AGREEMENT NO. 13-041

BETWEEN

NEW JERSEY TRANSIT CORPORATION

AND

JACOBS ENGINEERING GROUP, INC.

FOR PROFESSIONAL SERVICES

This Agreement made as of December 8, 2014, between the New Jersey Transit Corporation (hereinafter "NJ TRANSIT") a public instrumentality of the State of New Jersey and Jacobs Engineering Group Inc. having its principal place of business at 299 Madison Avenue, PO Box 1936, Morristown, New Jersey 07962 (hereinafter the "Consultant").

WITNESSETH:

WHEREAS, the Board of Directors of NJ TRANSIT, at its meeting of January 8, 2014, authorized the Executive Director to enter into this Agreement with the Consultant for Architectural and Engineering Design Services of Phase 1: Concept and Preliminary Design for County Yard Improvements; and

WHEREAS, the said Consultant, for and in consideration of the payments hereinafter specified and agreed to be made by NJ TRANSIT, hereby covenants and agrees to commence and complete the work as follows:

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein contained, the parties hereto covenant and agree with each other as follows:

1. CONSULTANT SERVICES: The Consultant, at the direction of NJ TRANSIT, shall provide to NJ TRANSIT services in conformance with the scope of services set forth in Exhibit A (Project Services), annexed hereto and made a part hereof.

2. COMPENSATION: This Agreement is a cost plus fixed fee contract. Costs and fixed fees associated with each task and phase, if any, are subject to adjustment in accordance with Section 5, Modification of Agreement. NJ TRANSIT shall, subject to the availability of funds and audits, pay the Consultant for work identified in Exhibit A (Scope of Services). The Consultant's total costs and fees have

been identified as an amount not to exceed $7,641,757.77 set forth in Exhibit B (Cost Information), annexed hereto and made part hereof. The costs have been identified as $2,636,216.58 for direct labor $3,573,977.62 for indirect costs and $810,544.15 for direct expenses. The fixed fee has been identified as $621,019.42. Payment shall be made only for work, which is actually performed and approved by NJ TRANSIT. The Consultant shall render monthly invoices for direct and indirect charges incurred pursuant to this Agreement no later than two (2) weeks after the end of the month. NJ TRANSIT will make payment within thirty (30) days after approval of the Consultant's invoice. The invoices shall be detailed in accordance with procedures and formats prescribed by NJ TRANSIT.

Direct labor rates shall be the wages or salaries actually paid to employees, principals or partners directly charging time to the project.

Maximum provisional indirect cost rates (e.g. fringes, overhead, G&A, etc.) have been computed by the Consultant for it and its subconsultants and considered acceptable by NJ TRANSIT. The following provisional rates shall be in effect for the duration of the Agreement unless revised as mutually agreed or adjusted as provided below:

Jacobs Engineering Group	118.00%
Parsons Brinckerhoff	158.80%
BEM Systems, Inc.	169.00%
GTS Consultants, Inc.	151.00%
Sowinski Sullivan Architects, PC	135.20%
Amy S. Greene Environmental Consultants, Inc. (ASGECI)	169.30%
Matrix New World Engineering, Inc.	149.95%
IH Engineers, P.C.	120.00%

Direct expenses shall be only those costs which are necessary to accomplish the scope of services and not excludable as direct costs by the Federal Acquisition Regulations or not otherwise compensated under the Consultant's direct labor and indirect cost rates. All direct expense purchases of goods, materials and services made by the Consultant on behalf of NJ TRANSIT shall be made competitively wherever practicable.

Direct expense compensation for travel, subsistence and lodging costs will be in accordance with the NJ TRANSIT Travel and Business Expense Directive (Exhibit C).

Should the Consultant's or any of its subconsultant's actual indirect cost rates for their

fiscal year be determined to be less than the established provisional indirect rates, and should the amount invoiced by and paid to the Consultant exceed those rates for that fiscal year, the amounts invoiced shall be subject to downward adjustment as determined by the actual indirect cost rates. All overpayments shall be reimbursed to NJ TRANSIT within 30 days of notification. No upward adjustments shall be allowed.

Direct labor rates, indirect cost rates and direct expenses are subject to audit and downward adjustment only.

Interest payable on excess overhead or any other excess amounts paid to the Consultant by NJ TRANSIT, and not previously remitted to NJ TRANSIT, shall accrue at the prime rate as established by the United States Federal Reserve and published in The Wall Street Journal. Interest shall be applied to balances owed in excess of $5,000 as determined by either the Consultant or NJ TRANSIT. Application of interest to excess payments made in the preceding fiscal year shall begin six (6) months after the close of the Consultant's fiscal year. Interest shall continue to accrue monthly at the prime rate until all amounts have been remitted to NJ TRANSIT, unless amounts owed NJ TRANSIT and related accrued interest are deducted by NJ TRANSIT from any amounts owed the Consultant. Within 180 days of the end of the Consultant's and Subconsultant's fiscal year or accounting periods of no less than three months each should the contract terminate, the Consultant's and Subconsultant's Chief Financial Officer shall furnish NJ TRANSIT with a Statement of Direct Labor and Indirect Costs, aka, Statement of Overhead attesting that the statement(s) has been prepared in conformity with accounting principles generally accepted in the United States and reflects all adjustments required by the Federal Acquisition Regulations. Preferably such fiscal or stub period statements should be certified by an independent public accountant. Failure to provide the requisite Statements of Overhead in a format acceptable to NJ TRANSIT may result in NJ TRANSIT withholding payment of fee and all or a portion of Indirect Costs in an amount determined by NJ TRANSIT to cover its potential exposure. Direct labor rates, indirect costs and direct expenses invoiced by and paid to the Consultant are subject to audit by NJ TRANSIT and further adjustment, if any, as determined by the audit(s).

Costs incurred above the authorized contract amount are not reimbursable unless the Contracting Officer has authorized, in writing, the reimbursement of such costs.

All costs incurred under this Agreement by the Consultant and approved subconsultants, including those costs resulting from changes to, modifications of and termination of the Agreement, must as a minimum be considered allowable and allocable in accordance with the cost principles of Part 31 of the

Federal Acquisition Regulations (48 CFR, Part 31). The Contracting Officer's determination on the allowability, allocability and reasonableness of incurred costs shall be final and conclusive.

3. LIMITATION OF FUNDS:

A.) The Consultant estimates that performance of this Agreement will not cost NJ TRANSIT more than the estimated cost specified in Exhibit B. The Consultant agrees to make every effort to perform the work specified in Exhibit A and all obligations under this Agreement within the estimated cost.

B.) The Purchase Order specifies the amount presently available for payment by NJ TRANSIT and allotted to Phase I of the Scope of Services and the tasks the allotted amount will cover. The parties contemplate that NJ TRANSIT will allot additional funds incrementally to the Purchase Order up to the full estimated cost as specified in Exhibit B inclusive of all fees. The Consultant agrees to perform, or have performed, work on the Agreement up to the point at which the total amount paid and payable by NJ TRANSIT under the Agreement approximates but does not exceed the total amount actually allotted by NJ TRANSIT for each of the tasks identified in the Agreement.

C.) The Consultant shall notify the Contracting Officer in writing whenever it has reason to believe that within the next sixty (60) days the costs it expects to incur under this Agreement by each task, when added to all costs previously incurred, will exceed seventy-five percent (75%) of the total task amount so far allotted by NJ TRANSIT. The notice shall state the estimated amount of additional funds required to continue performance for the task, as specified in Exhibit A, beyond the total estimated allotted task amount.

D.) If, after notification, additional funds are not allotted for that task identified in Paragraph C the Contracting Officer may terminate this Agreement, in whole or in part, in accordance with the provisions of Section 13, Termination of the Agreement for Convenience.

E.) Except as required by other provisions of this Agreement:

1.) NJ TRANSIT is not obligated to reimburse the Consultant for costs incurred in excess of the total amount allotted by task or in total by NJ TRANSIT for this Agreement; and

2.) The Consultant is not obligated to continue performance under this Agreement (excluding actions under Section 13, Termination of the Agreement for Convenience) or otherwise incur costs in excess of the amount then allotted to the Agreement by NJ TRANSIT until the Contracting Officer notifies the Consultant in writing that the amount allotted by NJ TRANSIT has been increased and

specifies an increased amount, which shall then constitute the total amount allotted by task and in total by NJ TRANSIT for this Agreement.

F.) No notice, communication, or representation in any form other than that specified by the Contracting Officer, shall affect the amount allotted by NJ TRANSIT to this Agreement. In the absence of the notice specified in Paragraph C, NJ TRANSIT is not obligated to reimburse the Consultant for any costs in excess of the total amount allotted by NJ TRANSIT to this Agreement, whether incurred during the course of the Agreement or as a result of termination.

G.) Change orders shall not be considered an authorization to exceed the amount allotted by NJ TRANSIT specified in Exhibit B, unless they contain a statement increasing the amount allotted.

H.) Nothing in this clause shall affect the right of NJ TRANSIT to terminate this Agreement.

I.) If NJ TRANSIT does not allot sufficient funds to allow completion of the work, the Consultant is entitled to a percentage of the fee specified in Exhibit B equalling the percentage of completion of the work contemplated by this Agreement.

4. EFFECTIVE DATE AND TERM OF AGREEMENT: This Agreement shall become binding upon the parties hereto when executed on behalf of NJ TRANSIT by the Contracting Officer or his designee. The Consultant shall commence work upon the Project Services within five (5) working days upon receipt of a written Notice to Proceed to that effect which shall be issued on behalf of NJ TRANSIT by its Contracting Officer or his designee upon the execution of the Agreement by NJ TRANSIT. The Consultant shall complete the Project Services Phase I by March 2015. The Contracting Officer for NJ TRANSIT shall be the Chief of Procurement & Support Services or his designees within NJ TRANSIT's Procurement Department.

5. MODIFICATION OF AGREEMENT:

A.) The Project Services set forth in Exhibit A of this Agreement may be reduced, modified or expanded within or beyond the scope of this Agreement by written contract modifications executed by NJ TRANSIT and the Consultant.

Except as provided in Paragraph B, below, in the event that NJ TRANSIT requires a reduction, expansion, or modification of the Project Services, the Contracting Officer shall issue to the Consultant a written notification which specifies such reduction, expansion, or modification. Within fifteen (15)

days after receipt of the written notification, the Consultant shall provide the Contracting Officer with a detailed cost and schedule proposal for the work to be performed or to be reduced. This proposal shall be accepted by NJ TRANSIT or modified by negotiations between the Consultant and NJ TRANSIT and, thereafter, a contract modification shall be executed in writing by both parties.

B.) Notwithstanding Paragraph A, above, the Contracting Officer may at any time, by written order, make changes within the general scope of this Agreement to the work to be performed by the Consultant. If any such change causes an increase or decrease in the estimated cost of, or the time required for, the performance of any part of the work under this Agreement, whether or not changed by the order, the Contracting Officer shall make such adjustments as are appropriate and equitable and shall modify the Agreement in writing accordingly. Any claim by the Consultant for adjustment under this clause must be asserted within thirty (30) days from the date of receipt by the Consultant of the notification of change; provided however, that the Contracting Officer, if he decides that the facts justify such action, may receive and act upon such claim asserted at any time prior to final payment under this Agreement. Failure to agree to any adjustment shall be a dispute within the meaning of Section 29 "Disputes". However, nothing in this clause shall excuse the Consultant from proceeding with the Agreement as changed.

C.) No services for which an additional cost or fee will be charged by the Consultant shall be furnished without the prior express written authorization of the Contracting Officer.

D.) Unless specified in a written contract modification, no change, reduction, modification or expansion of the Project Services within or beyond the scope of this Agreement shall serve to modify the terms and conditions of this Agreement.

E.) Whenever an "AS DIRECTED TASK" appears in Exhibit A "Scope of Work" and/or Exhibit B "Cost Information", NJ TRANSIT has provided an allowance for additional or supplemental Consultant work that has not yet been defined. This allowance is provided for the sole convenience of NJ TRANSIT and can only be used for work authorized by NJ TRANSIT.

All additional or supplemental work authorized under this provision will be incorporated into the Contract by Change Order pursuant to Article 5 MODIFICATION OF AGREEMENT. The Change Order will describe the additional or supplemental work with any associated cost changes and will reduce the AS DIRECTED TASK allowance in the amount specified in the Change Order. Residual amounts

remaining in the AS DIRECTED TASK Allowance at Final Completion will be deleted from the Contract Amount by NJ TRANSIT.

6. STATUS REPORTS: The Consultant shall submit to NJ TRANSIT a monthly written status report outlining the status of the Project to date. Each status report shall be a concise narrative description of activities to date and planned activities for the coming month. A final report, one (1) original and seven (7) copies, shall be submitted by the Consultant upon completion of the project.

7. REVIEWS: Until the completion of the Project Services and the final payment therefore by NJ TRANSIT, the Consultant shall allow representatives of NJ TRANSIT to visit the offices and other places of work of the Consultant periodically without prior notice to monitor the Consultant's work completed or in progress pursuant to this Agreement. NJ TRANSIT shall, within a reasonable time, review and act upon all documents submitted by the Consultant. Both parties agree that if either party deems it advisable to hold either a conference or any inspection of work in progress, all parties shall be notified and may participate.

8. OVERPAYMENTS: If at any point NJ TRANSIT determines that the Consultant has been overpaid, NJ TRANSIT shall notify the Consultant in writing of the overpayment. The Consultant shall repay the amount of overpayment to NJ TRANSIT within thirty (30) days of said notification.

9. ASSIGNMENT, SUBCONTRACT AND DISPOSITION APPROVAL: The Consultant shall not sell, transfer or otherwise dispose of this Agreement or its interest therein to any other parties without the prior written consent of NJ TRANSIT. The Consultant shall not, without the prior written approval of NJ TRANSIT, assign or subcontract any of the Project Services under this Agreement. Neither shall any subconsultant, without the prior written approval of NJ TRANSIT, further assign or subcontract any of the work to be performed pursuant to this Agreement.

The terms of this Agreement shall be incorporated into and made part of any assignment or subcontract pursuant to this Agreement. As a condition of obtaining NJ TRANSIT's approval of any proposed subconsultant, the Consultant shall provide NJ TRANSIT with sufficient documentation regarding the proposed subconsultant or assignee for NJ TRANSIT review and approval and shall provide to NJ TRANSIT a copy of the agreement established between the Consultant and its subconsultant or assignee. Any assignment or subcontract of work to be performed under this Agreement, entered into without prior written

approval by NJ TRANSIT, shall be void and unenforceable unless NJ TRANSIT subsequently gives written approval or consent.

If the Consultant's assignee or subconsultant fails to perform in accordance with the terms of its assignment or subcontract, the Consultant shall complete or pay to have completed the work which the assignee or subconsultant failed to complete at no additional cost to NJ TRANSIT.

10. INDEMNIFICATION: The Consultant shall defend, indemnify and save harmless the State of New Jersey, U.S. Department of Transportation, National Passenger Railroad Corporation ("Amtrak"), Consolidated Rail Corporation ("Conrail"), New Jersey Transit Corporation ("NJ TRANSIT"), and their officers, employees, servants and agents ("Indemnified Parties") from all suits, actions, or claims of any character including, but not limited to, expenditures and costs of investigations, hiring of witnesses, court costs, counsel fees, settlements, judgments or otherwise, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of said Consultant or its sub-consultants in the performance of the work in this Agreement; or because of any act or omission, neglect, or misconduct of said Consultant or its sub-consultants in the performance of the work outlined in this Agreement; or from any claims or amounts arising or recovered under the Worker's Compensation Act, or any other law, ordinance, order, or decree. So much of the money due the said Consultant under and by virtue of this Contract as may be considered necessary by NJ TRANSIT for such purpose may be retained for the use of NJ TRANSIT; except that money due to the Consultant will not be withheld when the Consultant produces satisfactory evidence that it is adequately protected by public liability and property damage insurance. NJ TRANSIT shall, as soon as practicable after a claim has been made against it, give written notice thereof to the Consultant along with full and complete particulars of the claim. If the suit is brought against NJ TRANSIT, NJ TRANSIT shall immediately forward to the Consultant every claim, demand, complaint, notice, summons, pleading or other process received by NJ TRANSIT or its representatives. NJ TRANSIT shall have the right, but not the obligation, to participate, to the extent it deems appropriate, in the defense of the matter and must concur in the terms of any settlement or other voluntary disposition of the matter. In the defense of any such claims, demands, suits, actions and proceedings, the Consultant shall not raise or introduce, without the express written permission in advance of the Attorney General of the State of New Jersey, any defense involving in any way the immunity of NJ TRANSIT or the State of New Jersey, the jurisdiction of the tribunal over NJ TRANSIT

or the State of New Jersey, or the provisions of any statutes respecting suits against NJ TRANSIT or the State of New Jersey.

The Consultant is an independent professional firm contracting with NJ TRANSIT to provide specialized services. The Consultant, its officers, partners, employees, agents and servants are not to be deemed employees, agents or servants of NJ TRANSIT. The Consultant assumes full responsibility for liability arising out of their conduct whether by action or inaction. NJ TRANSIT assumes no liability or responsibility for the acts of the Consultant, its officers, partners, employees, agents or servants, by virtue of entering into this Agreement.

11. INSURANCE: The Consultant agrees to carry the following types and amounts of insurance listed below and shall also be required to comply with the requirements set forth by both National Railroad Passenger Corporation ("Amtrak") and Consolidated Rail Corporation ("Conrail") which are contained in Exhibit "E" and Exhibit "F".

