	2
3200A MAIN BREAKERS	WESTINGHOUSE DS632	3
1600A BREAKER	WESTINGHOUSE DS416	1
800A BREAKER	WESTINGHOUSE DS206H	12
TRIP UNIT	DIGITRIP RMS800	16
SUBSTATION ECUB 5KV		
MANUAL OPERATED SW	PENN PANEL	1
AIR LOAD BREAK SW	PENN PANEL	1
AUTO TRANSFER SWITCH	PENN PANEL	1
MAGNETIC TECH. CORP. 225KVA TRANSFORMER	SERIAL NO 1810D1178 1195	1
OC RELAY	GE121AC25	1
VOLT METER	PENN PANEL	1
AMMETER	PENN PANEL	1
VOLT RELAY	ABB TYPE 47	2
400A 10KAIC CIRCUIT BREAKER	PENN PANEL	1
400A SWITCH	PENN PANEL	3
100A SWITCH	PENN PANEL	4
SUBSTATION S2A 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER MVS	2
1000KVA TRANSFORMER	CUTLER HAMMER DS	2
MAGNUM DRAW OUT BREAKER	MAGNUM DS MDS TYPE	29
TRIP UNIT	DIGITRIP 1150	29
POWER MONITOR	IQ ANALYZER	2
POWER MONITOR & SCADA	PANELMATE POWER PRO	1
27/59 UV/OV RELAY	BASLER BE1-27/59	2
47 NEGATIVE SEQUENCE	BASLER BE1-47	2
SYNCH RELAY	BASLER BE1-25	1
SUBSTATION S2B 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER MVS	2
1000KVA TRANSFORMER	CUTLER HAMMER DS	2
MAGNUM DRAW OUT BREAKER	MAGNUM DS MDS TYPE	29
TRIP UNIT	DIGITRIP 1150	29
POWER MONITOR	IQ ANALYZER	2
POWER MONITOR & SCADA	PANELMATE POWER PRO	1
27/59 UV/OV RELAY	BASLER BE1-27/59	2
47 NEGATIVE SEQUENCE	BASLER BE1-47	2

DEVICE DESCRIPTION	MODEL #	QUANTITY
SYNCH RELAY	BASLER BE1-25	1
SUBSTATION S3A 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER MVS	2
1000KVA TRANSFORMER	CUTLER HAMMER DS	2
MAGNUM DRAW OUT BREAKER	MAGNUM DS MDS TYPE	21
TRIP UNIT	DIGITRIP 1150	21
POWER MONITOR	IQ ANALYZER	2
REMOTE POWER MONITOR & SCADA	PANELMATE POWER PRO	1
27/59 UV/OV RELAY	BASLER BE1-27/59	2
47 NEGATIVE SEQUENCE	BASLER BE1-47	2
SYNCH RELAY	BASLER BE1-25	1
TRANSIENT VOLTAGE SURGE SUPPRESSOR	RAYVOSS	2
SUBSTATION S4A 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER MVS	2
MAGNUM DRAW OUT BREAKER	MAGNUM DS MDS TYPE	29
TRIP UNIT	DIGITRIP 1150	29
POWER MONITOR	IQ ANALYZER	2
REMOTE POWER MONITOR & SCADA	PANELMATE POWER PRO	1
27/59 UV/OV RELAY	BASLER BE1-27/59	2
47 NEGATIVE SEQUENCE	BASLER BE1-47	2
SYNCH RELAY	BASLER BE1-25	1
TRANSIENT VOLTAGE SURGE SUPPRESSOR	RAYVOSS	2
SUBSTATION S4B 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER MVS2	2
1000KVA TRANSFORMER	CUTLER HAMMER DS	2
MAGNUM DRAW OUT BREAKER	MAGNUM DS MDS TYPE	29
TRIP UNIT	DIGITRIP 1150	29
POWER MONITOR	IQ ANALYZER	2
REMOTE POWER MONITOR & SCADA	PANELMATE POWER PRO	1
27/59 UV/OV RELAY	BASLER BE1-27/59	2
47 NEGATIVE SEQUENCE	BASLER BE1-47	2
SYNCH RELAY	BASLER BE1-25	1
TRANSIENT VOLTAGE SURGE SUPPRESSOR	RAYVOSS	2
SUBSTATION EBBC 5KV		
600A FUSED SWITCHES	SIEMENS	2
750KVA TRANSFORMER	CUTLER HAMMER	1
1200A BREAKER	WESTINGHOUSE DS416	13
TRIP UNIT	DIGITRIP RMS810	13

DEVICE DESCRIPTION	MODEL #	QUANTITY
POWER METER	IQ DATA PLUS 2	3
POWER MONITOR	WESTINGHOUSE ASSEMBLIES	1
INDICATOR LAMPS		6
SUBSTATION BBC 15KV		
15KV OPERATED SW	WESTINGHOUSE 13.2KV WLI 600A	2
2000KVA TRANSFORMERS	CUTLER HAMMER 950339 - C1	2
MAIN BREAKERS	CUTLER HAMMER DS632 3200A	3
CIRCUIT BREAKER	CUTLER HAMMER DS416	19
TRIP UNIT	DIGITRIP RMS810	22
METER	IQ DATA PLUS 2	3
METER	WESTINGHOUSE ASSEMBLIES	1
INDICATOR LAMPS		6
5KV		
MANUAL OPERATED SW	PENN PANEL	1
AIR LOAD BREAK SW	PENN PANEL	1
UV/PHASE SEQUENCE VOLTAGE RELAY	DEVICE 47 CIRCUIT SHIELD	2
225KVA TRANSFORMER	GE9T26Y4552 G 70	1
TIME OC RELAY	GE121AC25	1
VOLT METER	GE	1
AMMETER	GE	1
400A 10KAIC CIRCUIT BREAKER	GE QMR 325	1
400A SWITCH	GE QMR 325	1
200A SWITCH	GE QMR 324	2
100A SWITCH	GE QMR 323	5
60A SWITCH	GE QMR 322	1
SUBSTATION TBA 5KV		
15KV SW	SIEMENS TYPE QB 600A	2
1000KVA TRANSFORMER	ITC TYPE HV15HTUL	2
1600A POWER CIRCUIT BREAKERS	TYPE RL	11
UV RELAY	DEVICE 27	4
ANALOG VOLT METER	SIEMENS	3
ANALOG AMPERE METER	SIEMENS	10
TRIP UNIT	SIEMENS RMS-TSIG-T	10
RELAY	BASLER DEVICE 27	4
RELAY	GE DEVICE 52	2
SUBSTATION FCA-1 15KV		
15KV SW	SIEMENS TYPE QB 600A	2
1000KVA TRANSFORMER	TYPE HV15HTUL	2
1600A POWER CIRCUIT BREAKERS	SIEMENS TYPE RL	19
UV RELAY	BE1-27	4
ANALOG VOLT METER	SIEMENS	3
ANALOG AMPERE METER	SIEMENS	19
TRIP UNIT	SIEMENS RMS-TSIG-T	19

DEVICE DESCRIPTION	MODEL #	QUANTITY
RELAY	BASLER DEVICE 27	4
RELAY	GE DEVICE 52	2
SUBSTATION FCA-2 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER MVS2	2
2000KVA TRANSFORMER	CUTLER HAMMER DS	2
MAGNUM DRAW OUT BREAKER	MAGNUM DS MDS TYPE	15
TRIP UNIT	DIGITRIP 1150	15
POWER MONITOR	IQ ANALYZER	2
REMOTE POWER MONITOR & SCADA	PANELMATE POWER PRO	1
27/59 UV/OV RELAY	BASLER BE1-27/59	2
47 NEGATIVE SEQUENCE	BASLER BE1-47	2
SYNCH RELAY	BASLER BE1-25	1
SUBSTATION EFCA 5KV		
OIL SWITCH	POWELL ESCO SWITCH	1
600A FUSED SWITCHES	SIEMENS I-T-E TYPE RC III	2
225KVA TRANSFORMER	TYPE HV05HTUL	1
CONTROL INTERLOCK	SIEMENS	1
400A MAIN BREAKER	SIEMENS	1
200A POWER CIRCUIT BREAKERS	SIEMENS	1
60A POWER CIRCUIT BREAKERS	SIEMENS	4
45A POWER CIRCUIT BREAKERS	SIEMENS	3
25A POWER CIRCUIT BREAKERS	SIEMENS	2
15A POWER CIRCUIT BREAKERS	SIEMENS	1
ANALOG VOLT METER	ANALOG	1
ANALOG AMPERE METER	ANALOG	1
WATTHOUR METER	GE DSM-65	1
SUBSTATION TV-1 15KV		
LOAD BREAK SWITCH	POWELL-ESCO STYLE MA-K	1
15KV FUSED SWITCHES	WESTINGHOUSE 13.2KV WLI 600A	2
500KVA TRANSFORMER	WESTINGHOUSE DRY TYPE 1	2
2000A SWITCHBOARD	WESTINGHOUSE POWR LINE C	1
2000A CIRCUIT BREAKERS	WESTINGHOUSE SPB 100	3
BRANCH CIRCUIT BREAKERS	WESTINGHOUSE	8
TTRIP UNIT	SIEMENS RMS 800	3
POWER METER	IQ DATA PLUS 2	2
UV RELAY	DEVICE 27	4
VOLT METER		3
SUBSTATION TV-2 15KV		
LOAD BREAK SWITCH	POWELL-ESCO STYLE MA-K	1
15KV FUSED SWITCHES	SQUARE D HVL SWITCH	2
2000KVA TRANSFORMER	SQUARE D 06573637	2
SWITCHBOARD	SQUARE D QED	1
4000A CIRCUIT BREAKERS	SQUARE D SE	3

DEVICE DESCRIPTION	MODEL #	QUANTITY
CIRCUIT BREAKERS	SQUARE D ELECTRONIC TRIP CIRCUIT BREAKER	16
POWER METER	IQ DATA PLUS 2	2
INDICATOR LIGHTS	SQUARE D	20
SUBSTATION TV-3 15KV		
LOAD BREAK SWITCH	POWELL-ESCO STYLE MA-K	1
15KV FUSED SWITCHES	WESTINGHOUSE 13.2KV WLI 600A	2
500/665 KVA AA/FA TRANSFORMER	WESTINGHOUSE DRY TYPE T3250	2
2000A SWITCHBOARD	WESTINGHOUSE POWR LINE C	1
2000A CIRCUIT BREAKERS	WESTINGHOUSE SPB 100	3
BRANCH CIRCUIT BREAKERS	N/A	6
TRIP UNIT	DIGITRIP RMS 800	2
TRIP UNIT	DIGITRIP RMS 600	2
POWER METER	IQ DATA PLUS 2	2
AC KWH METER	EMON DMON MODEL 208900	1
ELECTRONIC MODULE	POWER TRAC GENIUS GE FANUC	2
SUBSTATION TV-3.2 15KV		
LINE 1 - LINE 2 SELECTOR SW.	SIEMENS ITE FCII	1
15KV FUSED SWITCHES	SIEMENS ITE PSC 1890122 BO7	1
300KVA TRANSFORMER	SIEMENS ITE A6T0300HNE-00002	1
SWITCHBOARD	SIEMENS PSC	1
500A SECONDARY MAIN CIRCUIT BREAKER	ITE SENSITRIP SOLID STATE BREAKER	1
WATTHOUR METER	GE DSM-65	1
VOLT METER	GE	1
AMPERE METER	GE	1
15KV		
LOAD BREAK SWITCH	POWELL-ESCO STYLE MA-K	1
15KV FUSED SWITCHES	WESTINGHOUSE 13.2KV WLI 600A	2
500KVA TRANSFORMER	WESTINGHOUSE DRY TYPE 1	2
SWITCHBOARD	WESTINGHOUSE	1
2000A CIRCUIT BREAKERS	WESTINGHOUSE SPB 100	3
BRANCH CIRCUIT BREAKERS	WESTINGHOUSE	7
TRIP UNIT	DIGITRIP RMS 800	3
POWER METER	IQ DATA PLUS 2	2
SUBSTATION TV05 15KV		
15KV FUSED SWITCHES	WESTINGHOUSE 13.2KV WLI 600A	2
500KVA TRANSFORMER	WESTINGHOUSE DRY TYPE 1	2
SWITCHBOARD	WESTINGHOUSE POWR LINE	1
2000A CIRCUIT BREAKERS	WESTINGHOUSE SPB 100	3
1400A BRANCH CIRCUIT BREAKERS	WESTINGHOUSE SERIES C	1
600A BRANCH CIRCUIT BREAKERS	WESTINGHOUSE	8