The Consultant agrees to carry professional liability insurance. Said insurance shall be in an amount not less than $5,000,000 for any one claim and annual aggregate with a deductible not to exceed $100,000 for any one claim, unless approved otherwise by NJ TRANSIT. The Consultant agrees to maintain this coverage for 3 years after completion of this Agreement including any amendments thereto. There shall be no exclusions in coverage for the insured's interest in a joint venture or Limited Liability Company or Limited Liability Partnership. There shall be no exclusions in coverage for pollution, mold or asbestos.

The Consultant agrees to carry commercial general liability insurance using ISO Occurrence Form CG0001 10/93 or equivalent. The policy shall provide a minimum amount of $5,000,000 each occurrence, $5,000,000 personal and advertising injury, $5,000,000 general aggregate and $5,000,000 products completed operations aggregate. Coverage provided under this liability policy shall be on an occurrence basis and shall include, but not be limited to, bodily injury and property damage coverage including products liability/completed operations coverage, premises operations liability, blanket contractual liability, personal injury liability, advertising injury coverage, independent contractors liability, mobile equipment, damage from explosion, collapse and underground hazards, and cross liability and severability of interests clause. Additional insured endorsement CG2026 11/85, CG 2010 11/85 or CG 2010 10/93 (but only if modified to include both ongoing and completed operations) naming NJ TRANSIT and the Indemnified Parties and coverage must apply on a primary and non-contributory basis. The policy shall allow the Consultant to

waive its and its insurer's rights of subrogation. There shall be no coverage exceptions for property containing or adjacent to railroad facilities or other transportation facilities. The Consultant shall furnish completed operations insurance written to the limits stipulated herein for Commercial General Liability Insurance. Coverage shall be required and maintained in force for a minimum of three years following acceptance of the overall Contract, regardless of any beneficial occupancy by NJ TRANSIT during the Contract term.

The Consultant agrees to carry automobile liability insurance applicable to all owned, non-owned, hired or leased vehicle with a minimum of $1,000,000 combined single limit for bodily injury and property damage. With respect to said insurance, NJ TRANSIT and the indemnified parties shall be named as an additional insured at no additional cost to NJ TRANSIT.

The Consultant shall take out, secure and maintain during the term of this Agreement and shall require its assignees and subconsultants, if any, to secure and maintain during the term of this Agreement, a policy of workers' compensation insurance in compliance with the laws of the State where the work is to be performed. In case any class of employees on the project under this Agreement is not protected under the Worker's Compensation Statute, the Consultant shall provide and shall cause each subconsultant to provide employer's liability insurance for the protection of each of its employees as are not otherwise protected. Limits of Employer Liability are as follows: Employer's Liability: $1,000,000 each accident / $1,000,000 each employee disease / $1,000,000 policy limit – disease.

The Consultant agrees to carry contractor's pollution liability insurance covering the liability arising out of any sudden and/or non-sudden pollution or impairment of the environment, including clean-up costs and defense that arise from the operation of Consultant or its subconsultants. Coverage under this policy shall have limits of liability with a minimum of $2,000,000 per occurrence. This policy shall name NJ TRANSIT and the indemnified parties as additional insured at no cost to NJ TRANSIT.

The Consultant (or whomever is performing environmental removal or remediation work) must procure and maintain through the term of this Agreement Environmental Impairment Liability Insurance, including lead abatement if required, and removal operations in an amount of $2,000,000 per occurrence and $2,000,000 aggregate. Transport of any hazardous waste generated under this Contract shall require Hazardous Waste Haulers Insurance (MCS90) in an amount of $2,000,000 per occurrence or statutory minimum, whichever is greater.

Should it be required, NJ TRANSIT will provide Railroad Protective Comprehensive General

Liability Insurance coverage for this Contract.

All policies are to be written by insurance companies authorized to do business in New Jersey with an A.M. Best and Company rating of "A-" or better (or equivalent rating). All policies shall contain an endorsement that if the policy is canceled, non-renewed or is subject to any material reduction in limits, the Insurer will provide written notice to NJ TRANSIT's Contract Specialist for this project at least thirty (30) days prior to the occurrence of such event. The foregoing insurance coverage is not intended to nor does it limit the liability of the Consultant to hold the State and NJ TRANSIT harmless.

The Consultant shall provide NJ TRANSIT with evidence of the Consultant's insurance. Said insurance shall be maintained in full force and effect by the Consultant, subconsultant and assignee, if any, from the effective date of this Agreement until completion of and final payment for the Project Services. If the Consultant (subconsultant or assignee) shall fail or refuse to renew its insurance, as necessary, NJ TRANSIT may cancel or refuse to make payment of any further monies due under this Agreement.

The Consultant agrees to require its subcontractors to carry insurance of the type and in the amounts necessary to protect the Consultant from liability arising under this Agreement. The contracts with the subcontractors will require that the insurance policies name the Consultant, NJ TRANSIT and the Indemnified Parties as an additional insured at no additional cost to NJ TRANSIT in accordance with this provision. To the extent that a subcontractor causes bodily injury and/or property damage to a third party and is uninsured or underinsured, Jacobs Engineering Group, Inc.'s policies would provide coverage for the vicarious liability of its subcontractors.

12. AUDIT AND INSPECTION OF RECORDS: The Consultant shall retain all records, data, documents, reports and material relating to the Agreement and Contract work and shall permit authorized representatives of NJ TRANSIT, and the Office of the State Comptroller, U.S. Department of Transportation (USDOT) and the Comptroller General of the United States, upon request, to inspect, audit and photocopy all project work, materials , payroll, and all data and records of the Consultant relating to products, transactions or services provided under its performance and its subconsultants and assignees, if any, under this Agreement from the effective date hereof through and until the expiration of five (5) years after completion of and final payment for the Project Services. The Consultant further agrees to include in all its subcontracts hereunder a provision to the effect that the subconsultant agrees that it will keep all Agreement records and that the Office of State Comptroller, NJ TRANSIT, the USDOT, and the Comptroller General of the United

States and any of their duly authorized representatives shall, until the expiration of three years after final payment under the subcontract, have access to and the right to examine any books, documents, and other records related to the subconsultant's performance under the subcontract.

Documents of every nature prepared pursuant to this Agreement shall be available to and become the property of NJ TRANSIT, and basic notes and other pertinent data shall be made available to NJ TRANSIT upon request without restriction as to their future use. Such documents shall be provided or made available within 30 days of NJ TRANSIT's request.

At least until the expiration of five (5) years after the completion of, and final payment by, NJ TRANSIT for the Project Services, the Consultant shall keep and maintain complete financial records showing actual time devoted and cost incurred in connection with services rendered under this Agreement, and it shall make same subject to inspection and audit by NJ TRANSIT, should NJ TRANSIT desire. Following passage of five(5) years from the date of completion of and final payment by NJ TRANSIT for the Project Services, the Consultant may request from NJ TRANSIT permission to dispose of the various records. NJ TRANSIT may either order the records be destroyed or surrendered to NJ TRANSIT.

Pursuant to N.J.S.A. 52:15C-14(d), the Consultant shall maintain all documentation related to products, transactions or services under this contract for a period of five (5) years from the date of final payment. Such records shall be made available to the New Jersey Office of State Comptroller upon request.

The periods of access and examination described above, for records which relate to (1) appeals under the "Disputes" clause of the Contract, (2) litigation or the settlement of claims arising out of the performance of this Contract, or (3) costs and expenses of this Contract as to which exception has been taken by NJ TRANSIT or the State of New Jersey or any of their duly authorized representatives, shall continue until such appeals, litigation, claims, or exceptions have been disposed of.

13. TERMINATION OF THE AGREEMENT FOR CONVENIENCE: NJ TRANSIT may terminate the Consultant's services in whole or in part for any reason at any time before completion. In that event, the Consultant shall be given written notice by the Contracting Officer of such termination specifying the effective date thereof. Compensation shall be paid to the Consultant pursuant to the terms of Section 2 of this Agreement for the work actually performed prior to such date. All documents begun or completed by the Consultant pursuant to this Agreement shall become the property of NJ TRANSIT. After receipt of such

written notice, the Consultant shall not incur any new obligations without the prior written approval of the Contracting Officer and shall cancel as many outstanding obligations so related as possible. NJ TRANSIT will evaluate each obligation deemed non-cancelable by the Consultant in order to determine its eligibility for inclusion in compensable costs. No damages of any nature shall be claimed against NJ TRANSIT in the event it exercises this right of termination.

14. TERMINATION OF THE AGREEMENT FOR CAUSE: NJ TRANSIT may terminate this Agreement in whole or in part at any time if the Consultant has materially failed to comply with terms of the Agreement. In the event of such failure, NJ TRANSIT shall promptly give written notification to the Consultant of its intent to terminate and the reasons therefore. The Consultant shall have ten (10) days, or such additional time as NJ TRANSIT may grant, after receipt of notice to cure its failure. If the failure is not cured to the satisfaction of NJ TRANSIT, the Consultant shall be held in breach of contract and the contract will be terminated (in whole or in part) effective immediately.

After receipt of notice of termination, the Consultant shall not incur any new obligations without the approval of NJ TRANSIT and shall cancel as many outstanding obligations as possible. NJ TRANSIT will evaluate each obligation deemed non-cancelable by the Consultant in order to determine its eligibility for inclusion in compensable costs. Compensation shall be made for Project Services pursuant to the terms of Exhibit B for work actually performed, completed and approved by NJ TRANSIT prior to the date of termination.

If this Agreement or any part thereof is terminated for cause, NJ TRANSIT may procure services similar to those so terminated. The Consultant shall be liable to NJ TRANSIT for any reasonable excess costs incurred for such similar services.

No damages of any nature shall be claimed against NJ TRANSIT in the event it exercises this right of termination. The rights and remedies available to NJ TRANSIT in this section shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

If, after notice of termination of this Agreement under the provisions of this section, it is determined for any reason that the Consultant was not in default under the provisions of this section, or that the default was excusable under the provisions of this section, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to Section 13 "Termination for Convenience".

15. BUSINESS REGISTRATION NOTIICE: In accordance with N.J.S.A. 52:32-44, all New Jersey and out of State business organizations must obtain a Business Registration Certificate (BRC) from the Department of the Treasury, Division of Revenue, prior to conducting business with NJ TRANSIT. It is requested that proof of valid business registration be submitted by a proposer with its proposal. Failure to submit such valid business registration with a proposal will not render the proposal materially non-responsive. If not submitted with the proposal, the Business Registration Certificate must be submitted prior to award of a contract. The certificate must be valid at time of award. The business registration form (Form NJ-REG) can be found online at http://www.state.nj.us/treasury/revenue/gettingregistered.html..

A Subconsultant shall provide a copy of its business registration to any Consultant who shall forward it to NJ TRANSIT. No contract with a Subconsultant shall be entered into by any Consultant unless the Subconsultant first provides proof of valid business registration.

The Consultant shall provide written notice to all subconsultants that they are required to submit a copy of their business registration to the Consultant who shall forward them to NJ TRANSIT. No contract with a Subconsultant shall be entered into by any Consultant unless the Subconsultant first provides proof of valid business registration.The Consultant shall maintain a list of the names of any subconsultants and their current addresses, updated as necessary during the course of the contract performance and the Consultant shall submit the complete and accurate list to NJ TRANSIT before final payment is made for goods and services rendered under the Agreement.

The Consultant and any Subconsultant providing goods or performing services under the contract, and each of their affiliates, shall, during the term of the contract, collect and remit to the Director of the Division of Taxation in the Department of the Treasury the use tax due pursuant to the "Sales and Use Tax Act, P.L. 1966, c. 30 (N.J.S.A. 54:32B-1 et seq.) on all their sales of tangible personal property delivered into the State.

16. USE OF BRAND NAME PRODUCTS IN DESIGN:

Federal Transit Administration Circular C4220.1E requires that all procurement actions be conducted in a manner providing full and open competition. A situation considered to be restrictive of competition involves specifying only a "brand name" product instead of allowing "an equal" product to be offered and listing the products salient characteristics. Accordingly, Consultants engaged in performing design work for NJ TRANSIT are required to include the salient characteristics of a product when it is identified by "brand name".

Consultants may define salient characteristics by using language similar to the following:

(a) 'Original Equipment Manufacturer (OEM) part #123 or approved equal that complies with the original equipment manufacturer's requirements or specifications and will not compromise any OEM warranties'; or

(b) 'Original Equipment Manufacturer part #123 or approved equal that is appropriate for use with and fits properly in [describe the bus, engine, or other].

17. PATENT RIGHTS AND RIGHTS IN DATA:

A.) Rights in Data

1.) The term "subject data" as used herein means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under this Agreement. The term includes graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards; magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to, computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term does not include financial reports, cost analyses, and similar information incidental to contract administration.

2.) All "subject data" first produced in the performance of this Agreement shall be the sole property of NJ TRANSIT. The Consultant agrees not to assert any rights at common law or equity and not to establish any claim to statutory copyright in such data. Except for its own internal use, the Consultant shall not publish or reproduce such data in whole or in part, or in any manner or form, nor authorize others to do so, without the written consent of NJ TRANSIT until such time as NJ TRANSIT may have released such data to the public.

3.) As authorized by 49 CFR Part 18.34, the Consultant agrees to grant and does hereby grant to NJ TRANSIT and the Federal Transit Administration (FTA) and to its officers, agents, and employees acting within the scope of their official duties, a royalty-free, nonexclusive, and irrevocable license throughout the world:

a.) To publish, translate, reproduce, deliver, perform, use, and dispose of, in any manner, any and all data not first produced or composed in the performance of this Agreement but which is incorporated in the work furnished under this Agreement; and

b.) To authorize others so to do.

4.) The Consultant shall indemnify and save and hold harmless NJ TRANSIT, its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the Consultant of proprietary rights, copyrights, or rights of privacy, arising out of the publication, translation, reproduction, delivery, performance, use, or disposition of any data furnished under this Agreement.

5.) Nothing contained in this section shall imply a license to NJ TRANSIT under any patent or be construed as affecting the scope of any license or other right otherwise granted to NJ TRANSIT under any patent.

6.) Paragraphs 3 and 4, above, are not applicable to material furnished to the Consultant by NJ TRANSIT and incorporated in the work furnished under the Agreement; provided that such incorporated material is identified by the Consultant at the time of delivery of such work.

7.) In the event that the project, which is the subject of this Agreement, is not completed, for any reason whatsoever, all data generated under this Agreement shall become subject data as defined in this clause and shall be delivered as NJ TRANSIT may direct.

B.) Patent Rights

1.) If any invention, improvement, or discovery of the Consultant is conceived or first actually reduced to practice in the course of or under this Agreement, which invention, improvement or discovery may be patentable under the laws of the United States of America or any foreign country, the Consultant shall immediately notify NJ TRANSIT and provide a detailed report for transmission to FTA.

2.) The rights and responsibilities of NJ TRANSIT, the Consultant and FTA with respect to such invention, improvement, or discovery will be determined in accordance with applicable Federal laws, regulations, policies and any waiver thereof.

18. PUBLICATION AND PUBLICITY: The Consultant, its subconsultants, assignees, employees or agents shall not release or publish any information or material generated from this project to others outside of NJ TRANSIT without the express written permission of NJ TRANSIT except as specified in the Project Services.

19. EQUAL EMPLOYMENT OPPORTUNITY: The parties to this Agreement do hereby agree that the provisions of N.J.S.A. 10:2-1 through 10:2-4 and N.J.S.A. 10:5-31 et seq. (P.L. 1975, c.127) as amended and supplemented and the rules and regulations promulgated pursuant thereunto, and the provisions set forth in the State of New Jersey Equal Employment Opportunity Provisions for Professional Service Contracts, annexed hereto are hereby made a part of this Agreement.

a. In accordance with N.J.S.A 10:2-1 the Consultant agrees that: In the hiring of persons for the performance of work under this Agreement or any subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under this Agreement, no Consultant, nor any person acting on behalf of such Consultant or subconsultant, shall, by reason of race, creed, color, national original, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex, discriminate against any person who is qualified and available to perform the work to which the employment relates;

b. No Consultant, subconsultant, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee engaged in the performance of work under this Agreement or any subcontract hereunder, or engaged in the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under such Agreement, on account of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex;

c. There may be deducted from the amount payable to the Consultant by the contracting public agency, under this Agreement, a penalty of $50.00 for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the Agreement; and

d. This Agreement may be canceled or terminated by the contraction public agency and all money due or to become due hereunder may be forfeited, for any violation of this section of the Agreement occurring after notice to the Consultant from the contracting public agency of any prior violation of this section of the Consultant.

20. EQUAL OPPORTUNITY FOR INDIVIDUALS WITH DISABILITIES: The Consultant and NJ TRANSIT agree that the provisions of Title II of the Americans With Disabilities Act of 1990 (the "Act") (42 U.S.C. 12101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs, and activities provided or made available by public entities, and the rules and regulations promulgated thereto, are made a part of this Agreement. In providing any aid, benefit, or service on behalf of NJ TRANSIT pursuant to this Agreement, the Consultant agrees that the performance shall be in strict compliance with the Act. In the event that the Consultant, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this Agreement, the Consultant shall defend NJ TRANSIT and the State of New Jersey in any action or administrative proceeding commenced pursuant to this Act. The Consultant shall indemnify, protect, and save harmless NJ TRANSIT and the State, their agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The Consultant shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. If any action or administrative proceeding results in an award of damages against NJ TRANSIT or the State or if NJ TRANSIT or the State incur any expense to cure a violation of the ADA, the Consultant shall satisfy and discharge the same at its own expense.

NJ TRANSIT shall, as soon as practicable after a claim has been made against it, give written notice thereof to the Consultant along with full and complete particulars of the claim. If any action or administrative proceeding is brought against NJ TRANSIT or any of its agents, servants, and employees, NJ TRANSIT shall expeditiously forward to the Consultant every demand, complaint, notice, summons, pleading, or other process received by it or its representatives.