DEVICE DESCRIPTION	MODEL #	QUANTITY
TRIP UNIT	DIGITRIP RMS 800	3
POWER METER	IQ DATA PLUS 2	2
INDICATOR LIGHTS	WESTINGHOUSE	3
15KV		
LOAD BREAK SWITCH	POWELL-ESCO STYLE ST1T2	1
15KV FUSED SWITCHES	WESTINGHOUSE 13.2KV WLI 600A	2
500KVA TRANSFORMER	WESTINGHOUSE DRY TYPE	2
2000A SWITCHBOARD	WESTINGHOUSE POWR LINE C	1
2000A CIRCUIT BREAKERS	WESTINGHOUSE SPB 100	3
BRANCH CIRCUIT BREAKERS	WESTINGHOUSE	6
TRIP UNIT	DIGITRIP RMS 800	3
POWER METER	IQ DATA PLUS 2	3
SUBSTATION ETBA 5KV		
FUSED SWITCHES	SIEMENS	2
225KVA TRANSFORMER	TYPE HV05HTUL	1
SWITCHBOARD	SIEMENS I-T-E TYPE PSC	1
400A MAIN BREAKERS	SIEMENS	1
300A POWER CIRCUIT BREAKERS	SIEMENS	1
60A POWER CIRCUIT BREAKERS	SIEMENS	4
50A POWER CIRCUIT BREAKERS	SIEMENS	2
20A POWER CIRCUIT BREAKERS	SIEMENS	1
SOLID STATE RELAY	I-T-E SENSITRIP III	1
ANALOG VOLT METER	SIEMENS	1
ANALOG AMPERE METER	SIEMENS	1
WATTHOUR METER	GE DSM-65	1
DIGITAL POWER METER	POWER MEASUREMENT LTD. 3300 ACM	1
PHASE FAILURE RELAY	TAYLOR PHASE GUARD	1
SUBSTATION STP 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER WLI	2
2500KVA TRANSFORMER	CUTLER HAMMER TYPE VENT	2
MAIN BREAKERS	GE AKR-7D-100	3
INDICATOR LAMPS	WESTINGHOUSE	6
1600A CIRCUIT BREAKERS	AKR-7D-100	18
TRIP UNIT	MICROVERSA TRIP RMS-9	18
LOCAL/REMOTE SELECTOR	DEVICE 43	1
POWER METER	POWER MEASUREMENT LTD. 3710 ACM	2
UV RELAY	GE AC DEVICE 27	2
UNBALANCE RELAY	GE DEVICE 60	2
SUBSTATION 1C1-N1 15KV		
15KV 600A FUSED SWITCHES	GE MVS	2
2500KVA TRANSFORMER	GE SN# P105251	2

DEVICE DESCRIPTION	MODEL #	QUANTITY
3000A MAIN BREAKERS	GE WAVEPRO CAT# WE1NBBVF1XBBXFX	3
600A CIRCUIT BREAKERS	GE WAVEPRO	1
800A CIRCUIT BREAKERS	GE WAVEPRO	19
60A DISCONNECT SWITCH	GE NP	2
POWER METER	GE PQM-T20-A	2
UNBALANCE RELAY	GE	2
INDICATOR LAMPS	GE	13
MDOBUS CONCENTRATOR	GE POWER LEADER EPM	1
UPS	GE POWER SUPPLY	1
UPS	TRIPP-LITE	2
SUBSTATION 1T1-N3 15KV		
15KV FUSED SWITCHES	GE S-9727, B2484	2
2500KVA TRANSFORMER	GE SN# P105252	2
3000A MAIN BREAKERS	GE WAVEPRO	3
600A CIRCUIT BREAKERS	GE WAVEPRO	1
800A CIRCUIT BREAKERS	GE WAVEPRO	19
POWER METER	GE PQM-T20-A	2
UNBALANCE RELAY	GE 60	2
INDICATOR LAMPS	GE	13
MDOBUS CONCENTRATOR	GE POWER LEADER EPM	1
UPS	GE POWER SUPPLY	1
UPS	TRIPP-LITE	2
SUBSTATION 1T1-N5 15KV		
15KV FUSED SWITCHES	GE S-9727, B2484	2
2500KVA TRANSFORMER	GE SN# P105258	2
4000A MAIN BREAKERS	GE WAVEPRO	3
600A CIRCUIT BREAKERS	GE WAVEPRO	1
800A CIRCUIT BREAKERS	GE WAVEPRO	16
POWER METER	GE PQM-T20-A	2
UNBALANCE RELAY	GE 60	2
INDICATOR LAMPS	GE	13
MDOBUS CONCENTRATOR	GE POWER LEADER EPM	1
UPS	GE POWER SUPPLY	1
UPS	TRIPP-LITE	2
SUBSTATION 1T4-N6 15KV		
15KV FUSED SWITCHES	GE S-9727, B2484	2
2500KVA TRANSFORMER	GE SN# P105253	2
CIRCUIT BREAKERS	GE WAVEPRO	23
POWER METER	GE PQM-T20-A	2
UNBALANCE RELAY	GE 60	2
INDICATOR LAMPS	GE	13
MDOBUS CONCENTRATOR	GE POWER LEADER EPM	1
POWER SUPPLY	GE POWER SUPPLY	1
UPS	TRIPP-LITE	2