It is expressly agreed and understood that any approval by NJ TRANSIT of the services provided by the Consultant pursuant to this Agreement will not relieve the Consultant of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless NJ TRANSIT pursuant to this paragraph.

The Consultant expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the Contractor's obligations assumed in this Agreement, nor shall they be

construed to relieve the Consultant from any liability, nor preclude NJ TRANSIT from taking any other actions available to it under any other provisions of this Agreement or otherwise at law.

21. DISADVANTAGED BUSINESS ENTERPRISES: Disadvantaged Business Enterprises, as defined in 49 CFR Part 26, shall have the maximum opportunity to participate in the performance of this Agreement and any subcontract under it. NJ TRANSIT and the Consultant shall take all necessary and reasonable steps, in accordance with 49 CFR Part 26 and the provisions set forth in Exhibit D, annexed hereto, to ensure that Disadvantaged Businesses have equal opportunity to participate. Failure by the Consultant to carry out the requirements of this section shall be deemed a material breach of this Agreement.

22. COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAW: The Consultant shall comply with applicable laws, ordinances, and codes of the United States, the State of New Jersey and local governments within the State. If NJ TRANSIT determines that the Consultant has violated or failed to comply with applicable federal, state or local laws with respect to its performance under this Agreement, NJ TRANSIT may withhold payments for such performance and take such other action that it deems appropriate under the circumstances until compliance or remedial action has been accomplished by the Consultant to the satisfaction of NJ TRANSIT. The Consultant acknowledges that federal requirements may change and the changed requirements will apply to the project as required, unless the Federal Government determines otherwise.

23. CONFLICT OF INTEREST: In the event that the Consultant deems that any work currently being performed by it on other projects or any work to be performed on future projects is in conflict directly or indirectly with this Agreement, the Consultant shall immediately so notify NJ TRANSIT. NJ TRANSIT, in its sole discretion, shall have the right to terminate this Agreement for convenience in accordance with Section 13 hereof.

24. CONSULTANT'S EMPLOYEES: All personnel employed on this project and their daily rates shall be approved in writing by NJ TRANSIT prior to assignment to this project and, in addition, any employee of the Consultant or its subconsultants declared undesirable by NJ TRANSIT shall be relieved of any work under this Agreement.

The Consultant must receive NJ TRANSIT's prior written approval of any change in the project organization/manpower and subconsultant project team approved for this project.

25. PROHIBITED INTEREST: No member, officer, or employee of NJ TRANSIT or its subsidiaries shall have any interest, direct or indirect, in this Agreement or the proceeds thereof. No former member, officer or employee of NJ TRANSIT or its subsidiaries who, during his tenure, had a direct, substantial involvement with matters that are closely related to this Agreement, shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

26. INTERESTS OF MEMBERS OF OR DELEGATES TO CONGRESS: No member of or delegate to the Congress of the United States shall be admitted to any share or part of this Agreement or to any benefit arising therefrom.

27. NJ TRANSIT CODE OF ETHICS FOR CONSULTANTS:

A.) The Consultant shall not employ any NJ TRANSIT officer or employee in the business of the Consultant or in professional activity in which the Consultant is involved with the NJ TRANSIT officer or employee.

The Consultant shall not offer or provide any interest, financial or otherwise, direct or indirect, to any NJ TRANSIT officer or employee, in the business of the Consultant or professional activity in which the Consultant is involved with the NJ TRANSIT officer or employee.

The Consultant shall not cause or influence, or attempt to cause or influence, any NJ TRANSIT officer or employee to act in his or her official capacity in any manner which might tend to impair the objectivity or independence of judgment of that NJ TRANSIT officer or employee.

The Consultant shall not cause or influence, or attempt to cause or influence, any NJ TRANSIT officer or employee to use or attempt to use his or her official position to secure any unwarranted privileges or advantages for that Consultant or any other person.

The Consultant shall not offer any NJ TRANSIT officer or employee any gift, favor, service or other thing of value under circumstances from which it might be reasonably inferred that such gift, service or other thing of value was given or offered for the purpose of influencing the recipient in the discharge of his or her official duties. In addition, employees or officers of NJ TRANSIT will not be permitted to accept breakfasts, lunches, dinners, alcoholic beverages, tickets to entertainment and/or sporting events, or any other item which could be construed as having more than nominal value.

B.) In accordance with N.J.A.C. 16:72-4.1, the Consultant may be suspended and/or debarred if the Consultant:

1.) Makes any offer or agreement to pay or to make payment of, either directly or indirectly, any fee, commission, compensation, gift, gratuity, or other thing of value of any kind to any NJ TRANSIT Board member, officer, or employee or to any member of the immediate family of such Board member, officer, or employee, or any partnership, firm, or corporation with which they are employed or associated, or in which such Board member, officer, or employee has an interest within the meaning of N.J.S.A. 52:13D-13g;

2.) Fails to report to the Attorney General and to the Executive Commission on Ethical Standards in writing forthwith the solicitation of any fee, commission, compensation, gift, gratuity or other thing of value by any NJ TRANSIT Board member, officer, or employee;

3.) Undertakes, directly or indirectly, any private business, commercial, or entrepreneurial relationship with, whether or not pursuant to employment, contract or other agreement, express or implied, or sale, directly or indirectly of any interest in such Consultant to, any NJ TRANSIT Board member, officer, or employee having any duties or responsibilities in connection with the purchase, acquisition, or sale of any property or services by or to NJ TRANSIT, or with any person, firm, or entity with which he is employed or associated or in which he has an interest within the meaning of N.J.S.A. 52:13D-13g. Any relationship subject to this provision shall be reported in writing forthwith to the Executive Commission on Ethical Standards, which may grant a waiver of this restriction upon application of the NJ TRANSIT Board member, officer, or employee upon a finding that the present or proposed relationship does not present the potential, actuality, or appearance of a conflict of interest;

4.) Influences or attempts to influence or causes to be influenced, any NJ TRANSIT Board member, officer, or employee in his official capacity in any manner which might tend to impair the objectivity or independence of judgment of such Board member, officer, or employee; or

5.) Causes or influences or attempts to cause or influence, any NJ TRANSIT Board member, officer, or employee to use, or attempt to use, his official position to secure unwarranted privileges or advantages for the Consultant or any other person.

28. POLITICAL ACTIVITY PROHIBITED: None of the funds or services contributed by NJ TRANSIT or the Consultant under this Agreement shall be used for any partisan political activity, or to further the election or defeat of any candidate for public office.

29. NONSOLICITATION: The Consultant warrants that it has not retained any party other than a bona fide employee working for the Consultant to solicit this Agreement, and that it has not paid or agreed to pay any outside party consideration in any form contingent upon securing this Agreement. For breach of this warranty, NJ TRANSIT shall have the right to terminate this Agreement for cause.

30. MERGER AND SEVERABILITY: This Agreement embodies the entire agreement between the parties. If any provision herein is held invalid, it shall be considered deleted herefrom and shall not invalidate the remaining provisions hereof.

31. NOTIFICATION: Any request, demand, authorization, direction, notice, consent, waiver or other document provided or permitted by this Agreement to be made upon, given or furnished to, or filed with one party by another party shall be in writing and shall be delivered by hand or by deposit in the mails of the United States, postage paid, in an envelope addressed as follows:

If to NJ TRANSIT:

Mr. James Schworn
Chief of Procurement & Support Services
NJ TRANSIT
One Penn Plaza East
Newark, New Jersey 07105-2246
rsosa@njtransit.com
Attn: Renzo Sosa, Senior Contract Specialist

With a copy to both Tom Martin and Ed Fang:

NJ TRANSIT
One Penn Plaza East
Newark, New Jersey 07105-2246
tmartin@njtransit.com and efang@njtransit.com
Attn: Tom Martin
Senior Director Capital Project Management

Ed Fang Program Manager

If to the Consultant:

Mr. Lewis O. Morgan
Project Manager
Jacobs Engineering Group
299 Madison Avenue
P.O. Box 1936
Morristown, New Jersey 07962-1936
lew.morgan@jacobs.com
Attn: Lew Morgan, PE

Either party to the Agreement may redesignate the recipient or change the address of the recipient of notifications hereunder by notifying the other party to this Agreement, in writing, of such change.

32. DISPUTES: Disputes arising in the performance of this Agreement which are not resolved by agreement of the parties shall be decided in writing by the authorized representative of the Contracting Officer. This decision shall be final and conclusive unless within ten (10) days from the date of receipt of its copy, the Consultant mails or otherwise furnishes a written appeal to the Contracting Officer. In connection with any such appeal, the Consultant shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the Contracting Officer shall be binding upon the Consultant and the Consultant shall abide by the decision. The New Jersey Contractual Liability Act, N.J.S.A. 59:13-1 et seq., shall govern any action which may be brought by the Consultant as a result of NJ TRANSIT's decision.

33. OUT OF STATE CORPORATIONS: If the Consultant is a corporation organized under laws of a state other than New Jersey, the Consultant, shall have a certificate of authority to do business in New Jersey in accordance with N.J.S.A. 14A:13-3 . In addition, pursuant to N.J.S.A. 14A:4-1 et seq. the Consultant shall maintain a registered agent having a business office in New Jersey and shall file with the Secretary of State the name of said agent and address of said office and provide a copy thereof to NJ TRANSIT

Inquiries should be directed to:
State of New Jersey
Department of State
Division of Commercial Recording
CN-308
Trenton, New Jersey 08625
www.state.nj.us/njbgs

34. SUCCESSORS: This Agreement shall bind the heirs, representatives, successors, and assignees of the Consultant.

35. GOVERNING LAW: The parties hereto stipulate that the provisions of this Agreement shall be governed by and interpreted pursuant to the laws of the State of New Jersey.

36. QUALITY ASSURANCE PLAN: The Consultant shall perform all work according to the highest standards of professional care. The Consultant shall establish and maintain a Quality Assurance Plan, subject to NJ TRANSIT's approval, setting forth the Consultant's policy for quality assurance and procedures for implementing that policy. Such plan must apply to all persons engaged in work under this

Agreement, include regular and written procedures for performance of all Project activities, and provide sufficient information to senior managers to enable effective supervision of the Project. The procedures shall provide for sufficient documentation to allow review and audit by NJ TRANSIT, and NJ TRANSIT may, in its discretion, review the Consultant's implementation of the procedures.

37. PROJECT SUPERVISION: The Consultant shall assign an engineer duly licensed to practice in the State of New Jersey to supervise the Project Services. The design and engineering services for this project shall be performed and/or approved by a Professional Engineer or Registered Architect licensed to practice in the State of New Jersey.

The Consultant shall exercise all due care in the preparation of contract documents for construction to ensure that they conform to all applicable legal and other requirements in effect at the time of issuance of the contract documents. The approval of plans and specifications which have been submitted to NJ TRANSIT is not to be construed as authority to violate, cancel or set aside any provisions of such requirements or this Agreement.

Nothing contained in this Agreement is intended to relieve the Consultant of responsibility for maintaining adequate supervision over the design in order to guard against deficiencies in the design work.

The Consultant shall be liable to NJ TRANSIT for any reasonable costs incurred by NJ TRANSIT to correct, modify or redesign any drawings submitted by the Consultant that are found to be defective or not in accordance with the provisions of this Agreement as a result of any act, error or omission on the part of the Consultant, or its agents, servants or employees. The Consultant shall be given reasonable opportunity to correct any deficiencies at no additional cost to NJ TRANSIT.

The Consultant shall also be liable to NJ TRANSIT for any reasonable costs incurred to correct, modify or reconstruct contractor work which was done based on any drawings submitted by the Consultant that are found to be defective or not in accordance with the provisions of this Agreement as a result of any act, error or omission on the part of the Consultant, or its agents, servants or employees. The Consultant shall be given reasonable opportunity to correct any deficiencies at no additional cost to NJ TRANSIT.

38. HISTORIC PRESERVATION: The Consultant shall submit to NJ TRANSIT, pursuant to this Agreement, a final design which meets the "Standards for Rehabilitation" established and published by the United States Department of the Interior at 36 CFR Part 67, which standards are applied by the Commissioner of Environmental Protection in the statutory review, required by N.J.S.A. 13:1B-15.131, of projects which will encroach upon a site included in the New Jersey Register of Historic Places. In the event that the final design for the Project is submitted for review pursuant to N.J.S.A. 13:1B-15.131 and is not approved or is approved with conditions by the Commissioner of Environmental Protection, for reasons that the final design does not meet said standards, the Consultant shall correct or modify said design immediately upon notification of non-approval, or shall reimburse NJ TRANSIT for any reasonable costs incurred by NJ TRANSIT to correct or modify the design, so that it may be approved by the Commissioner of Environmental Protection.

39. FALSE OR FRAUDULENT STATEMENTS AND CLAIMS:

A.) The Consultant recognizes that the requirements of the Program Fraud Civil Remedies Act of 1986, as amended, 49 USC § 3801 et seq. and USDOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to the project. Accordingly, by signing the Agreement, the Consultant certifies or affirms the truthfulness and accuracy of any statement it has made, it

makes, or it may make pertaining to the Agreement. In addition to other penalties that may be applicable, the Consultant also acknowledges that if it makes a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986, as amended, on the Consultant to the extent the Federal Government deems appropriate.

B.) The Consultant also acknowledges that if it makes a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government in connection with an urbanized area formula project financed with Federal Assistance authorized by 49 USC § 5307, the Government reserves the right to impose on the Consultant the penalties of 18 USC § 1001 and 49 USC § 5307(n)(1), to the extent the Federal Government deems appropriate.

40. NO FEDERAL GOVERNMENT OBLIGATIONS TO THIRD PARTIES: The Consultant agrees that, absent the Federal Government's express written consent, the Federal Government shall not be subject to any obligations or liabilities to any subrecipient, any third party contractor, or any other person not a party to the contract in connection with the performance of the project. Notwithstanding any concurrence provided by the Federal Government in or approval of any solicitation, subagreement, or third party contract, the Federal Government continues to have no obligations or liabilities to any party, including the subrecipient and third party contractor.

41. EXCLUSIONARY OR DISCRIMINATORY SPECIFICATIONS: Apart from inconsistent requirements imposed by Federal statute or regulations, the Consultant agrees that it will comply with the requirements of 49 USC § 5323(h)(2) by refraining from using any Federal Assistance awarded by FTA to support procurements using exclusionary or discriminatory specifications. 42. CLEAN WATER AND CLEAN AIR ACTS: If this Agreement shall be in an amount greater than $100,000, the Consultant shall comply with Section 306 of the Clean Air Act (42 USC 1857(h)), Section 508 of the Clean Water Act (33 USC 1368), Executive Order 11738, Environmental Protection Agency Regulations (40 CFR Part 15), and any other applicable standard, order or requirement issued pursuant to Federal statute or regulation. The Consultant shall report violations to NJ TRANSIT, FTA and to the USEPA Assistant Administrator for Enforcement.

43. ENERGY CONSERVATION: The Consultant shall comply with mandatory standards and policies relating to energy efficiency contained in applicable State of New Jersey Energy Conservation Plans issued in compliance with the Energy Policy and Conservation Act (42 USC 6321 et seq.).

44. TITLE VI COMPLIANCE: During the performance of this Agreement, the Consultant, for itself, its assignees and successors in interest (hereinafter referred to as the "Consultant") agrees as follows:

A.) Compliance with Regulations: The Consultant shall comply with the Regulations relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Agreement.

B.) Nondiscrimination: The Consultant, with regard to the work performed by it during the Agreement, shall not discriminate on the grounds of race, religion, color, sex, age, or national origin in the selection and retention of subconsultants, including procurements of materials and leases of equipment. The Consultant shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when contract covers a program set forth in Appendix B of the Regulations.

C.) Solicitations for Subcontracts Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the Consultant for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subconsultant or supplier shall be notified by the Consultant of the Consultant's obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, religion, color, sex, age, or national origin.

D.) Information and Reports: The Consultant shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by NJ TRANSIT or the FTA to be pertinent to ascertain compliance with such Regulations, orders and instruction. Where any information is required or a Consultant is in the exclusive possession of another who fails or refuses to furnish

this information, the Consultant shall so certify to NJ TRANSIT, or the FTA, as appropriate, and shall set forth what efforts it has made to obtain the information.

E.) Sanctions for Noncompliance: In the event of the Consultant's noncompliance with the nondiscrimination provisions of this Agreement, NJ TRANSIT shall impose such contract sanctions as it or the FTA may determine to be appropriate, including but not limited to:

1.) Withholding of payments to the Consultant under the Agreement until the Consultant complies; and/or

2.) Cancellation, termination or suspension of the Agreement, in whole or in part.

F.) Incorporation of Provisions: The Consultant shall include the provisions of Paragraphs A through F of this Section in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Consultant shall take such action with respect to any subcontract or procurement as NJ TRANSIT or the FTA may direct as a means of enforcing such provisions including sanctions for noncompliance: provided, however, that, in the event a Consultant becomes involved in, or is threatened with, litigation with a subconsultant or supplier as a result of such direction, the Consultant may request NJ TRANSIT to enter into such litigation to protect the interests of NJ TRANSIT and, in addition, the Consultant may request NJ TRANSIT to enter into such litigation to protect the interest of the United States.

45. CONTRACT WORK HOURS AND SAFETY STANDARDS: During the performance of this Agreement, the Consultant, for itself, its assignees and successors in interest (hereinafter referred to as the "Consultant") agrees as follows:

A.) Overtime Requirements: No consultant or subconsultant contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any work week in which he or she is employed on such work to work in excess of eight hours in any calendar day or in excess of forty hours in such work week unless such laborer or mechanic receives compensation at rate not less than one and one-half times the basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such work week, whichever is greater.

B.) Violation; Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in subparagraph (b)(1) of 29 CFR Section 5.5, the Consultant and any

subconsultant responsible therefore shall be liable for the unpaid wages. In addition, such Consultant and subconsultant shall be liable to the United States (in case the work done under contract for the District of Columbia or a territory, to such district or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (b)(1) of 29 CFR Section 5.5 in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of eight hours or in excess of the standard work week of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (b)(1) of 29 CFR Section 5.5.

C.) Withholding for Unpaid Wages and Liquidated Damages: DOT or NJ TRANSIT shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the Consultant or subconsultant under any such contract or any other Federal contract with the same prime consultant, or any other Federally-assigned contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime consultant, such sums as may be determined to be necessary to satisfy any liabilities of such consultant or subconsultant for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (B)(2) of 29 CFR Section 5.5.

D.) Nonconstruction Grants: The Consultant or subconsultant shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three (3) years from the completion of the Agreement for all laborers and mechanics, including guards and watchmen, working on the Agreement. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. These records shall be made available by the Consultant or subconsultant for inspection, copying, or transcription by authorized representatives of NJ TRANSIT, the FTA and the Department of Labor, and the Consultant or subconsultant will permit such representatives to interview employees during working hours on the job.

E.) Subcontracts: The Consultant or subconsultant shall insert in any subcontracts the clauses set forth in Paragraphs A through E of this Section and also a clause requiring the subconsultants to include these clauses in any lower tier subcontracts. The prime consultant shall be responsible for compliance

by any subconsultant or lower tier subconsultant with the clauses set forth in Paragraphs A through E of this Section.

46. CERTIFICATIONS REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION – LOWER TIER COVERED TRANSACTION

By signing this agreement, the lower tier participant, defined as the Consultant and its subconsultants, is providing the certification set out below.

The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, NJ TRANSIT may pursue available remedies, including suspension and/or debarment.

The lower tier participant shall provide immediate written notice to NJ TRANSIT if at any time the lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

Certain terms used in this clause have the meanings set out in 2 CFR Part 1200 and 2 CFR Part 180.

The lower tier participant agrees by signing this agreement that it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by NJ TRANSIT.

The lower tier participant further agrees by signing this agreement that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier Covered Transaction", without modification, in all lower tier covered transactions (valued at $25,000 or more) and in all solicitations for lower tier covered transactions.

A participant in a covered transaction may rely upon a certification of a participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. Each participant shall check the U.S. Government System for Award Management (SAM) database.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and

information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

Except for transactions authorized under the fifth paragraph above, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, NJ TRANSIT may pursue available remedies including suspension and/or debarment.

The lower tier participant certifies by signing this agreement that neither it nor its "principals" (as defined 2 CFR 180.995) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. A participant may decide the method and frequency by which it determines the eligibility of its principals.

When the lower tier participant is unable to certify to the statements in this certification, such participant shall submit a written explanation.

The lower tier participant shall also be currently registered and active with no exclusion on the U.S. Government System for Award Management (SAM) database.

47. LIMITATIONS ON LOBBYING: The Consultant and its subconsultants shall comply with 31 USC 1352, entitled "Limitation on use of appropriated funds to influence certain Federal contracting and financial transactions".

A.) No appropriated funds may be expended by the recipient of a Federal contract, grant, loan or cooperative agreement to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement.

B.) Any Consultant and any subconsultant at any tier who requests or receives a Federally-assisted contract or subcontract in excess of $100,000 from NJ TRANSIT shall file with NJ TRANSIT the certification attached to this Agreement and entitled "Certification for Contracts, Grants,

Loans and Cooperative Agreements" which certifies that the Consultant or subconsultant, as applicable, has not made, and will not make, any payment prohibited by paragraph A.) of this Article.

C.) Any Consultant and any subconsultant who has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action) which would be prohibited under paragraph A.) of this Article if paid for with appropriated funds, shall file with NJ TRANSIT a disclosure form entitled "Disclosure of Lobbying Activities", which is available from NJ TRANSIT.

D.) Any certification or disclosure form filed under paragraphs B.) and C.) of this Article shall be forwarded from tier to tier until received by NJ TRANSIT. Any certification or disclosure form shall be treated as a material representation of fact upon which all receiving tiers shall rely. All liability arising from an erroneous representation shall be borne solely by the tier filing that representation and shall not be shared by any tier to which the erroneous representation is forwarded.

E.) The prohibition on the use of appropriated funds does not apply in the case of a payment of reasonable compensation to an officer or employee of a Consultant or subconsultant if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

F.) The prohibition on the use of appropriated funds does not apply in the case of any reasonable payment to an officer or employee of a Consultant or subconsultant or to a person, other than an officer or employee of a Consultant or subconsultant, if the payment is for professional or technical services rendered directly in the preparation, submission or negotiation of any bid, proposal or application for a Federal contract, grant, loan or cooperative agreement.

48. BUY AMERICA DESIGN REQUIREMENTS: The Consultant shall design the project to ensure that the plans and specifications produced by the Consultant under this Agreement permit compliance with Section 165 of the Surface Transportation Assistance Act of 1982 (P.L. 97-424). All iron, steel and manufactured products specified by the Consultant shall be of domestic manufacture or origin, except as otherwise approved by NJ TRANSIT. Whenever the Consultant lists a product by make, manufacturer or model number in the specifications, the Consultant shall first ensure that the product is of domestic manufacture or origin. Should the Consultant find it necessary to specify iron, steel, or manufactured products which are not produced in the United States in sufficient and reasonably available quantities, then the Consultant shall submit a written justification to the Contracting Officer describing in detail the product, its estimated cost, the rationale for its use in the project and the basis for the Consultant's belief

that the product is of limited domestic availability. NJ TRANSIT, in its sole discretion, will determine whether to seek a waiver of the Buy America requirements from the U.S. Secretary of Transportation. Should NJ TRANSIT determine that there is insufficient basis for seeking a waiver or if a waiver request is denied by USDOT, the Consultant shall redesign the project to conform with Buy America requirements at no additional cost to NJ TRANSIT.

49. FLY AMERICA REQUIREMENTS: The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

50. SEISMIC SAFETY: The Contractor agrees that any new building or addition to an existing building will be design and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. The contractor also agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.

51. SETTING OFF TAX ARREARS AGAINST SUMS OWED: Whenever a taxpayer under contract with the State of New Jersey and is indebted for any State Tax in accordance with N.J.S.A. 54:49-19 the State of New Jersey shall seek to set off the indebtedness as follows:
Whenever any taxpayer under contract to provide goods or services to the State of New Jersey or its agencies or instrumentalities, and including the legislative and judicial branches of State government, is entitled to payment for the goods or services or on that construction project and at the same time the taxpayer is indebted for any State tax, the Director of the Division of Taxation shall seek to set off so much

of that payment as may be necessary to satisfy the indebtedness. The Director, in consultation with the Director of the Division of Budget and Accounting in the Department of the Treasury, shall establish procedures and methods to effect a set-off. The Director shall give notice of the set-off to the taxpayer, the provider of goods or services or the contractor or subcontractor of construction projects and provide an opportunity for a hearing within 30 days of such notice under the procedures for protests established under N.J.S.A.54:49-18, but no request for conference, protest, or subsequent appeal to the Tax Court from any protest under this section shall stay the collection of the indebtedness. No payment shall be made to the taxpayer, the provider of goods or services or the contractor or subcontractor of construction projects pending resolution of the indebtedness. Interest that may be payable by the State pursuant to N.J.S.A.52:32-32 et seq., to the taxpayer, the provider of goods and services or the contractor or subcontractor of construction projects shall be stayed.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed the 8 day of December 8, 2014 to be effective as of the day and year first above written.

WITNESS:

By: _____
Lorenzo Jones
Senior Contract Specialist

NJ TRANSIT

By: _____
Contracting Officer or Duly Authorized Designee

WITNESS:

By: _____
Asst. Corp Sec

CONSULTANT

By: _____

The aforementioned Agreement has been reviewed and approved as to form only.

~~Acting~~ **JOHN J. HOFFMAN**
Acting ATTORNEY GENERAL OF NEW JERSEY

By: _____
Deputy Attorney General
1/5/14

NJ TRANSIT
The Way To Go.
ONE PENN PLAZA EAST
NEWARK, NJ 07105-2246

HOW TO CONTACT ACCOUNTS PAYABLE
VOICE: 973-491-8399 **FAX:** 973-491-4621
E-MAIL: APHELP@NJTRANSIT.COM

PURCHASE ORDER INSTRUCTIONS

- ALL PACKAGES MUST BE ACCOMPANIED BY A PACKING SLIP.
- REFERENCE PURCHASE ORDER NUMBER AND NJT CATALOG NUMBER ON ALL INVOICES, PACKING SLIPS AND BILLS OF LADING.
- VENDOR MUST SUPPLY ORIGINAL INVOICE AND ANY FREIGHT BILLS IN EXCESS OF $100 TO:
  NJ TRANSIT ACCOUNTS PAYABLE
  P.O. BOX 5519
  NEWARK, NJ 07105-5519
- VENDOR MUST ALSO SUPPLY COPY OF INVOICE TO CONSIGNEE.
- VENDOR: IF PRICE ON PO DOES NOT MATCH, DO NOT SHIP MATERIAL, CONTACT BUYER.

PURCHASE ORDER & RELEASE NO	REV NO
L-82860	0
VENDOR NO: 70103542	ISSUE DATE: 04/29/14
DATE CHANGED:	PAGE NO: 1

PURCHASING FAX: 973-491-7547

VENDOR:
JACOBS ENGINEERING GROUP, INC.
299 MADISON AVENUE
MORRISTOWN, NJ 079621936

SHIP TO:
NJ TRANSIT HEADQUARTERS
*DELIVER 9-11 AM OR 2-4 PM ONL
ONE PENN PLAZA EAST
NEWARK, NJ 07105

BUYER: Renzo Sosa 973-491-7612 CPRCRRS@NJTRANSIT.COM

NJ TRANSIT IS EXEMPT FROM NJ SALES & USE TAXES PURSUANT TO SECT 9(A)(1), OF NJSA 54:32B-1 ET SEQ.
FEDERAL T.I.N.: 22-228-1352
TAX EXEMPT #'S 21-60000928 (NJ)
22-75-0650K (FEDERAL)

TERMS	FREIGHT TERMS	FOB	SHIP VIA	BUYER NO
NET 30 D		ARCHITECTURE/ENGINEERIN	13-041	095

NJ TRANSIT ETHICS CODE: NJ TRANSIT IS AN INSTRUMENTALITY OF THE STATE OF NEW JERSEY AND ITS EMPLOYEES AND OFFICERS AND MEMBERS OF THE NJ TRANSIT BOARD OF DIRECTORS ARE PUBLIC SERVANTS AND ARE GOVERNED BY CIVIL AND CRIMINAL LAWS THAT CONTROL HOW NJ TRANSIT AND ITS PERSONNEL CONDUCT BUSINESS WITH VENDORS, CONTRACTORS AND CONSULTANTS. THESE PROVISIONS INCLUDE THE CONFLICTS OF INTEREST LAW, NJSA 52:13D-12; THE GIFTS TO PUBLIC SERVANTS LAW, NJSA 2C:27-6; AND THE COMPENSATION FOR PAST OFFICIAL BEHAVIOR LAW, NJSA 2C:27-4. THESE PROVISIONS CONTAIN UNEQUIVOCAL AND STRINGENT RESTRICTIONS RELATING TO GIFTS AND GRATUITIES BY ANY NJ TRANSIT EMPLOYEE OR ANY PERSON, COMPANY OR ENTITY DOING BUSINESS WITH OR WANTING TO DO BUSINESS WITH NJ TRANSIT. THE TERM "GIFT" INCLUDES ALL THINGS AND OBJECTS, TANGIBLE OR INTANGIBLE INCLUDING SERVICES, GRATUITIES, MEALS, ENTERTAINMENT, EVENT TICKETS, MEMBERSHIP CLUB ACCESS, TRAVEL COSTS AND LODGING. ALSO, NJ TRANSIT'S CODE OF ETHICS AND CODE OF CONTRACTORS AND CONSULTANTS FROM OFFERING ANY GIFTS TO ANY NJ TRANSIT EMPLOYEE. DO NOT, UNDER ANY CIRCUMSTANCES, TEMPT OR PUT AN NJ TRANSIT EMPLOYEE IN THE AWKWARD POSITION OF HAVING TO REFUSE A GIFT OR RETURN A GIFT NO MATTER HOW WELL INTENTIONED OR INNOCUOUS THE GIFT MAY BE.

LINE ITEM	QUANTITY	UNIT OF MEASURE	NJT CATALOG NUMBER	DESCRIPTION	UNIT PRICE	AMOUNT
1	6,111,760.00	$	88	CONTRACT/BID NO: 13-041 THIS PURCHASE ORDER IS ISSUED TO RECORD THE FUNDING AVAILABLE FOR CONTRACT NO. 13-041 COUNTY YARD IMPROVEMENTS - PHASE 1 CONCEPT AND PRELIMINARY DESIGN 0%-30% CONTRACT NO. 13-041 IS TO BE PROVIDED AS PER NJ TRANSIT'S SCOPE OF WORK AND JACOBS ENGINEERING PROPOSAL DATED NOVEMBER 15, 2013. THE TOTAL COST OF NJ TRANSIT CONTRACT NO . 13-041 IS NOT TO EXCEED $7,641,760.00. MR#ER08 2829 PROM DATE: 12/31/15 GL#8825 99950304 NHZ2000 PHASE I - CONCEPT & PRELIIMINARY ENGINEERING (COUNTY YARD/S&I FACILITY/DELCO	1.0000	6,111,760.0000

CONTINUE

☐ WHEN BOX IS CHECKED, THE TERMS AND CONDITIONS OF THE ATTACHED CONTRACT REPLACE THOSE SHOWN ON THE REVERSE SIDE OF THIS PURCHASE ORDER.

AUTHORIZED NJ TRANSIT SIGNATURE/DATE

See Page 2

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NEWARK, NJ 07105-2246

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VENDOR NO: 70103542	ISSUE DATE: 04/29/14
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FEDERAL T.I.N.: 22-228-1352
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TERMS	FREIGHT TERMS	FOB	SHIP VIA	BUYER NO
NET 30 D		ARCHITECTURE/ENGINEERIN	13-041	095

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LINE ITEM	QUANTITY	UNIT OF MEASURE	NJT CATALOG NUMBER	DESCRIPTION	UNIT PRICE	AMOUNT
2	1,530,000.00	$	88	MR#ER08 2829 PROM DATE: 04/30/14 GL#8825 99950304 NHL1110 PHASE I - CONCEPT & PRELIIMINARY ENGINEE RING - JERSEY AVENUE PLATFORMS	1.0000	1,530,000.0000
					** TOTAL:	$7,641,760.00

PAK 12/4/2014 $7,641,757.77

☐ WHEN BOX IS CHECKED, THE TERMS AND CONDITIONS OF THE ATTACHED CONTRACT REPLACE THOSE SHOWN ON THE REVERSE SIDE OF THIS PURCHASE ORDER.

AUTHORIZED NJ TRANSIT SIGNATURE/DATE

PAK 12/4/2014

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NJ TRANSIT Contract No. 13-041
County Yard Improvements
Phase I: Preliminary and Engineering
Design Services 0% - 30%

Exhibit A
Scope of Services

Exhibit A
Scope of Work

PHASE 1: CONCEPT AND PRELIMINARY DESIGN

TASK 1.1 - PROJECT DEFINITION/CONCEPT PLANNING:

The Jacobs Team will begin the project design by developing a concept plan. This plan will address the major components of the project, including the Delco Lead (Track 5), double tracking of the Delco, the New Jersey Avenue Station and associated site improvements, the County Yard storage area, and the Service & Inspection (S&I) Facility. The plan will identify design criteria to be used in the development of conceptual design, into preliminary engineering, and through final design. The plan will also identify alternatives that will be prepared. This project definition will recommend systems that will be used within the new facility.

The Jacobs Team will prepare a brief report that identifies these project elements and defines how the design will be advanced. The report will include conceptual level plans and sketches. Some of the key items to be advanced as part of this task have been included in this proposal and will serve as the basis for this task.

The Project Definition Report will identify at the conceptual level:

1. Functional Relationships
   a. The County Yard project includes four distinct areas and encompasses approximately five miles of railroad rights-of-way. This includes the Delco, Jersey Avenue Station, Storage Yard, and S&I Facility.
   b. The Definition Report will address how each component functions individually and as it relates to each other.
   c. The Report will also address the adjacent Mid-Line Loop Project, which includes the new North Brunswick Station that is within the limits of work for the Delco.
   d. The Report will also address the Amtrak NJ High-Speed Rail Improvement Project (Raceway) in which the County Yard Project is located.
   e. The Report will identify high-level operational aspects of Amtrak and NJ TRANSIT services through the project area.

2. Building Operations/ Cost Estimate
   a. The Project Definition will provide an overview on the operation of the various buildings to be constructed. These include the S&I Facility, the Amtrak facility, the NJ TRANSIT crew quarters, Jersey Avenue Station facilities, and other storage and associated buildings.
   b. The Project Definition will address the operation of the storage tracks in the yard and the upgraded Delco track(s).

3. Space Needs
   a. Under this task, the Jacobs Team will identify space needs for each facility to be constructed as part of the project.
   b. The Jacobs Team will coordinate efforts amongst all design disciplines including civil,mechanical, electrical, communications, signals, structural, architectural, and other systems. This effort will set forth the sizing requirements for each building or facility.