DEVICE DESCRIPTION	MODEL #	QUANTITY
SUBSTATION 1C1-E2 15KV		
5KV FUSED SWITCHES	GE S-9727, B2484	2
750KVA TRANSFORMER	GE DRY TYPE P105261-DS02817001	2
TRANSIENT VOLTAGE SURGE SUPPRESSOR	GE	2
POWER METER	GE PQM-T20-A	2
1000A MAIN BREAKERS	GE TP1610TTE1CR	3
150A CIRCUIT BREAKERS	GE SPECTRA RMS SGLB36BD0150	16
PLC	GE FANUC SERIES 90-30	1
INDICATOR LAMPS	GE	12
SUBSTATION 1T1-E4 5KV		
5KV FUSED SWITCHES	GE S-9727, B2484	2
750KVA TRANSFORMER	GE DRY TYPE	2
1000A MAIN BREAKERS	GE MOLDED CASE	3
TRIP UNIT	MICROVERSA TRIP PLUS	3
CIRCUIT BREAKERS	GE MOLDED CASE SPECTRA RMS	22
PLC	GE FANUC SERIES 90-30	1
INDICATOR LAMPS	GE	12
TRANSIENT VOLTAGE SURGE SUPPRESSOR	GE SURGE COUNTER	2
SUBSTATION S4C 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER MVS	2
2000KVA TRANSFORMER	CUTLER HAMMER DS	2
DRAWOUT BREAKERS	CUTLER HAMMER MAGNUM DS	16
TRIP UNIT	DIGITRIP 1150	16
POWER MONITOR	IQ ANALYZER	2
POWER MONITOR & SCADA	PANELMATE POWER PRO	1
TRANSIENT VOLTAGE SURGE SUPPRESSOR	RAYVOSS	2
SUBSTATION TBF-1 15KV		
LOAD BREAK SWITCH	POWELL LOADBREAK OIL SWITCH	1
15KV FUSED SWITCHES	CUTLER HAMMER MVS	2
2000KVA TRANSFORMER	CUTLER HAMMER DS	2
DRAWOUT BREAKERS	CUTLER HAMMER MAGNUM DS	16
TRIP UNIT	DIGITRIP 1150	16
POWER MONITOR	IQ ANALYZER	2
POWER MONITOR & SCADA	PANELMATE POWER PRO	1
INDICATOR LIGHTS	CUTLER HAMMER	10
PLC	CUTLER HAMMER D50 SERIES PLC	3
SUBSTATION ETBF 5KV		
15KV FUSED SWITCHES	CUTLER HAMMER MVS	2
500KVA TRANSFORMER	CUTLER HAMMER DS	2

DEVICE DESCRIPTION	MODEL #	QUANTITY
DRAWOUT BREAKERS	CUTLER HAMMER SPB-100	3
TRIP UNIT	DIGITRIP RMS	3
MOLDED CASE BREAKER	CUTLER HAMMER SERIES C	8
POWER MONITOR & SCADA	PANELMATE POWER PRO	1
POWER MONITOR	IQ DP-4000	2
BREAKER INTERFACE MODULE	CUTLER HAMMER	2
SUBSTATION TBF-2 15KV		
15KV LOAD BREAK DISC.	SQUARE D HVL SWITCH	2
2000KVA TRANSFORMER	SQUARE D POWER DRY II	2
DRAWOUT BREAKERS	CUTLER HAMMER MAGNUM DS	14
TRIP UNIT	MICROLOGIC 6.0	14
POWER METER	SQUARE D POWER LOGIC	2
PLC	PLC CPU 671 60	2
INDICATOR LIGHTS	SQUARE D	12
CT'S, PT'S AND CPT'S	SQUARE D	
SUBSTATION FLE 5KV		
5KV SWITCHGEAR	CDA-725450	2
METERING COMPARTMENT	N/A	1
800A BREAKER	ALLEN BRADLEY T6030 - C	4
AMMETER	CROMPTON ANALOG METER	4
COUNTER	CROMPTON ANALOG METER	1
SUBSTATION FLV-3 5KV		
DRAWOUT BREAKERS	EATON CUTLER HAMMER SPB 100	3
TRIP UNIT	DIGITRIP RMS	3
CIRCUIT BREAKERS	EATON CUTLER HAMMER SERIES C	14
500KVA TRANSFORMER	PAD MOUNT	2
BREAKER INTERFACE MODULE	CUTLER HAMMER	2
INDICATOR LIGHTS	CUTLER HAMMER	10
UPS	D725	1
I/O BLOCKS	FANUC	1
INDICATOR BLOCK	CUTLER HAMMER	1
POWER METER	POWER MEASUREMENT 7500	1
DRAWOUT BREAKER	CUTLER HAMMER MAGNUM DS	1
SUBSTATION FLV-4 5KV		
DRAWOUT BREAKERS	EATON CUTLER HAMMER SPB 100	3
TRIP UNIT	DIGITRIP RMS	3
CIRCUIT BREAKERS	EATON CUTLER HAMMER SERIES C	21
500KVA TRANSFORMER	PAD MOUNT	2
POWER MONITOR	POWER MEASUREMENT LTD 3710 ACM	2
INDICATOR LIGHTS	CUTLER HAMMER	10
UPS	D725	1
I/O BLOCKS	FANUC	1