4. Interior/ Exterior Circulation
   a. Similar to sizing the buildings or facilities under Item 3, the Jacobs Team will identify all interior and exterior circulation paths for each facility.
   b. These paths will be planned and sized according to applicable codes, standards, and design criteria.

5. Building Finishes
   a. The Project Definition Report will identify a range of options for the building finishes.

6. Security Requirements
   a. Under this task, the Jacobs Team will identify various security requirements that are typically provided and/or mandated at these types of facilities.

7. All Major Codes and Regulations
   a. The Jacobs Team will identify the applicable codes and regulations that will be used in the development of the design.
   b. During this conceptual stage of the project, the Jacobs Team will identify if any waivers, variances, or exceptions will need to be pursued.

8. Foundation Systems
   a. The Jacobs Team will begin to develop conceptual designs for each structure and identify the foundation system that is appropriate.
   b. Due to the variation in building sizes, an individual approach for each structure will be utilized. In order to provide NJ TRANSIT with an economy of scale, a uniform approach for the overall project will be investigated.

9. Structural Systems
   a. During this task, the Jacobs Team will propose a structural system to be implemented for each building or facility.
   b. Due to the variation in building types, an individual approach for each structure will be utilized. In order to provide NJ TRANSIT with an economy of scale, a uniform approach for the overall project will be investigated.

10. Building Envelope
   a. In conjunction with Item 5, the Jacobs Team will propose a building system for each structure or facility.
   b. A roofing system will be proposed for each building.

c. Due to the variation in building types, an individual approach for each structure will be utilized. In order to provide NJ TRANSIT with an economy of scale, a uniform approach for the overall project will be investigated.

11. Electrical Systems
    a. The Jacobs Team will develop concept plans for the electrical systems of the various buildings and facilities within the project scope.
    b. The systems will include power for the individual building's interior lighting and receptacles.
    c. It will include power for the exterior yard lighting.
    d. The Jacobs Team will include electrical systems for powering each 12-car train consist inside the S&I Facility, which will include normal power and standby power for each car (130 amps per car).
    e. It will include power for other systems, such as Access Control.
    f. The concept will address areas of Arc Flash Potential.

12. Electronics and Communications

    a. The conceptual design will provide for various communications systems, such as telephone, public address (PA), internal NJ TRANSIT communications, and other miscellaneous systems.

13. Fire Protection
    a. Each structure and facility will be assessed for the requirements for fire protection. As part of Item 7, all applicable codes and regulations will determine the level of fire protection to be used. Various systems such as sprinklers, alarms, or other measures will be incorporated, as required.

14. Signal Power
    a. The Jacobs Team will develop road diagrams, signal blocks, and aspects for the signal system.

15. Electric Traction
    a. The Overhead Contact (Catenary) System will be designed using NJ TRANSIT standards.
    b. The design will incorporate full tension overlaps, where required.
    c. The design of the other electric traction elements will be to NJ TRANSIT standards.
    d. Single line diagrams will be provided for both traction power and wayside systems.

16. Mechanical Systems
    a. The Jacobs Team will develop conceptual designs for all mechanical systems for each building or facility.
    b. The mechanical design will include service facilities for the yard storage tracks.

c. Such systems will include HVAC, fire lines, domestic water, storm drainage, roof drainage, interior floor drains, sanitary sewer system, and ventilation systems.
d. The Jacobs Team will establish design temperatures for the various rooms or areas within each building or facility.

17. Site Improvements
    a. The Jacobs Team will develop design concepts for improving the site conditions at four key areas of the project.
    b. The Jacobs Team will develop three design alternatives for the station area including dropoff locations, parking improvements or adjustments, and pedestrian circulation to the station facility.
    c. The Jacobs Team will develop three design alternatives for the S&I Facility and crew quarters area. This will address employee parking and pedestrian access to both the crew quarters and S&I facility. The site plans will address emergency evacuation from the buildings and emergency service access to the buildings.
    d. The Jacobs Team will develop a design concept for access to all of the storage tracks incorporating a service and inspection program, which will be required for the normal operation of the train consists being stored on the tracks

18. Track Work
    a. The Jacobs Team will develop track alignments, profiles, and cross sections, where necessary for all the proposed tracks and realignments. The design will be in accordance with NJ TRANSIT MW-4.
    b. The Jacobs Team will develop up to three alternatives for the Delco Lead track, which will optimize additional storage capacity. The alternatives will address physical constraints such as existing roadway bridge piers and abutments, as well as existing drainage culverts or similar structures. The alternatives will address the existing railroad drainage ditches or swales that may be impacted by the track alignment or additional track.

19. Relocated Jersey Avenue Platform
    a. The Jacobs Team will prepare a conceptual design for the New Jersey Avenue Station.

    b. The design will include eastbound and westbound platforms, station amenities, passenger circulation, vehicular access, and a Northeast Corridor (NEC) crossing to connect the eastbound and westbound platforms.

20. Catenary Structures
    a. The Jacobs Team will develop conceptual designs for the catenary structures serving all the new and realigned tracks for both the yard area and Delco tracks.
    b. Modifications to existing catenary structures will be investigated.
    c. New structures will be provided wherever existing structures do not exist or cannot be reused.
    d. NJ TRANSIT structures will be independent of Amtrak catenary structures.

21. Signals
    a. The Jacobs Signals Team is currently approved by Amtrak. Confirmation will be provided after Notice to Proceed.
    b. The Jacobs Team will develop a conceptual design for the signal system throughout the project limits.
    c. The signal system will be designed for the main line NEC tracks. The signals will incorporate the new interlockings where the yard and Delco tracks connect to the NEC. This design will be coordinated with the NJHSRIP (Raceway Project).
    d. The signal system will be designed for the yard and S&I Facility tracks.
    e. The signal system will be designed for the Delco tracks.

22. Sectionalizing
    a. The Jacobs Team will prepare a sectionalizing design for the yard, S&I facility, Delco tracks, and connections to the main line NEC tracks.
    b. A sample concept of this design has been provided with this proposal and will serve a first iteration of the design.
    c. The design will include provision for control from the Rail Operations Center in Kearny, NJ.

d. The design will coordinate with Amtrak for provisions within the Millstone substation adjacent to the County Yard and Jersey Avenue Station.

23. Utilities Coordination
    a. The Jacobs Team will collect available information on existing utilities in the project area.
    b. The Jacobs Team will develop a proposed utility plan for all service connections for the S&I Facility and crew quarters.

Security

Security will require enumerating initial security requirements that might be designed into the Yard. In order to do this properly, a Threats and Vulnerabilities Assessment (TVA) will have to be performed to identify these factors prior to developing a list of mitigations for security that might go into design.

ARCHITECTURAL APPROACH

Facility and Yard

NJ TRANSIT envisions the need for new and improved functional spaces as part of its upgrades and expansion of the County Yard. These include:

- A S&I Facility that can handle two full 12 car consists with locomotives in a two-track setting with associated storage facilities, welfare spaces, and related other functional spaces

- A crew quarters and Yard staff facility serving a maximum shift size of 200 persons

- A replacement building for Amtrak's Communication and Signals function to replace the space that will be lost to accommodate the new yard facilities.

- A series of satellite functions including hazardous materials handling, power, and facilities to charge and store yard vehicles, one or two compressor buildings and other minor facilities.

Facility Arrangement and Code Compliance

These building functions must be arranged on a very tight and constrained site, while keeping in mind the need to create a smooth operational flow between related work elements. Capabilities to maneuver equipment in a safe and timely manner results in an efficient shop work environment. The general layout of the shop areas and proximity of the support areas will be developed to facilitate maintenance activities. The setting of the proposed building locations, orientation, and proximity to tracks and structures is critical in the development of a cost-efficient and productive work environment and to provide the ability for future adaptability of the facilities to accommodate potential growth of the fleet, or shifts in maintenance strategies. The buildings must maintain appropriate separation from other structures in effort to limit fire rating requirements of exterior wall assemblies and to minimize potential impacts to nearby properties and buildings, and ultimately to minimize construction cost associated with this project and future addition projects. Given the very tight railroad north/south site geometry, we are concerned that the need for limited openings in the facades facing adjoining properties for the S&I are possible. The building will fall within the New Jersey Edition of the IBC classification F-1, which allows an insufficient floor area for both type IIA and IIB construction. We prefer to use type IIA construction, as it does not require rated enclosures for the structural members. Addition of sprinklers and a utilization of construction assembly type of IIB, which requires that we protect the structural members to a height above the shop floor, will enable us to construct this shop with a maximum area of 100,000 SF, on five floors with a maximum height of 85 feet. Type IIA construction will allow us adequate area to meet all of the functional requirements. The limitations of the close proximity to property lines will allow some natural light, but complete glazing of the property line wall. The stand-alone crew/yard staff facility will likely be a two or three-story building and will fall within the B use type IIB construction, with a maximum area of 23,000, with 3 stories and a maximum building height of 55 feet; all of which exceed what we will require. The same is true of what we currently understand the building that you will provide for Amtrak C&S

<u>Program Development</u>
The Program addresses the spaces that would be required to support the functions that we understand you require from our review of the RFP and Addenda. The spatial delineation is based on our experience at other similar facilities. This is a very preliminary idea that does not benefit from working directly with your end users-who we believe to be essential to the design process. The pre-design phase is essential in the procurement of a foundation for a well-balanced and successful facility design. At the onset of work, we propose a workshop process including our design team and you to

define a comprehensive understanding of shop, welfare, and office needs, which will become the basis for the development of a detailed project program. The project program will define spaces, space size requirements, and a spatial relationship matrix.

Station

The planned new station and parking facility with possible intermodal capacity offers significant architectural opportunities in service to NJ TRANSIT's objectives. A cohesive architectural approach is necessary to bind these customer movements, reinforce the station presence and resolve the parking situation at the station. The key functional planning and station imagery issues must be understood and addressed.

Station Imagery

NJ TRANSIT Guidelines

The railroad has well developed standards that outline and define station elements and NJ TRANSIT's goals for the operating components and systems. Correct application of the standards is essential to keeping the station design on schedule and to meeting budgets and operational requirements. Within the frame work of NJ TRANSIT's goals for the project, flexibility to address station specific and architecturally distinct station contexts and needs will be addressed.

Railroad Architecture

At the reconstructed Jersey Avenue Station, this will be essential to meet the stated goals of the railroad within the standards. These goals demands will be met within established budgets through creative design.

Visual Compatibility and Continuity

Good design requires compatibility between the rail station and modal connections. This connection is vital to the transportation complex.

Functional Planning Issues

- Site Access and Amenities: As discussed elsewhere in this proposal, site access is critical to the overall complex design. The transportation complex will be approached in four primary ways:
- By car; with parking
- By car/taxi drop off, via a lay by lane and kiss-and-ride
- By bus; through a sizeable facility
- By foot; from the overflow lot across Jersey Avenue, adjacent businesses, or from the residential neighborhoods that are a mile or more away

Clear direction must be established at the site limits to make sure that customers will be oriented immediately. This will require careful application and extension of the existing signage manual, as well as the development of architectural cues to orient customers. Site amenities will be provided in accordance with the guidelines, and the lighting design will ensure safety at the site perimeter, while respecting the impacts of a secure lighting scheme on the nearby neighbors on adjacent properties and within view sheds.

Station Access

The station will be made accessible in conformance with the requirements of ADAAG, the New Jersey's issue of the IBC, NJ TRANSIT's Design Guidelines and Standards, and any applicable Amtrak requirements. To a large extent, this is simply good customer planning. As part of design process, we will continuously test our design alternates against the criteria of simple direct connections and clarity of customer directions. Every effort will be made to simplify the complex, providing intermodal facilities that are linked to platforms, Station ticketing and waiting functions as well as any cross track overpass access in a clear linear fashion, in order to maintain clear visual connections.

Safety and Security

Safety and security are always measured both as "perceived" and "actual" at rail/parking facilities. Perceived security is important to commuters in that they want to feel that their risk in using the facility is minimized during off hours. To this end, elevators will be glazed to the maximum possible extent, blind corners and "dark" zones avoided, and all station facilities open to the public (except the toilet) will be designed in such a manner so as to be visible from multiple vantage points within the complex. Actual safety will be handled differently. CCTV can be installed in elevators and portions of the facility will designed towards prevention of off-hour vandalism, through controls, lighting, and material / detail choices that limit possibility of damage occurring. Wayfinding cues that will function in the event of a natural or manmade emergency will be provided as well.

Intermodal Connection

The act of transfer from parking, shuttle, or bus to train is an essential activity in a rail facility. The architecture of the transportation complex will choreograph this: the transfer will be managed through clear direction and architectural focus. Critical to this connection will be the resolution of vertical elevation issues and the provision of access through clear and "easy" direction. Part of that direction will entail coordinating waiting enclosure design and location to ensure visual connection between important complex components. It will also include "massaging" grades to accomplish the smoothest pedestrian trip into and out of the rail facility.

Internal Circulation and Station Facilities

The cross track connection- overpass - will require careful functional planning. This cross track movement will be experienced twice a day by almost all NJ TRANSIT patrons and has to be treated as a critical part of the customer experience.
Visual cues will be developed to make sure that customers understand the intent of spatial allocations for waiting as well as those not intended for waiting.
Once the project parameters have been defined and agreed upon, the Jacobs Team will develop <u>at least three concept pla</u>ns for NJ TRANSIT's consideration. Each concept plan will consist of at least two sheets:

- One dedicated specifically to the Crew Quarters, its interior layout, external elevations, and exterior treatment concepts.
- The second will address the site as a whole and address such issues as track layout, relocated Jersey Avenue Platform, landscaping, S&I building location,

relocated Amtrak building facilities, Parts Storage Building, yard lighting, parking, circulation, and associated needs (i.e., sidewalks, maintenance equipment, pathways, etc.), catenaries construction, and confined space locations.
- The third will address Delco Lead Improvements-Engineering and alternatives analysis to address storage capacity and operational considerations for single track, single track with passing sidings, and double track improvements for improving five miles of the existing Delco Lead from Jersey Avenue Platform to the retaining wall structures for the Mid-Line Loop project.

The finalization of the project definition criteria and concept plans will be determined through an iterative process by NJ TRANSIT and will serve as the basis for all future design work. It will be required at this point for the Jacobs Team to develop a preliminary cost estimate based upon the selected concept plan.

Deliverables:
- Project Definition / Concept Plan Report and Sketches
- Cost Estimate
- Twelve copies each

TASK 1.2 – SITE INSPECTION, INVENTORY AND SURVEY:
Site Conditions And Inventory

The Jacobs Team will research, collect, and review all existing documents relevant or pertaining to the specific site and conduct field inspections of the area to be impacted by this project. All surveys will be of sufficient detail to facilitate the preparation of complete location plans, site plans and design plans, profiles, specifications, and complete contract documents. Our field activities will not interfere with the operation of the railroad without first obtaining specific approval from NJ TRANSIT, and all personnel will have current RWP certification for any field activities. We will coordinate with the NJ TRANSIT Project Manager to obtain flag protection from NJ TRANSIT. The Jacobs Team will submit copies of completed field findings on inspection reporting forms (which will be provided to NJ TRANSIT for approval) and meet with NJ TRANSIT staff to discuss those findings. We will also identify any additional data needed for determination of existing site conditions, which affect design, and perform the necessary activities to furnish such data. The Jacobs Team will notify NJ TRANSIT of any existing non-code compliant conditions.

Geotechnical Investigations
Matrix will conduct an initial site visit and review available geotechnical data pertaining to the project site. An initial site reconnaissance of proposed boring locations within the project limits will be conducted with appropriate NJ TRANSIT personnel. The purpose of the site reconnaissance will be to determine accessibility of proposed boring locations for drilling based both on physical obstructions and the presence of utilities.

Electric Traction and C&S Visual Inspections
In conjunction with data gathering, the Jacobs Team will perform a ground-level visual inspection of the railroad facilities within the project limits. The purpose of this inspection will be:

- To record less obvious details of the existing railroad electrification and other adjacent facilities, not apparent from any plans, which may impact the design and construction work.
- To obtain field measurements including wire and structure heights required to produce the designs for the modification and additions to the electric traction and signal power facilities. This survey will include the catenaries and associated supporting systems, traction power feeding systems and electrical sectionalizing, and the grounding and bonding network, for the elements within the project segment for which data cannot be provided by NJ TRANSIT. We will verify the horizontal and vertical clearances and position of the electric traction and signal power facilities with respect to the existing tracks, station, site, building and wayside features. We will also identify locations where new catenary supporting structures and/or insulated supporting attachments may be installed to minimize conflicts with other existing and future facilities in the area. Where necessary, we will field check existing features to identify locations where limitations on clearances and other conflicts may influence the selection of the parameters necessary to install insulated assemblies, modify the catenary system, and permit safe passage of pantographs.

<u>Communications</u>
To set the foundation for the design team, we will conduct field visits, review drawings, and meet with NJ TRANSIT and Amtrak communications to validate the existing cable and systems infrastructure including third-party carriers. Our effort will include, but not be limited to, the communications infrastructure along the right-of-way, CIH's, existing equipment rooms, splice points, etc., and will include assessment of the following Systems:
- Fiber and Copper Infrastructure
- Telecommunication Circuits (leased and owned)
- Existing Systems to include Public Address, Internal Communications
- Planned Systems to include SMART Station Program
- Radio Systems
- Security Systems to include CCTV, Access Control

The above inspection in part may require us to access Amtrak and/or NJ TRANSIT manholes and if so, a Site-Specific Work Plan (SSWP) will be developed and submitted in accordance with Amtrak requirements. Our findings along with the project required infrastructure will be documented and incorporated into design criteria.

Existing Facilities

The Jacobs Team will require numerous site visits to evaluate the existing infrastructure elements within the project area. A site inspection will include the performance of a Preliminary Hazard Analysis (PHA) for the Yard to identify potential hazards to be confronted and resolved with design and/or operating procedures. A PHA will require a team to include Designers as well as perhaps NJ TRANSIT safety and operating staff. Alternatively, NJ TRANSIT may already have performed a PHA, but the need for the Design Team to be appraised of this fact is imminent as it will impact PE design and final design hours and efforts.

Public Utility Research

We will develop a comprehensive utility base mapping for the project area. This effort will begin by reaching out to all utility agencies within the project area and request information on their existing and proposed facilities. The utility companies having jurisdiction within the project limits include the following: Verizon, PSEG Gas, PSEG Electric, New Brunswick Water Utility Department, and New Brunswick Public Works Department. Fiber optic cable that runs along the rail line is owned by Verizon Business and AT Fiber. As part of the work associated with the County Yard Improvements Project, utility impacts will consist of relocations of existing utilities in conflict with proposed construction and installation of new utility services to support the yard and associated facilities. Throughout the design process, a utility tracking spreadsheet will be prepared and updated. Information contained within this spreadsheet will include utility company contacts, records received status, agreement status, relocation status, division of work between the utility company and the contractor, and other critical issues that affects utilities and/or project schedule. Subsurface Utility Engineering (SUE) is an engineering process for accurately identifying the quality of subsurface utility information and managing that level of information during the design in accordance with CI/ASCE 38-02. Although SUE is a preliminary engineering activity, the real benefits come during construction. Properly used, SUE prevents unnecessary utility relocations; eliminates unexpected conflicts with underground utilities, and reduces contractor delays. Jacobs will coordinate with their subconsultant GTS Consultants to perform SUE tasks during the design. These tasks will include subsurface utility designation and subsurface utility location. During subsurface utility designation, subsurface utilities will be marked out using geophysical methods including electro-magnetic pipe locators and ground penetrating radar. This will allow the approximate horizontal location to be depicted as accurately as current non-destructive, non- intrusive technology, and techniques will allow. During subsurface utility location, non-destructive vacuum excavation test holes are performed in areas of critical significance to determine the exact horizontal and vertical position of the utility. Other advantages of performing the test holes are that the size, material, and condition of the utility can be determined and confirmed, as well as the soil conditions. Using this SUE process allows the design to advance with confidence, therefore minimizing costly changes at the later stages of design or during construction. In the event that a utility impact cannot be avoided, Jacobs will coordinate with the Utility Company the necessary relocation and / or protection schemes to be performed under Task 1.7.

Topographical Surveys
The Jacobs Team will perform all necessary surveys, by a surveyor licensed in the State of New Jersey, required to verify the existing condition, configuration, and dimensions of the site, and to prepare site plans at a 1”–30’ scale. We understand that prior mapping had been completed as part of the feasibility task. As part of our review with our mapping subconsultant Robinson Aerial Survey (RAS), the feasibility mapping deliverables were compiled and submitted at a scale of 1”=100’ with two-foot contour intervals. We have determined that the aerial photography was flown at an altitude to provide the required 1’=30’ scale mapping with a 1-foot contour interval. We have also confirmed that the photography band width is such that we have the ability to compile base mapping for additional study areas relative to the streams that intersect the NEC corridor. This will require a recompilation by the aerial firm to develop the requested mapping limits and required drawing scales. The aerial photography along with several of the prior aerial ground control targets can be utilized; thereby reducing the need associated with new photography/ ground control. Generally, the mapping limits will run from Handy Street at the north, encompass the area between Jersey Avenue to a point 100 feet south of the NEC up to triangle road. From there, the mapping band width will run for a width of 300 feet (200 on the north side, 100 feet on the south side and running south approximately 4 miles to the existing PSEG transmission corridor. We will also map a 200-foot corridor along Mile Run Brook along the south side of the NEC corridor. The project datum will be in accordance with the survey report as contained in the county yard RFP. Therefore we propose to perform the following activities for Task 1.2.

a) Recovery of existing primary control network and establishment of a secondary survey control baseline.
b) Establishment of aerial control (ground targets) network
c) Aerial mapping field edit survey
d) Detailed field surveys-(rail, structures, utility and environment/geotechnical)
e) Supplemental field survey
f) Subsurface Utility Engineering (SUE)
g) Existing Right Of Way
h) Property acquisition document preparation

a) Primary/Secondary Survey Control Baseline
Under this phase of work our surveyor GTS will perform the following:
We will recover the existing pairs of primary control stations as previously established and Contained in the NJ TRANSIT RFP. This primary control network will be utilized as the basis for all subsequent survey control baseline establishment and topographic mapping. It will be noted: In the event that the primary control is lost, destroyed, etc., GTS can and will reestablish up to six primary control stations throughout the project. We will set pairs of intervisible recoverable control markers at each end of the project limit (approximately 5 miles) and at the midpoint of the project. This control network will be established by Global Positioning Survey (GPS) static methods. The control network will be tied to a minimum of four nationally published “National Geodetic Survey Control

Stations" having the same or higher level of accuracy, as required for the project. All control stations will be established to a minimum order of accuracy of Class 2 survey as specified in the Federal Geodetic standards and specification of 1984 and Geospatial Specification for GPS Surveys Level B. A secondary control baseline will be established from the primary control network, as cited above. The secondary baseline will be set at approximately 600-foot intervals (44 control stations throughout the project extents of 5 miles). This baseline will commence and terminate at known and resolved primary control station. A rigorous/constrained least square adjustment (Starnet) will be performed on the field observed data. All data not falling within acceptable tolerance levels will be reviewed and resolved, as required. GTS will perform a differential leveling network throughout the project limits. The leveling network will be performed to an accuracy standard of Second Order Class 3 as cited above. The leveling loop network will be run with a maximum run length of 2 miles (1 mile each way). We anticipate a maximum of five leveling loops to complete the entire project run. Elevation will begin and terminate on known primary control station and/or published NGS vertical control benchmarks having a minimum classification of second order. Elevations will be established on all secondary control stations with additional benchmarks set on solid structures such as tower foundation, abutment wall, etc. GTS will prepare a "Project Survey Report" signed and sealed by a Professional Land Surveyor and submitted to the Jacobs Team. This survey report will define the project control parameters used for the Horizontal and Vertical Networks including methodology, project GPS network planning, baseline resolution, least squares adjustment, leveling resolution, a network control diagram, and recovery tie sheets. The report will also provide for a confirmation to the previously established aerial control targets.

b) Establishment of Aerial Control Network

Under this phase of work, GTS will obtain from the mapping consultant the aerial ground control targets utilized. GTS will perform a location survey by GPS and/or conventional survey methods to confirm the utilized horizontal and vertical ground control station/targets. We anticipate a maximum of 12 aerial control observations. The findings will be reported within the GTS prepared Survey Report.

c) Aerial Mapping Field Edit Survey

Under this task effort, GTS will obtain the topographic mapping performed by the aerial mapping firm. This mapping will be field edited to confirm and/or modify site planimetric location shown. GTS will add/modify the digital mapping files to reflect our field edits survey.

d) Detailed Field Survey

GTS will perform detailed field location survey for:

- Site features in project area
- Rail locations at 100-foot intervals for the Delco Lead and at existing features in the vicinity of the existing and proposed station platform, along with critical design locations. (No cross sections are proposed within the NEC corridor. This information will be obtained from the Mid-Line loop project being performed by others)

- Railroad infrastructure including track, catenaries, aerial and underground signals, aerial and underground communications, and any other aerial or underground railroad utilities or appurtenances.
- Structures location at all existing roadway crossings including catenary foundations, bridge abutment location within the project area.
- Drainage location survey including grate elevation, invert elevations, and pipe type/sizes as accessible.
- Sanitary location survey including rim, invert elevation, and pipe types and sizes.
- Utilities (electric, gas, water, telephone, fiber optic cable, sanitary sewer, and storm sewer) (In service, inactive, and abandoned).
- Location of delineated wetlands; we anticipate having to locate wetlands flags along the entire length of the Delco Lead.
- Drilled location of up to 150 geotechnical test borings.
- For rail station sites, topography at 0.5' contour intervals and key spot elevations.
- For other facility/ track improvements/ construction, site topography will be at 1.0' contour intervals

GTS will provide:

- 30-scale MicroStation drawing files.
- Digital Terrain Model (DTM)
- Survey report outlined the procedure and methodology of the control establishment.

The Jacobs Team will coordinate with NJ TRANSIT, Amtrak, and Conrail for assistance in marking out underground railroad utilities or appurtenances. We will contact third-party carriers for additional information.

Survey work will be performed at the site only between the hours of 7:00 AM and 3:30 PM, Monday through Friday, unless otherwise directed by NJ TRANSIT.

e) Stream Cross-Section Survey

Under this phase, GTS will perform field surveys to provide stream cross sectional information to the Jacobs Team for hydrological analysis. The main objective will be to obtain stream cross section of Mile Run Brook (one crossing segment) for a distance of 500 feet from either side of the culvert over the NEC. GTS will provide up to ten cross-section plots of the stream in accordance with HEC RAS input data format.
(Per GTS memo to Jacobs dated 11/17/13 – additional stream areas to be mapped at a larger band width, (500 feet instead of 200 feet) at Oakeys Brook, Unnamed Tributary to Lawrence Brook and Six Mile Run.

f) Sub-Surface Utility Engineering Services (SUES)

Under this task phase, GTS will support the Jacobs Team with the following:

- We will compile data received from the Jacobs Team's investigative efforts. We will incorporate that information into our digital mapping files. This will be utilized

as part of efforts in approximating locations of the utilities for field reconnaissance and planning.
- This information and the survey of surface utilities will provide our crews with base data to facilitate the field sub-surface location of the required utilities.

GTS will complete a subsurface utility mark-out utilizing electromagnetic instrumentation, ground penetrating radar to define targeted, detectable subsurface utilities within the appropriate areas. Target utilities will include domestic/ fire water lines, telephone, electric, gas, cable, and communication lines. Detected utilities will be marked in the field using paint lines and/or flags meeting typical industry standards. We will review the mark-out with our survey field crew to expedite the survey field location of the mark-out. We estimate 15 field days to complete the mark-out. It should be noted that due to possible site limitations/ characteristics of the site, the surface designation of every target (utility) may not be possible. Targets may not be detected due to geophysical properties of the target material and matrix, target depth, and orientation of burial. GTS accepts no liability for utility mark-out not provided by us. However, GTS will attempt to verify those existing marked out utilities within the specific areas of interest.

g) Existing Right-of-Way Mosaic

Under this task, GTS will perform a research of record document from NJ TRANSIT, Amtrak, NJDOT, and others, as deemed appropriate to obtain available record data for the development of a Deed Mosaic of the project limits as described above. The focus or development will only be on the north side of the NEC corridor. We understand that NJ TRANSIT will, under separate contract, obtain a “Title Company” to obtain record deeds/ title reports for properties with the project area. GTS will obtain these title reports and prepare drawing figures of each property with associated encumbrance as cited in the record documents. We will work with the real-estate task leads to develop and maintain the required PACE reports GTS will also obtain or request from the title company under contract with NJ TRANSIT any additional record documents such as; filed maps/surveys uncovered through our investigation effort. We will also contact NJDEP Tidelands Bureau for the presence of now or formerly flowed waterways and/or obtain grants as provided by the NJDEP. We will also obtain flood maps to delineate the flood hazard area. GTS will, as required, conduct field surveys to locate cited record monumentation and/or site features to aid in the finalization of a comprehensive right-of-way plat. All of the above will be compiled to prepare a Record Deed Mosaic of the project limits.

h) Property Acquisition Document Preparation

Under this subtask, GTS will prepare Individual parcel maps for the need acquisition of property rights and/or full takes. As part of our initial review, we have concluded that up to eight parcels will be impacted by the project design and require acquisition documents for the purchase of easements and/or fee takings. As such, we will prepare right-of-way documents in accordance with NJ TRANSIT /NJDOT standards.

Deliverables:

- Site Inspection/Inventory Report and Surveys
- Fifteen copies each

TASK 1.3 - PROGRAM SCHEDULING

The Jacobs Team will use Oracle's Primavera Project Management software to produce the Program Schedule. We will use the Program Schedule to plan the Project, and also as an effective tool to show how the Jacobs Team will identify and resolve issues, how resources will be consumed during execution, and how progress will be driven through to completion. We will take a proactive approach to developing and managing the Program Schedule. For this Project, we will produce a two-part Program Schedule, Design Engineering and Construction, that will incorporate the following elements:

1. Land Acquisition
2. Engineering
3. Environmental
4. Permits
5. Procurements
6. Construction
7. Force Account
8. Long lead Procurements
9. Testing
10. Commissioning
11. Other Projects – Mid-Line Loop Project and Amtrak Raceway Program
12. Rail Car Procurement
13. Delco Lead Improvements
14. Items identified for Early Action

We will develop a Critical Path Method (CPM) Program Schedule (cost-loaded for design activities), summary bar charts, resource scheduling, and summary narratives that highlight current or anticipated problems. The Program Schedule will include all work elements including permitting efforts, site acquisitions, environmental remediation, design development, early bid packages, long lead procurements, interface requirements, and major milestones. This schedule will set the overall performance milestones and priorities for the project. Individual designer detailed schedules must work within these time frames.

1.3.1 Design Engineering Schedule

The Design Engineering portion of the Program Schedule will be prepared upon receiving Notice to Proceed. At the start of the design phase, we would anticipate including all known constraints imposed by external stakeholders of the Project and information required by internal stakeholders. An example of the latter would be contract packaging and bidding sequence; e.g. developing individual bid packages in accordance with funds approved for construction. On any project, effective construction management requires an integrated set of concepts, procedures, and computer applications. Deviations from the schedule or the control budget will be flagged for

special attention. Deviations can also be anticipated and ***early warning*** given by using project trending techniques, where projections based on latest performances will be compared with planned targets.

1.3.2 Two Approaches to Program Scheduling

The ***enterprise*** architecture of Primavera's scheduling application has some extra benefits for this Project. As an example, we see the possibility of harmonizing the project schedule with the ***enterprise-wide*** (global) dictionaries that NJ TRANSIT may be using on its other capital projects. This can be done within Primavera by establishing the Project schedule as one project within the NJ TRANSIT capital program. We will make sure that our dictionaries are consistent with the OBS (Organization Breakdown Structure), WBS (Work Breakdown Structure), cross-project resources, calendars, and global project codes used by NJ TRANSIT.

Doing this enables the schedule created for the Project to feed directly into any confidential "dashboard" reporting that is used within NJ TRANSIT for reporting to upper management on the status of its projects. Alternatively, we could set up the scheduling software as a standalone application. This would make sure integrity and confidentiality of data. We would respect whichever option NJ TRANSIT prefers.

In either of the above two options, we would include:

- Working with NJ TRANSIT, its stakeholders, and the Project Team to structure project, OBS and resource hierarchies, and define project-specific custom fields and codes.
- Assigning security rights to users for editing and reporting.
- Implementing database security and integrity of the data.
- Establishing secure backup versions of the schedule.

In developing the project Baseline Schedule in Primavera, we will:

- Incorporate NJ TRANSIT business rules as they relate to the Project (e.g. contract packaging, bidding order, stakeholder ranking, e.g. Amtrak, FRA, municipalities) as we establish subschedules to identify discrete branches of the project WBS.
- Establish performance milestones. An example would be incorporating deadlines for completion of project deliverables. Another is the identification of separate project phases for more detailed progress and status reporting at this level.
- Cost and resource load the schedule at the activity level, if this is appropriate, or at the summary level otherwise. (It is an advantage to cost load at a higher level for certain confidential items where identification at the individual activity level would be detrimental to NJ TRANSIT. An example is real-estate acquisition and relocation payments.)
- Produce the baseline cash flow. This is typically compared to the funding stream.
- Once the Baseline Schedule has been prepared, we would anticipate including the following as part of our update procedures:
    - Setting up reports to show current status and future trends. As part of the requirement to report on progress, we would prepare filtered bar chart views of

the Design Schedule for presentation at the progress meetings. Additionally, the establishment of user rights to the schedule would enable any other designated individual with the requisite security clearance to access the data continuously. (Primavera requires that such an individual shares a license and has access to the underlying schedule database on a network.)
- Highlighting of problem areas including time impacts on subsequent activities.
- Trend analysis showing consumption levels of resources and budget.
- Changes to the critical path and float reduction.
- A narrative explaining the rationale for logic changes, when more detailed information on the project plan becomes available.
- Recognition of completed work, and progress to date of work still underway.

Additionally, we would see our scheduling work as involving:
- What-If scenarios showing the time impacts of various project alternatives.
- Incorporation of Change Order scope and time impact.
- Identification of secondary paths (sometimes called near-critical paths) that may be cause for concern if sequencing or unanticipated delay is experienced.
- Production of formal schedule deliverables including Gantt charts, cash flows, status and progress narrative reports with their accompanying schedules, and ultimately the As-Built Schedule. These deliverables would be distributed according to NJ TRANSIT's project communication protocols and complying with its record storage requirements.

1.3.3 Construction Schedule
Coordination with NJ TRANSIT's Project Management staff and both Amtrak's and NJ TRANSIT's Operating Departments is essential and will be maintained from the initial start-up of the project to completion. While we understand that most of the construction operations will take place off of the existing alignments, the Construction Schedule will be developed to minimize disruption to day-to-day railroad operations, and maximize the utilization of the projected available resources and site access possibilities. We will evaluate all work to ensure rail operations are minimally impacted. Since construction will impact current operations, it is essential that these operations be studied and the requirements necessary to allow railroad operations to continue be established for all phases of construction. Establishing such operational requirements as contractual conditions will make sure cost and schedule issues are factored within both design and construction packaging allowing for full planning of the construction on the basis of real and contractually defined constraints.