DEVICE DESCRIPTION	MODEL #	QUANTITY
SUBSTATION TBD/E 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER TYPE MVS	2
2500KVA TRANSFORMER	CUTLER HAMMER DRY TYPE DS	2
DRAWOUT BREAKERS	CUTLER HAMMER MAGNUM DS	18
TRIP UNIT	DIGITRIP	18
POWER METER	CUTLER HAMMER IQ ANALYZER	2
SURGE PROTECTION	CUTLER HAMMER TVSS	2
UV/OV RELAY	BASLER ELECTRIC A3FE1JA4N4F	2
NEGATIVE PHASE SEQ. RELAY	BASLER ELECTRIC E3EE1PA	2
SYNC CHECK RELAY	BASLER ELECTRIC M1EA6PA5N3F	2
SUBSTATION ETBD/E 5KV		
5KV FUSED SWITCHES	CUTLER HAMMER TYPE MVS	2
750KVA TRANSFORMER	CUTLER HAMMER DRY TYPE	2
POWER METER	CUTLER HAMMER IQ ANALYZER	2
SURGE PROTECTION	CUTLER HAMMER TVSS	2
UV/OV RELAY	BASLER ELECTRIC A3FE1JA4N4F	2
NEGATIVE PHASE SEQ. RELAY	BASLER ELECTRIC E3EE1PA	2
SYNC CHECK RELAY	BASLER ELECTRIC M1EA6PA5N3F	2
1600A MAIN BREAKERS	CUTLER HAMMER MAGNUM DS	2
1600A MAIN BREAKERS	CUTLER HAMMER MAGNUM DS	1
MOLDED CASE CIRCUIT BREAKERS	CUTLER HAMMER	13
ATS	CUTLER HAMMER	1
SUBSTATION FX-1 15KV		
15KV LOAD BREAK DISC.	SQUARE D HVL SWITCH	2
500KVA OUTDOOR TRANSFORMER	NO NAMEPLATE	2
DRAWOUT BREAKERS	CUTLER HAMMER MAGNUM DS	14
TRIP UNIT	MICROLOGIC 6.0	14
POWER METER	SQUARE D POWER LOGIC	2
PLC	CORNING PLC	2
POWER MONITOR	SCHNEIDER ELECTRIC	1
CT'S, PT'S AND CPT'S	SQUARE D	
SUBSTATION AWX-1 15KV		
15KV LOAD BREAK DISC.	SQUARE D HVL SWITCH	2
500KVA OUTDOOR TRANSFORMER	NO NAMEPLATE	2
DRAWOUT BREAKERS	CUTLER HAMMER MAGNUM DS	16
TRIP UNIT	MICROLOGIC 6.0	16
POWER METER	SQUARE D POWER LOGIC	2
PLC	CORNING PLC	2
POWER MONITOR	SCHNEIDER ELECTRIC	1
CT'S, PT'S AND CPT'S	SQUARE D	
SUBSTATION TV-RT 15KV		
15KV LOAD BREAK DISC.	POWEL ESCO CO SY4T1	1

DEVICE DESCRIPTION	MODEL #	QUANTITY
1000KVA OUTDOOR TRANSFORMER	SQUARE D SN. 000935	1
SWITCHBOARD	SQUARE D 14205843	1
DISCONNECT SWITCH	SQUARE D QED	1
DRAWOUT BREAKERS	SQARE D QED	1
BREAKERS	SQUARE D	5
TRIP UNIT	MICROLOGIC 6.0	2
POWER METER	SQUARE D POWER LOGIC	1
CT'S, PT'S AND CPT'S	SQUARE D	
SUBSTATION S3B 15KV		
15KV FUSED SWITCHES	CUTLER HAMMER TYPE MVS	2
1000KVA TRANSFORMER	CUTLER HAMMER DRY TYPE DS	2
DRAWOUT BREAKERS	CUTLER HAMMER MAGNUM DS	21
POWER METER	CUTLER HAMMER IQ ANALYZER	2
UV/OV RELAY	BASLER ELECTRIC A3FE1JA4N4F	2
NEGATIVE PHASE SEQ. RELAY	BASLER ELECTRIC E3EE1PA	2
SYNC CHECK RELAY	BASLER ELECTRIC M1EA6PA5N3F	2
INDICATOR LIGHTS	CUTLER HAMMER	22

SCHEDULE K – HIGH VOLTAGE CABLE REPAIR

- (3) 1/C type EPR insulated, (copper tape or concentric neutral) 15 KV, copper, conductor size AWG #1/0. (133% insulation level).
- (3) 1/C type EPR insulated, shielded (copper tape or concentric neutral) 15 KV, copper, conductor size AWG #2/0. (133% insulation level).
- (3) 1/C type EPR insulated, 15 KV shielded (copper tape or concentric neutral), copper conductor, size AWG #250 KCM. (133% insulation level).
- (3) 1/C type EPR insulated, 15 KV shielded (copper tape or concentric neutral), copper conductor, size AWG #350 KCM. (133% insulation level).
- 2-way, single conductor splice per type EPR insulated, shielded 15 KV, copper cable, sizes AWG #250 KCM and/or #350 KCM.
- 2-way, single conductor splice for type EPR insulated, 15 KV shielded, copper cable, sizes AWG #1/0 and/or #2/0.
- 3-way tee, single conductor splice for type shielded, EPR insulated, 15 KV, copper cable, size #1/0 and/or #2/0.
- 3-way tee, single conductor splice for type shielded, EPR insulated, 15 KV, copper cable, sizes #250 KCM and/or #350 KCM.
- 2-way, single, conductor splice for type paper insulated, lead covered, AWG #1/0 and/or #2/0, shielded 15 KV, copper cable, concentric round.
- 2-way, single, conductor splice for type paper insulated, lead covered, AWG #250 KCM and/or #350 KCM, shielded 15 KV copper cable, concentric, round.
- 3-way WYE, single conductor splice for type paper insulated, lead covered, AWG #1/0 and/or #2/0, shielded 15 KV, copper cable, concentric round.
- 3-way WYE, single conductor splice for type paper insulated, lead covered, AWG #250 KCM and/or #350 KCM shielded 15 KV, copper cable concentric round.
- (3) loadbreak terminators type Elastimold #165LPR/165LRG, or equal; including terminators for three (3) conductors cable type EPR insulated, shielded 15 KV, copper,

conductor size AWG #1/0: include all racks, mounting, end caps, parking stand, all appurtenances, etc. for complete installation, including male and female connectors, grounding, baling assemblies.