1.3.3.1 Constructability Considerations
To properly develop the Construction Schedule, a constructability review and development of an overall phasing plan will be coordinated with other concurrent projects, including the Mid-Line Loop, as well as analysis of innovative construction methods available to the contractor. The following items will be reviewed for constructability impacts and solutions:

- Required rail and power outages.

- Ground water control/ containment/ impacts on adjacent structures.
- Ground water cut-off systems/ recharging the water table.
- Dewatering project requirements.
- Handling and disposal of contaminated and/or hazardous substances.
- Environmental construction impacts/ costs and schedule impacts.
- Impact on bus and vehicular service adjacent to the right-of-way and work areas.
- mpact on passenger access to the Jersey Avenue station.
- Procurement of long lead items.
- Availability of contracted labor forces and minority subcontractors.
- Force account and work train coordination and utilization.
- Construction equipment clearances/ staging.
- Temporary support structures.
- Temporary power for construction.
- Impacts on utilities
- Construction easements
- Contractor access for equipment and materials and delivery of same to the site.
- The feasibility of performing work under traffic, within available construction windows, and time frame for outages.
- Contractor methodologies/ productivities.
- Signal and power provisions and impacts.
- Restoration of operations including all work required to stage construction over multiple time periods.
- Staging and laydown areas.
- Impact on construction within the community.
- The need for track and/or power outages for integration, transfer of power, signal integration, signal, and power testing.
- Night and weekend outages that are dovetailed within other project outage work.
- Work trains and materials staging.
- Holiday work restrictions.
- Fouling time versus track occupancy versus a clear separation from live adjacent tracks.

All disciplines, including track, signals and catenary/power, will be included in this analysis. Where a special method of construction is required, the designers will incorporate the method into their design. As part of the constructability review, we will identify and recommend construction work, material distribution, staging, and other temporary and/or preparatory work, which may be suitable for completion in advance of the proposed construction windows and during other periods, so as not to affect revenue and non-revenue train operations. In order to minimize community impacts, other factors of consideration include, but are not limited to, distribution of street and pedestrian traffic; site access and erection locations; availability of parking and staging areas; and utility coordination work. Utility drawings and specifications will address construction testing and acceptability of utility lines by phase, as well as final completion of the system. Lastly, the constructability review will identify types and quantity of contractor's equipment required on site, on- and off-site material storage

requirements, required facilities for the contractor's and subcontractor's personnel, and construction activities impacting traffic and other area local activities. The full impact of construction and its effect on the community can then be assessed and evaluated. This would include noise, disruption of traffic, loss of customer access to local businesses, local utility disruptions, and possible damage or degradation to area buildings and structures from vibrations and airborne dust and dirt. Based on this analysis, the phasing plans and construction schedules could be modified, as well as the addition of contractual limitations on equipment usage and storage and/or other means and procedures into the construction contract general conditions to mitigate the effect of the construction on the adjacent community.

1.3.3.2 Contract Packaging Considerations

In addition to the constructability review that will be part of Construction Schedule development, contract packaging will also be considered. Initially, we will develop the construction schedule for a single construction contract. The Schedule will have a WBS organized so that schedules for multiple construction contracts may be created from the overall project schedule, if required by NJ TRANSIT due to funding, operations or other schedule impacting factors. As discussed in the Project Understanding, we will prepare Contract Packages in accordance with NJ TRANSIT needs. In considering Contract Packaging for the preparation of the Construction Schedule, we will examine schedule-impacting factors including, but not be limited to, construction cost, available funding, construction type, location, access, coordination with Amtrak or other third-party, permitting, and other pertinent elements. Consideration will be given to discipline-specific project elements, e.g. the Overhead Contact System (OCS); items requiring long-lead times, and work that may require railroad force account efforts. Consideration will also be given for advanced construction contracts, if such contracts will provide benefit to the overall program. We will work with NJ TRANSIT to develop the Contract Packaging plan to create the Construction Schedules needed for the project, whether it will be a single construction contract, or a series of separate construction packages to be bid at different times.

Deliverables:

- Program Schedule
- Monthly progress schedules, including any recovery plans.

TASK 1.4 - ENVIRONMENTAL INVESTIGATION/REQUIREMENTS

Environmental work to be prepared by others (NJ TRANSIT ESU (Environmental Services Unit) or its designated Licensed Site Remediation Professional (LSRP) includes:

A. National Environmental Policy Act/ Executive Order 215
B. Archeological & Historical Investigation/ Mitigation
C. Preliminary Subsurface (Soil/ Water) Sampling and Analysis – Remedial Action Work Plan and a USEPA approved Self Implementing PCB cleanup plan

Environmental work to be prepared by the Jacobs Team includes:

D. Asbestos/Lead Sampling and Identification
E. Land Use Permits and Drainage/ Stormwater Management (SWM)

The Jacobs Team will prepare a remedial construction design based upon work to be prepared by others (NJ TRANSIT's designated LSRP). The remedial design will incorporate all requirements of the Remedial Action Work Plan (RAWP) and will integrate remedial construction staging with site/ civil work staging. Members of the NJ TRANSIT/ LSRP Team are also on our Team, to provide the necessary transition to a remedial Construction design addressing the required elements below.

A. National Environmental Policy Act/ EO 215 Requirements: **(By NJ TRANSIT /LSRP)**
B. Archeological & Historical Investigation/Mitigation: **(By NJ TRANSIT /LSRP)**
C. Preliminary Subsurface (Soil/Water) Sampling & Analysis: **(By NJ TRANSIT /LSRP)**
D. Asbestos/Lead Sampling and Identification

As per the RFP, the Preliminary Assessment (PA), subsurface investigations, preparation of Remedial Action Workplan (RAWP), and a United States Environmental Protection Agency (USEPA)-approved Self- Implementing Polychlorinated Biphenyl (PCB) Cleanup Plan will be prepared by others. The project corridor not covered by the RAWP will be assigned by NJ TRANSIT as a Linear Construction Project (LCP) based on New Jersey Department of Environmental Protection (NJDEP) Linear Construction Technical Guidance (dated January 2012) by completing the initial notification form and assigning a LSRP for the project. The LSRP will ensure compliance with NJDEP's Site Remediation Reform Act (SRRA), N.J.S.A. 58:10C-1 et seq. requirements, including the Technical Requirements of Site Remediation (TRSR) N.J.A.C. 7:26E.

A decontamination and demolition survey will be conducted for impacted buildings and/or structures to identify aboveground storage tanks/ underground storage tanks (ASTs/USTs), asbestos-containing materials (ACMs), lead-based paint (LBP), and Universal Waste/ Regulated Materials (UW/RM) where structures will be demolished. The information collected will be used to address potential hazardous materials associated with each structure and develop a decontamination and demolition workplan addressing the overall approach to the demolition program. When necessary, samples will be collected and analyzed to include LBP testing using XRF Spectrum Analyzer, ACM sampling and analysis using Polarized Light Microscopy, and conduct visual inspection to identify and document UW/RM. It is assumed that access will be provided by NJ TRANSIT to the impacted areas. Upon completion of the field sampling and analysis program, a decontamination and demolition survey report and specifications will be prepared with sampling locations, analytical results, and type of potential ACM, LBP, and UW/RM materials, and appropriate methods to comply with all applicable regulatory requirements for removal and off-site disposal of regulated materials. To prepare the remedial construction design, a Project-Wide Materials Management Plan (MMP) will be developed for the construction contractor indicating the procedures for

handling of all regulated and hazardous/ contaminated materials (soil, groundwater, sediment, and surface water) during construction. The MMP will summarize the findings of the investigations conducted by others including the PCB cleanup, and provide a project-wide Environmental Conditions map of any contaminated demolition materials, soil, sediment, surface water, and groundwater that impacts the construction area. The MMP will include means and methods for loading, handling, and transportation of soil and groundwater to ensure compliance with applicable local, state, and federal requirements. The MMP will include all required regulatory certifications and permits to be held by the proposed disposal facility and the maximum amount of time the regulated materials (non-hazardous and hazardous) will remain onsite prior to disposal. The MMP will then be utilized to complete final 100% design documentation and to prepare bid documents consisting of Environmental Specifications. BEM's MatTrak software for material tracking will be deployed to ensure that all off-site disposal materials are tracked from cradle to grave. BEM will prepare a Soil Reuse Plan (SRP) as part of the MMP, which will aim to maximize the proposed soil reuse for materials that is classified as non-hazardous (ID-27) and recommend appropriate engineering controls, as needed. For soils generated that cannot be reused (surplus soils, PCBcontaminated, petroleum-contaminated, hazardous soils, etc.), the MMP will provide management options to be conducted during the construction phase of the project. The MMP will also include a Stockpile Management Plan to identify stockpile locations and/or materials, storage areas for excavated materials, as well as water collected during dewatering operations, and draining of sediment materials. A Stockpile Sampling & Testing Plan will be prepared to properly classify stockpiled and stored material to prepare waste profiles for disposal. The plan will define protocols for sampling and testing for composite samples and sediment captured by stockpile erosion control measures. The MMP will also include a Groundwater Management Plan (GMP), which will provide several options for groundwater management, if needed due to dewatering operations. At minimum, uncontaminated groundwater would be filtered to remove sediment prior to discharge to sewer/ storm water system or surface water. If contaminated groundwater is to be managed, on-site treatment and/or off-site disposal options would be recommended.

Deliverables:

- Draft and Final Materials Management Plan (MMP)
- Survey Report: Provide written/graphic report and accompanying plans outlining the findings of the conditions survey, five copies. The report will include, but not is not necessarily limited to:

  1) Field inspection findings;
  2) Testing methodology employed;
  3) Asbestos/lead survey report;
  4) Recommended abatement or encapsulation methods.

- <u>Abatement Specifications</u>: If the survey confirms the presence of any asbestos or lead containing paint, covering or insulating materials, prepare and submit six sets of asbestos and/or lead abatement specifications.

- Technical requirements and abatement specifications for asbestos will be in accordance with the NJUCC Asbestos Hazard Abatement Subcode (N.J.A.C. 5:23-8.1 et. seq.).
- Technical requirements and abatement specifications for lead will be in accordance with the NJ Lead Hazard Evaluation and Abatement Code (N.J.A.C. 5:17-1.1 et. Seq.), as well as all applicable regulations of the US Environmental Protection Agency, the code of Federal Regulations and the Federal Register.

E. NJDEP Land Use Regulation Permits, Soil Erosion Plan Certification and Drainage/ SWM ***The permit coordination with the NJDEP is a critical path item and the design of the project elements that impact the NJDEP Land Use Permits will need to be advanced to a level early on to facilitate submission of the necessary environmental permits as soon as possible to accelerate the project schedule.***

It is recommended that the formal Soil Erosion application not be submitted until final design and until after feedback is received from NJDEP. The Soil Erosion application review time is shorter compared to NJDEP. Preliminary Soil Erosion Measures will be shown on the Permit Plans (it will be completed during Final Design).

NJDEP Flood Hazard Area Permit
The project must be designed to avoid or minimize impacts to waterways to the extent feasible,minimize placement of fill in the flood hazard area (flood fringe), and minimize vegetation clearing in the riparian zone. The permits must also consider erosion control measures and compliance with the outfall stability standards to identify environmental impacts. Soil erosion measures are addressed in more detail in Task E.5 under Drainage and Stormwater Management. The existing Mile Run culvert is proposed to be extended for placement of the S&I Facility on top of the culvert. As Mile Run is a NJDEP State Studied Stream, the NJDEP flood hazard area design flood elevation and floodway limits must be utilized for permitting purposes. In order to evaluate some options and to help accelerate the project schedule, the existing HEC-2 hydraulic model for Mile Run was obtained by the Jacobs Team from FEMA. The HEC-2 model was converted to a HEC-RAS model. The culvert flow regime is outlet control and operates under pressure for the higher storms. The velocities through the culvert are 8-11 fps with 15 feet of head (100-year). Due to the high velocities, stabilization of the existing old culvert may be important.

Proposed Culvert Extension Options
The construction of the yard improvements and the new S&I facility will require work over and extension of the Mile Run culvert. The available options will be studied in coordination with NJ TRANSIT to identify the best cost-effective solution that minimizes risk, while also minimizing environmental and hydraulic impacts. The need to obtain permits quickly will also be a key issue. Using a bridge for the culvert extension (maintaining existing streambed and banks as much as possible) will be the best chance of getting an easier NJDEP approval under an accelerated schedule. A hardship

waiver will be required. Use of a bridge will also minimize the impacts on downstream erosion. As mentioned previously, the existing HEC-2 hydraulic model for Mile Run was obtained by the Jacobs Team from FEMA. The HEC-2 model was converted to a HEC-RAS model. The culvert flow regime is outlet control and operates under pressure for the higher storms. The HEC-RAS model was revised to model a proposed culvert extension to the proposed retaining wall using a culvert size similar to existing conditions. This analysis resulted in excessive headwater increases that would not be permitted by NJDEP and would result in additional flooding upstream as a result of the flat flood profile. Therefore, the excessive additional flooding, as a result of a simple culvert extension, would warrant installation of a bridge. A large multi-span bridge would also minimize impacts to the existing NJDEP Regulatory Floodway, minimize environmental impacts, and help justify the hardship waiver, which is required for placing the S&I Facility over Mile Run and a Regulatory Floodway. There are also concerns if any foundation work is performed near the existing culvert, it may unravel and impact the integrity. To reduce risk, it is recommended that consideration be given to evaluating the condition of the existing culvert, and, if necessary, the culvert could be rehabilitated by some measure like concrete spray lining, slip lining, or equivalent. The assessment is dependent on a structural/geotechnical evaluations and an assessment of the existing conditions.

The following outlines the potential options that are viable for the proposed culvert extension of Mile Run:

Option 1 – Bridge over Culvert Headwall/Channel and Rehabilitate Existing Culvert

Option 1 involves proposed walls spanning outside of the existing floodway and rehabilitation of the existing culvert. This option involves using a bridge for the culvert extension and maintaining existing streambed and banks as much as possible. A preliminary visual inspection from a distance indicated it may be constructed of granite block with a natural bottom. The existing culvert will be rehabilitated by some measures like placing a concrete spray lining, slip lining, or equivalent to improve its hydraulic performance. This option may have an easier NJDEP approval process under an accelerated schedule. The design flexibility of the bridge span and proposed walls in combination with a hydraulically more efficient upstream rehabilitated culvert may minimize hydraulic impacts upstream or downstream. A hardship waiver will be required for placement of building over a structure and mitigation for clearing of riparian zone if disturbance is over allotted in Table C of NJAC 7:13.

Option 2 – Bridge over Culvert Headwall/Channel and Relieving Platform over Existing Culvert (Leave Culvert As-Is)

Option 2 involves proposed walls spanning outside of the existing floodway, protect/bridge over existing culvert to distribute load outside of the existing culvert, and leave existing culvert in its current condition. This option involves using a bridge for the culvert extension and maintaining existing streambed and banks as much as possible. There are concerns if any foundation work is performed near the existing brick culvert for distribution of load, it may unravel and impact the integrity. Structural/geotechnical

assessment will be required for the existing culvert. This option also may not be cost effective. This option also may have an easier NJDEP approval process under an accelerated schedule. The design flexibility of the bridge span and proposed walls may minimize hydraulic impacts upstream or downstream. For NJDEP permitting, a hardship waiver will be required for placement of building over a structure and mitigation for clearing of riparian zone if disturbance is over allotted in Table C of NJAC 7:13.

[Jacobs proposal is based on implementation of this option 2 as it provides the best opportunity to maintain project schedule and satisfy the environmental constraints.]

Option 3 – Smaller Bridge over Culvert/Channel and Rehabilitate Existing Culvert
Option 3 involves smaller size culvert extension and rehabilitation of the existing brick culvert. This option involves disturbance of existing streambed and possibly floodway to place the proposed culvert extension. The existing brick culvert will be rehabilitated by some measures like placing a concrete spray lining, slip lining, or equivalent to improve its hydraulic performance. The NJDEP approval process may be cumbersome. The smaller culvert extension may have hydraulic impacts upstream, as well as disturbance in a floodway and in the existing streambed. A hardship waiver will be required for placement of building over a structure, as well as fill in the floodway and mitigation for clearing of riparian zone if disturbance is over allotted in Table C of NJAC 7:13. A potential alternative would be to use a 3-sided structure that has a natural stream bottom.