- (3) loadbreak terminators type Elastimold #165LPR/165LRG, or equal; including terminators for three (3) conductors cable type EPR insulated, shielded 15 KV, copper, conductor size AWG #2/0: include all racks, mounting, end caps, parking stands, all appurtenances, etc. for complete installation, including male and female connectors, grounding, baling assemblies.
- (3) loadbreak terminators type Elastimold #165LPR/165LRG, or equal; including terminators for three (3) conductors cable type EPR insulated, shielded 15 KV, copper, conductor size AWG #250 MCM: include all racks, mounting, end caps, parking stands, all appurtenances, etc. for complete installation, including male and female connectors, grounding, baling assemblies.
- (3) loadbreak terminators type Elastimold #165LPR/165LRG, or equal; including terminators for three (3) conductors cable type EPR insulated, shielded 15 KV, copper, conductor size AWG #350 MCM: include all racks, mounting, end caps, parking stands, all appurtenances, etc. for complete installation, including male and female connectors, grounding, baling assemblies.
- (3) phase oil fuse cutout type G and W FC 61 rate 7.8KV/100A, or equal, including terminations for 3 conductor cable type EPR insulated, shielded 15 KV, copper, conductor size #2/0 or smaller.
- (3) slip on dry terminators type G&W #SD7, or equal, including terminations for 3 conductor cable, type EPR insulated, shielded 15 KV, copper, conductor size #2/0 or smaller.
- Soldertite termination for type G&W TRA-shape C, 3 conduct pothead. For cable type EPR insulated, shielded 15 KV, copper, size AWG #2/0 or smaller.
- Slip on terminator type G&W Pat. 1773, or equal, including termination for (1) cable conductor type EPR insulated, shielded 15 KV, copper, conductor size AWG #2/0 or smaller.
- Grounding conductor, copper, 600V, #1/0 AWG, including all terminations and removal of existing.
- 750KVA, 3 phase, 13.2KV/120/208Y or 13.2KV/277/480Y transformer (outdoor type - NO PCB's).
- 150KVA, 3 phase, 120/208Y or 277/480Y generator.
- 1000KVA, 3 phase, 120/208Y or 277/480Y generator.

SCHEDULE L – FIRE ALARM DETECTION SYSTEMS

NODE	AREA	PANEL TYPE	INITIATING POINT TOTAL
1	GRAPHIC ANNUNCIATOR NODE	TFX-800	N/A
2	"D" CONCOURSE	TFX-800	300
3	"D" TERMINAL	TFX-500	98
4	"D" BAGGAGE	TFX-500	109
5	"D" GARAGE	TFX-500	139
6	ENGINE 78	TFX-800	N/A
7	"E" CONCOURSE	TFX-800	286
8	"E" TERMINAL	TFX-500	145
9	"E" BAGGAGE	TFX-800	138
10	FIREGRAPH	-	N/A
11	"B" TERMINAL 1	TFX-500	131
12	"B" TERMINAL 2	TFX-500	112
13	"B" TERMINAL 3	TFX-500	134
14	"B" CONCOURSE	TFX-800	473
15	C.U.B.	TFX-500	49
16	"C" BAGGAGE	TFX-500	112
17	"C" GARAGE	TFX-500	143
18	"B" BAGGAGE	TFX-800	264
19	"C" CONCOURSE	TFX-800	417
20	"C" TERMINAL 1	TFX-500	149
21	"C" TERMINAL 2	TFX-500	86
22	"A" EAST CONCOURSE	TFX-800	568
23	"A" EAST BAGGAGE	TFX-800	238
24	LIGHTING VAULT #4	TFX-500	5
25	ENGINE 78 – HUB	-	N/A
26	"F" CONCOURSE	TFX-800	252
27	"F" TERMINAL	TFX-800	180
28	"TERM-A" WEST TERMINAL EAST	TFX-800	455
29	"TERM-A" WEST TERMINAL MEZZANINE	TFX-800	490
30	"TERM-A" WEST TERMINAL WEST	TFX-800	500
31	"TERM-A-WEST" CONCOURSE	TFX-800	342
32	"TERM-A" WEST FOOTBALL #1	TFX-800	359
33	"TERM-A" WEST FOOTBALL #2	TFX-800	N/A
34	RAMP CONTROL TOWER	TFX-500	105
35	FIREGRAPH #2	-	N/A
36	"TERM-A" WEST CONCOURSE (FLR 1)	TFX-800	316
37	RUNWAY 8-26 TUNNEL	TFX-500	24
38	ARFF TRAINING FACILITY	TFX-500	29
39	GARAGE TERMINAL "1"	TFX-500	77
40	GARAGE E/F	TFX-800	198
41	DEICING FACILITY	TFX-500	20
42	USAIR EXPRESS HANGER	TFX-400	50
43	"TERM-A" WEST DRU	TFX-800	N/A
44	"TERM-A" WEST USAIR CLUB- MEZZ. #2	TFX-800	70

NODE	AREA	PANEL TYPE	INITIATING POINT TOTAL
45	CARPENTER'S SHOP	TFX-800	13
	TOTAL		7,576

SCHEDULE N – BIRD CONTROL

Representative listed areas, but not limited to the following:

- Terminals "A-West" through "F" Arrivals and Baggage Claims: All roof areas, commercial vehicle areas behind terminal, underneath bridge areas, beam structures, canopies, pipes and signs, underneath garage public access eave areas, and connecting bridges.
- Terminals "A-West" through "F" Departures Terminals and Concourses: All roof areas, signs, underneath bridge areas, building overhangs, beam structures, pipe and eaves.
- Terminals "A/B" through "E" Train Platforms: All roof areas, underneath bridge areas, canopy under train platform, signs, pipes and eaves.
- Interior terminal areas when necessary.
- Bridges Interconnecting Terminals: All roof area, beneath bridges.
- Airfield-Side: All areas that are applicable (i.e., concourses, out bound bag areas, tunnels, etc.).
- Philadelphia Northeast Airport: Areas as required.

SCHEDULE Q – GLASS, PLASTIC REPLACEMENT

Representative glass types, but not limited to the following:

- ¼" Clear tempered or heat absorbing T-Window
- ¼" Tinted tempered or heat absorbing T-Window
- 1" Clear insulated tempered or heat absorbing T-Window
- 1" Tinted insulated tempered or heat absorbing T-Window
- Rough herculite ¾"
- Tempered polished plate glass door and side lights ¾" complete with aluminum top and bottom shoes
- ¼" Clear Mirrors as used in Restrooms
- ¼" Clear tempered or heat absorbing glass in aluminum frame
- ¼" Tinted tempered or heat absorbing glass in aluminum frame
- 1" Clear insulated heat absorbing or tempered glass in aluminum frame
- 1" Tinted insulated heat absorbing or tempered glass in aluminum frame
- 1" Clear insulated annealed glass in aluminum frame
- 1" Tinted insulated annealed glass in aluminum frame
- 1" Clear insulated, tempered interior, laminated exterior in aluminum frame
- 1" Tinted insulated, tempered interior, laminated exterior in aluminum frame
- 1-1/2" Clear insulated, tempered interior, 1/2" laminated exterior in aluminum frame
- 1-1/2" Tinted insulated, tempered interior, 1/2" laminated exterior in aluminum frame
- 1" Clear insulated, tempered interior, laminated exterior, Low E coating in aluminum frame
- 1" Tinted insulated, tempered interior, laminated exterior, Low E coating in aluminum frame
- 3/8" Clear tempered glass in aluminum frame
- 3/8" Tinted tempered glass in aluminum frame
- ¾" Laminated glass, (2)3/8" clear glass with clear or white translucent interlayer
- 3/8" Clear laminated glass
- ½" Clear laminated glass
- ½" Acuosta-Pane 39 (Globe Amerida) in aluminum frame
- ¼" Heat strengthened Spandrel Glass
- Flight Information Display (FIDS) Cabinet glass
- ¾" Plexiglass for temporary closure, installed and removed
- ½" Plexiglass for temporary closure, installed and removed
- ¼" Plexiglass for temporary closure, installed and removed
- Tinting film applied to existing glass
- Resealing of glass including removal, new gasket/seals, replacement and cleaning, per linear foot of glass perimeter
- 3/8" Clear annealed laminated bent glass
- 1-1/8" Insulated; Tinted Tempered Glass (Exterior)
- 3/8" Vinyl Laminated Glass (Interior)
- 1" Insulated; Tinted Tempered Glass (Exterior)
- Clear Tempered Glass (Interior)
- 1" Insulated; Tinted Tempered Glass (Exterior)
- Annealed Glass (Interior)
- ¼" Uninsulated; Tinted Tempered Glass (Exterior)

- 3/8" Uninsulated; Tinted Tempered Glass (Exterior)
- 1" Insulated; Tinted Tempered Glass (Exterior)
- 3/8" Vinyl Laminated Glass (Interior)
- 1-1/8" Insulated; Tinted Tempered Glass (Exterior)
- 3/8" Vinyl Laminated Glass (Interior)
- 1" Insulated; Exterior Lite 1/4" Thk Laminated, Graylite
- Interior Lite 1/4" Thk Laminated, Clear Glass
- 3/8" Spandrel glass; Laminated
- 3/8" Spandrel glass; Laminated, To Match Glaze
- 3/8" Azurlite glass; Laminated
- 1" Vision glass - Clear Annealed Glass (Exterior)
- Clear Laminated Glass (Interior)
- 1" Vision glass - Clear H.S. with Reflective Coating (Exterior)
- Clear Annealed Glass (Interior)
- 1" Spandrel glass - Reflective Coating Tempered (Exterior)
- Tempered Glass (Interior)
- Glass fins - Clear Annealed Laminated Glass
- Clear Liquid Resin Interlayer(Polished Edges)
- 1" Vision glass - Clear Tempered Glass (Exterior)
- Clear Laminated Glass (Interior)
- 1" Vision glass - Clear Heat Strengthen (Exterior)
- Clear Annealed Glass (Interior)
- 1" Vision glass - Clear Heat Strengthen (Exterior)
- Clear Tempered Glass (Interior)
- 1" Vision glass - Clear H.S. with Reflective Coating (Exterior)
- Clear Tempered Glass (Interior)
- 1" Vision glass - Clear Heat Strengthen (Exterior)
- Clear Laminated Glass (Interior)
- 1" Vision glass - Clear Heat Strengthen w/ reflective coating (Ext.)
- Clear Laminated glass (Interior)
- B/C Security Checkpoint glass

SCHEDULE R – INTERIOR COSMETIC REPAIRS AND EXTERIOR FINISHES RESTORATION/MAINTENANCE

Representative types, but not limited to the following:

- Resilient Flooring:
 - Vinyl composition tile 1/8" gauge commercial vinyl, standard size tile, as manufactured by Armstrong or equal
 - Sheet vinyl flooring standard width .085" gauge as manufactured by Armstrong or equal
 - Rubber tile, smooth 1/8" gauge as manufactured by Endura or equal
 - Standard size tile
 - Standard width sheeting
 - Rubber, raised circular and raised square design, standard profile or low profile design as manufactured by Enduro or equal
 - Standard size tile
 - Standard width sheeting
 - Rubber stair treads, heavy duty depth round or square nose 12 1/2, thickness 1/4"
 - Stair treads, raised circular design, raised square design, low profile as manufactured by Endura or equal
- Tile
 - 1x1
 - 1x2
 - 2x2
 - 4x4
 - 6x6
 - 6x6x3/4"
- Formica or Wilson Art or equal 4'x8' sheets
- Carpet Tile:
 - Shaw Contract Group
 - Chroma style: #59583
 - Solution Q extreme nylon
 - 1/12 gauge 20.00 oz/yd
 - Yarn weight, 100%
 - Solution dyed ecoworx tile
 - Backing
 - Shaw Contract Group
 - Colorways 18"x36"
 - Tile shaded: 95585
 - Shaw Contract Group
 - No Rules Collection
 - Chroma style: #59583
 - Base color: #83750 two tone
 - Color account: #83860 Firebrick
- Broadloom Carpet
- Carpet, padding and adhesive
- Vinyl cove base
- Solid surface toilet stall doors
 - Corian toilet stall door up to 10 square feet, with hardware
 - Corian toilet stall door 10 square feet and larger, with hardware

- Terrazzo
- Fiberglass soffit
- Airport seating
- Ceiling tile

SCHEDULE T – SPECIALIZED EQUIPMENT SERVICES

Representative equipment, but not limited to the following:

Group One A:

- Handling steel and stone in connection with erection.
- Cranes doing hook work
- Any machines handling machinery
- Concrete Pumps (Building)
- High Rail/Burro Crane
- Rail Loader (Winch Boom Type)
- Machines similar to above, including remote control equipment

Group Two:

- All types of cranes
- All types of backhoes
- Cableways
- Draglines
- Keystones
- All types of shovels
- Derricks
- Pavers 21E and over
- Trenching machines
- Trench shovels
- Gradalls
- Front- end Loaders
- Boat Captain
- Hoist with Two Towers
- Building Hoists-double drum (unless used as a single drum)
- Pippin type backhoes
- Tandem scrapers
- Tower type crane operation erecting dismantling jumping or jacking
- Drills self-contained (Drillmaster type)
- Fork lift (20ft. and over)
- Motor Patrols (fine grade)
- Batch Plant with Mixer
- Carryalls, Scrapers, Tournapulls
- Roller (High Grade Finishing)
- Spreaders (Asphalt)
- Bulldozers and Tractors
- Mechanic-Welder
- Conveyor Loaders (Euclid-Type Wheel)
- Concrete Pumps (Heavy Highway)
- Milling Machine
- Bobcat
- Side Boom
- Directional Boring Machines
- Vermeer Saw Type Machine (other than hand held)

- Tractor Mounted Hydro Axe
- Chipper with boom
- All Autograde and concrete finishing machines
- Bundle Pullers/Extractors (Tubular)

Group Two A:

- Crawler backhoes and Crawler gradalls over one (1) cubic yard factory rating
- Hydraulic backhoes over one (1) cubic yard factory rating Single person operation truck cranes 15 ton and over factory rating Cherry picker type machinery and equipment 15 ton and over factory rating, etc.
- A Reach Master with a minimum reach of 95 ft.
- All Machines similar to the above including remote control equipment

Group Three:

- Asphalt Plant Engineers
- Conveyors (except building conveyors)
- Well Drillers
- Forklift Trucks of all types
- Ditch Witch (small trenchers)
- Motor Patrols
- Fine Grade machines
- Rollers
- Concrete Breaking Machines (Guillotine Only)
- Stump Grinder
- High or Low Pressure Boilers
- Building Hoist (single drum)
- Elevator Operator (New Construction)
- Machines similar to above including remote control equipment

Group Four:

- Seamen Pulverizing Mixer
- Form Line Graders
- Farm Tractors
- Road Finishing Machines
- Concrete Spreaders (Heavy Highway)
- Power Broom (self-contained)
- Seed Spreader
- Grease Truck
- Machines similar to the above including remote control equipment

Group Five:

- Compressors
- Pumps
- Well pint pumps
- Conveyors (Building)
- Welding Machines
- Heaters
- Tireman, Power Equipment
- Maintenance Engineers (Power Boats)

- Miscellaneous Equipment
- Elevator Operator (Renovations)
- House Car
- Machines similar to above including remote control equipment

Group Seven A:

- Handling steel and stone in connection with erection
- Cranes doing hook work
- Any machines handling machinery
- Cable spinning machine
- Helicopters
- Concrete pumps (Building)
- High Rail/Burro Crane
- Rail Loader (Winch Boom Type)
- Machines similar to above, including remote control equipment

Group Seven B:

- All types of cranes
- All types of backhoes
- Cableways
- Conveyor loader (Euclid-type wheel)
- Drag lines
- Keystones
- All types of shovels
- Derricks
- Pavers 21E and over
- Trench shovels
- Trenching machines
- Gradalls
- Front-end loaders
- Hoist with two towers
- Concrete pumps (heavy, highway)
- Building hoists-double drum (unless used as a single drum)
- Mucking machines in tunnel
- Pippin type backhoes
- Bobcat
- Tandem scrapers
- Side boom
- Tower type crane operation, erecting, dismantling, jumping or jacking
- Directional boring machines
- Vermeer saw type machine (other than handheld)
- Drills self-contained (Drillmaster type)
- Fork lift (20 feet and over)
- Tractor mounted hydro axe
- Motor patrols (fine grade)
- Chipper with boom
- Batch plant with mixer
- All autograde and concrete finishing machines

- Carryalls, scrapers and tournapulls
- Rollers (high grade finishing)
- Bndle pullers/extractors (tubular)
- Spreaders (asphalt)
- Bulldozers and tractors
- Mechanic – welders
- Production switch tamper
- Ballast regulators
- Tie replacer
- Rail/road loader
- Power jack liner
- Machines similar to above, including remote control equipment