Option 4 – New Separate Culvert to the Northeast, Abandon Existing Culvert
Option 4 involves a separate new culvert to the northeast and abandoning the existing culvert. This option will make sure prolonged life of the culvert and structural, as well as hydraulic stability. The option, however, may not be viable since tunneling under a railroad embankment is not recommended. The NJDEP approval process may be cumbersome, since this option will require realignment of the stream upstream and downstream, as well as fill in the floodplain. A hardship waiver will be required for placement of building over a structure, as well as fill in the floodway and mitigation for clearing of riparian zone if disturbance is over allotted in Table C of NJAC 7:13. Rehabilitating the existing culvert will require coordination with Amtrak, since it is most practical to rehabilitate the entire culvert to prevent future problems. Future ownership and responsibility for the culvert is also an issue that will need to be discussed with Amtrak, if work is performed on the culvert either for structural stability or hydraulic improvements. The culvert operates under pressures for the higher storms and the velocities through the culvert are 8-11 fps with 15 feet of head (100-year), which makes stabilization of the old culvert more important. If any portion of the existing culvert unravels, the entire structure may fail. Repair measures after the fact would be difficult. There are also existing utilities that are located through the culvert and are visible at the culvert stream bottom. The impacts to existing utilities will be evaluated as part of the initial study. It is also prudent to consider rehabilitation of the Tributary to Mile Run at the same time. It is important to note that this is considered part of a Flood Resiliency project and extra measures should be considered to make sure the

existing culverts do not fail and jeopardize the operations of the site. As a result of the project proposing work within existing floodway areas, we will work with NJ TRANSIT to determine if it is cost-effective and necessary to meet the project schedule to purchase any drainage easements to mitigate any flooding changes associated with the proposed project, if it is not possible to keep flood level increases to permitted changes on adjacent properties. However, the scope of work assumes that the allowable changes in regulated flood levels can be met by the proposed design. The type of potential culvert rehabilitation options (assume three alternatives) will be studied in Concept but the Final Design will be addressed as additional services and depends on a detailed structural assessment. The scope of work includes a preliminary visual inspection of the existing Mile Run and Tributary to Mile Run culverts based on accessible areas by foot. One potential option is to use sprayed concrete lining, such as Centrifugally Cast Concrete lining.

Riparian Impact Assessment

The NJDEP regulates both the placement of structures and fill in regulated waters and their flood hazard areas and the “clearing, cutting, or removal” of vegetation within the Riparian Zone adjacent to regulated waters in accordance with the *NJ Flood Hazard Area Control Act* (FHACA) rules. Regulated disturbance to the Riparian Zone includes both permanent and temporary disturbances to vegetation. The Flood Hazard Area rules require that vegetation disturbance in the riparian zone be minimized. Restoration of any temporarily disturbed vegetation is required. Preliminary research of the NJDEP Landscape layers in the NJDEP GeoWeb GIS database does not reveal any T&E species. This will need to be confirmed with a Natural Heritage Data Request Letter from the Department’s Natural Heritage Program. The minimum width of the riparian zone of Mile Run and the Tributary to Mile Run is expected to be 50 feet from top of bank. It is also anticipated the width of the riparian zone for all waterways crossing the Delco Lead will also be 50 feet. We will confirm if any project area will have a riparian zone width of 150 feet due to the presence of the mapped wood turtle habitat in, or within one mile, downstream of the stream. It is noted that there is no riparian zone above the existing stream culverts. According to the NJDEP Draft Flood Hazard Area Technical Manual, there is no riparian zone along piped sections of an otherwise regulated water and that the riparian zone “does not arc around the open channel portion of regulated water when the channel ends at a pipe.” This will reduce the proposed impacts across the proposed Yard. The requirements for a regulated activity in a riparian zone and the Maximum Allowable Disturbance to Riparian Zone Vegetation in N.J.A.C. 7:13-10.2 Table C would apply. The maximum area of vegetation disturbance for a railroad crossing a waterway is 2,500 ft2 for a 50-foot riparian zone for each crossing. If the allowance is exceeded, this could be permitted if it is shown that reduction in riparian impacts was not feasible and by demonstrating that public safety cannot be adequately ensured without exceeding these limits. If this is the case, riparian zone compensation would be required for disturbance in excess of 2,500 ft2, per crossing. The Jacobs Team will prepare a Riparian Impact Zone analysis. We will also prepare a Preliminary Riparian re-planting plan for the disturbed yard site area at a maximum of two potential locations within the existing Amtrak right-of-way. It is noted

that any Riparian Mitigation area will need to be Deed Restricted. Preparation of any deed documentation will be addressed as additional services, if required, since it depends on approval from Amtrak. If no land within the right-of-way is available or does not meet the project needs, a preliminary search will be conducted for sites in the vicinity of the project area and along the same stream corridor as the impacts within 1,000 feet of the project area. Compensation may be in the form of replanting previously cleared riparian zone or preservation of existing forested riparian zone. NJ TRANSIT will perform land owner communication to obtain access to the site. As the level of effort required to secure an appropriate offsite area and to prepare the riparian compensation plan is unknown at this time, this scope of work only includes preliminary identification of potential sites for compensation located outside the right-of-way.

If an on-site area is identified, the Compensation Plan for replanting of Riparian Zone vegetation will be designed to meet the following requirements:

1. All replanting will be located in the Riparian Zone of the same regulated water as the cleared, cut, or removed vegetation;

2. All replanting will be located as close in proximity to the cleared, cut, or removed vegetation as possible;

3. All replanting will consist of indigenous, non-invasive vegetation;

4. The replanted vegetation will be of equal or greater density as the cleared, cut, or removed vegetation;

5. Prepare two 30-scale landscape plans and one detail sheet. Prepare planting details; identify fertilization requirements, and specify the need for any herbivory controls (i.e. fencing).

The accelerated schedule does not allow sufficient time to facilitate design and construction of a new off-site riparian mitigation site. Therefore, it is assumed that any offsite riparian mitigation is ultimately anticipated to be addressed by a bank to be designated in coordination with NJ TRANSIT.

Delco Lead Environmental Impacts

It is anticipated that any required National Environmental Policy Act or NJ Executive Order 215 environmental document will be prepared under a separate NJ TRANSIT contract. It is also our understanding that the riparian delineations and a NJDEP Letter of Interpretation (LOI) will obtained for the County Yard and Delco Lead project areas under a separate contract. The evaluation of a single or double track alignment for Delco Lead will involve an assessment of environmental impacts while maximizing train storage. The proposed improvements cannot result in excessive environments impacts, which would most likely involve additional detailed project justification and alternative analysis, which could lead to delays in obtaining the NJDEP Land Use Permits or other

regulatory approvals. Areas where there are excessive environmental or right-of-way impacts, such as wetlands or regulated floodplains, will be single track.

The Delco Lead within the project area will cross at least four NJDEP Flood Hazard Areas that will have Regulated Floodplains. These are:

1) Mile Run
2) Tributary to Mile Run
3) Six Mile Run
4) Unnamed Tributary to Lawrence Brook

Mile Run and the Tributary to Mile Run are NJDEP State Adopted Studied Streams. The impacts to Mile Run and the new Yard are covered under the basic scope of services. No floodplain impacts are expected for the Delco Lead work associated with the Tributary to Mile Run. Six Mile Run and the Unnamed Tributary to Lawrence Brook are non-delineated streams within the project area. It is understood that the flood information for the Unnamed Tributary to Lawrence Book will be provided by others as part of the Mid-Line Loop project or that assessment will be included as part of the allowance. As stipulated in the RFP, the $ 50,000 allowance will also support hydraulic calculations for culverts along Delco Lead. The Six Mile Run stream crossing of the Delco Lead project area is located just south and east of the Route 1 overpass. The crossing is the headwater of Six Mile Run. This crossing will have a significant impact on the horizontal and vertical design of Delco Lead. The Delco Lead crossing is narrow with ditches on each side. The crossing consists of twin Corrugated Metal Pipes and there is evidence of embankment erosion since the area has been backfilled with concrete. The area is also much lower compared to the Amtrak mainline. A detailed Hydrologic and Hydraulic (H&H) analysis is required to evaluate the floodplain impacts and whether Delco Lead needs to be raised to prevent flooding, especially from a flood resiliency perspective. It is expected that this H&H analysis is covered under the Allowance. Other small culverts exist along Delco Lead and the strategy will be to maintain these crossings or replace in kind. It is expected that any H&H analysis for the smaller culverts is covered under the Allowance. The existing impacted rail side ditches will be replaced in kind. Existing drainage patterns are to be maintained to the maximum extent practicable.

The following work efforts describes the steps the Jacobs Team will undertake to secure the necessary permits and approvals within the 18-month time-frame outlined in the RFP.

Pre-Application Meeting with the New Jersey Department of Environmental Protection

The Jacobs Team, in coordination with NJ TRANSIT, will initiate a pre-application meeting with NJDEP to introduce and provide an overview of the project's purpose and need. This meeting will establish a framework and agreed-upon permitting strategy to achieve the project's goals and expedite the regulatory review process. Once a feasible permitting strategy is developed and agreed upon with NJDEP, the regulatory permit application process can commence. As soon as the preliminary design is underway, we

will begin to prepare the necessary application packages for draft and final submission to NJ TRANSIT and subsequently to NJDEP. We will work closely with NJ TRANSIT and NJDEP to make sure a seamless progression from design to construction. Pre-application permitting meetings are strongly encouraged by the NJDEP prior to the final design phase to make sure that design engineers are aware of what would be permissible under the appropriate permit applications. These meetings may also establish mitigation requirements and help avoid lengthy design changes and setbacks during the permit application process. It is important to note that creation of this recommended review process is important, since there are new NJDEP FHA Rules proposed. They may be adopted during the design phase. It is important to obtain NJDEP feedback, since the project's final permit applications may be submitted after the new FHA Rules are adopted.

Proposed New FHA Rules
Some of the proposed changes that could help or benefit the County Yard Improvement project are outlined below:

- Changes to the permitting process (administrative changes) to streamline review and harmonize with other Land Use Rules
- Riparian Zone (RZ)
  - No Hardship needed for impacts exceeding the allowable disturbance limits
  - Clarification of temporary vs. permanent impacts
  - Include mitigation section similar to Freshwater Wetlands Rules
  - No 150-foot riparian buffer to acid producing soils (will be 50-foot buffer)
  - Allow tree mitigation banking
- Bridges and Culverts
  - Permit-By-Rule for in-kind replacements (such as existing culverts within the project area)
  - New General Permit for hydraulically equivalent replacements
  - Clarify that temporary bridge/ culverts cannot exacerbate flooding or cause adverse fishery impacts (current rules concentrate on final construction)
  - Identify bridges and culverts that need terrestrial passage (i.e., animal crossing)
  - Clarify what storm events are required

Flood Hazard Area Permit
The Flood Hazard Area (FHA) work efforts include the submission of the FHA Verification and the FHA Individual Permit application based on meetings with NJ TRANSIT and NJDEP.

NJDEP FHA Permit Application
The Jacobs Team will perform the following tasks in support of the preparation of the FHA Permit Application:

1. Coordinate the necessary stream survey and mapping required for the ditch modeling.

2. Peak flows for Mile Run will be based upon the NJDEP State Study for the 10-year, 100-year and the New Jersey Flood Hazard Area Design Flood (NJFHADF).
3. Prepare a HEC-RAS model for existing and proposed conditions. Two proposed bridge/culvert extension configuration will be modeled. It is assumed that the proposed modeling will maintain existing flood levels at the upstream project limits and off-site analysis is not required. It is also assumed that the proposed model will maintain existing velocities downstream and erosion control measures, such as riprap, will not be required outside the right-of-way and impact area.
4. Prepare net fill calculations for the 10-year and NJFHADF Regulatory storms. It is anticipated that a waiver will be applied for, which is allowed for rail projects in accordance with NJAC 7:13-10.4 (3) and mitigation will not be required. We will demonstrate we have minimized the proposed fill (e.g. installation of the proposed retaining wall at Mile Run) and show that the proposed fill in the flood fringe is small compared to the total runoff volume for the 10 year and NJFADF.
5. Prepare signed and sealed FHA permit plan. Plans are expected to include:
    - Title Sheet
    - Legend and General Notes
    - Flood Hazard Area Plans
    - Floodplain Delineation Plans
    - Riparian Zone Plan
    - Cross Sections
    - Proposed Bridge GP&E
    - Soil Erosion and Sediment control Notes and Details
    - HEC-RAS Profile and Cross sections
6. Prepare an Engineer's Report summarizing the analysis and backup data.
7. Prepare documentation for a Hardship Exception for the proposed S&I Facility over Mile Run. It is expected that the Project Need and Alternatives Analysis for locating the S&I Facility over Mile Run will be based on information included as part of the NEPA CE effort being prepared by others.
8. Prepare an Environmental Report.
9. Prepare a Riparian Impact analysis and preliminary Riparian Mitigation Plans. It is assumed that any off-site Riparian Mitigation is ultimately anticipated to be addressed by a bank to be designated in coordination with NJ TRANSIT.
10 Prepare FHA Application Report, Forms, Notices, and Application Fee. The Water Quality Certificate will be checked on the LURP form. The NJDEP FHA application will be submitted jointly with the NJDEP Wetland application. The same notifications will be used for both the FHA and wetland applications.
11 Prepare for, attend, and prepare minutes for four meetings, two with NJ TRANSIT, and two with NJDEP (2 Jacobs Staff) Address NJDEP submission comments based on one set of review comments.

It is understood that a detailed analysis of the Tributary to Mile Run is not required. The existing NJDEP State Adopted floodplain information will be used to prepare any studies to assess if any drainage outfalls are located with a regulated area and for any rehabilitation of the culverts. It is also understood that any additional hydraulic

calculations associated with Delco Lead west (excluding Mile Run) of County Yard is included in the $50,000 Allowance. It is anticipated that General Permits will be applicable to the Delco Lead Impacts. We will incorporate the necessary environmental impacts into one overall NJDEP Individual FHA application based on available information or analysis prepared as part of the Allowance.

Delaware and Raritan Canal Commission
A portion of the project is located in Review Zone B of the Delaware and Raritan Canal Commission (D&RCC). ***Mile Run, the Tributary to Mile Run, and Six Mile Run all ultimately drain to the Delaware and Raritan Canal***. If the project is considered a major project, more than ¼ acre increase in impervious surface or one acre or more of land disturbance, a SWM review and approval from the D&R Canal Commission is required. These thresholds will be triggered for this project. A stream corridor impact assessment is also required as part of the D&RCC application. This involves showing project information and impacts within the 100-year floodplain. It is anticipated that the engineering documents prepared for the NJDEP Land Use Permits will be the base documents that will be used to submit to the D&RCC to show the project impacts.

D&RCC Zone B Project Area
The application for D&R Canal Commission review for stream corridor impact will include the following in accordance with N.J.A.C. 7:45-9.2.

1. A map of the project site delineating the stream corridor at a scale of one-inch equals 100 feet;
2. The 100-year flood line, verified by the NJDEP Division of Land Use Regulation;
3. The 100-foot wide buffer along the 100-year flood line;
4. The location of all improvements and/or disturbances proposed to be located within the stream corridor;
5. A description of existing vegetation in the stream corridor; and
6. A metes and bounds description of the project site boundary and the stream corridor boundary, both on hard copy, as well as a digital rendition, either as a CAD .dxf file or ArcView shapefile.

Stormwater Runoff and Water Quality Impact Review
The following will be submitted to the Commission for review of stormwater runoff and water quality impacts.

1. USGS Location Map;
2. Full set of site grading and utility plans including lot and block lines;
3. Pre-Development and Post-Development Drainage Area Maps (1” = 100’ or 1” = 200’) shoring two feet contour levels;
4. Photos of drainage and site conditions
5. Description of existing site conditions including outlines of woodland cover and utilities
6. Soils maps of the site including soil types and classification;
7. Flow charge for hydrologic model;
8. Stage/ volume/ outflow chart, calculations for chart, and constants used in the calculations (weir and pressure flow coefficients);

9. Groundwater elevation and depth to groundwater;
10 Details of outlet structure(s);
11 Summary tables showing comparison of pre- and post-developed conditions for the 1, 2, 10, and 100-year storm events;
12. Detailed calculations for pre-developed and post-developed conditions;
13. Calculations to demonstrate compliance with water quality provisions;
14. Soils information including percolation rates;
15. Recharge spreadsheet;
16. Non-structural points system spreadsheets; and
17. SWM calculations on a digital disk in addition to the paper version.

NJDEP Individual Freshwater Wetland Permit Application
The permit coordination with the NJDEP is a critical path item and the design of the project elements that impact the NJDEP Land Use Permits will need to be advanced to a level early on to facilitate submission of the necessary environmental permits as soon as possible to accelerate the project schedule.

This scope of work assumes that any required National Environmental Policy Act - environmental document will be prepared under a separate NJ TRANSIT contract. It is also our understanding that wetland delineation will be performed and a NJDEP LOI obtained for the County Yard/ Delco Lead project under a separate NJ TRANSIT contract will be complete. The Jacobs Team will review existing information and mapping of the project area, any previous design or environmental work done on or adjacent to the project site, as well as work performed during the preparation of the NEPA document. If additional wetland delineations, LOI's, or other work beyond this scope is required, it will be determined in conjunction with NJ TRANSIT and at their direction performed under the As Needed Task. The NJDEP regulates activities in wetlands, State open waters, and wetland transition areas under the NJ Freshwater Wetlands Protection Act rules. Mile Run is culverted beneath the tracks in two locations in the vicinity of the County Yard. Wetlands may be associated with Mile Run adjacent to the yard. Six Mile Run and an unnamed tributary to Lawrence Brook also traverse the tracks along the Delco Lead. Wetlands associated with these streams border the tracks along with other wetlands in low lying areas. The wetland resource value classification and associated wetland transition area are determined by the water quality classification of the associated stream and the presence or absence of habitat for endangered or threatened species. Wetlands in the project area are anticipated to be classified as intermediate resource value with a 50-foot wide wetland transition area. It is assumed that the LOI prepared under the separate NJ TRANSIT contract will include an assessment of the wetland resource value. We have assumed that a Freshwater Wetlands Individual Permit will be required to authorize the proposed fill of State open waters of Mile Run and any adjacent wetlands and wetland transition areas, as well as for any impacts to regulated areas as a result of the Delco Lead improvements. However, the Jacobs Team will explore the potential applicability of Freshwater Wetlands General Permits (FWWGPs) and Transition Area Waivers to the project, which could expedite the permit process and potentially reduce the need for and associated costs of wetland mitigation. ***The Jacobs Team took a similar successful***

approach on the 10.5 mile Conrail Lehigh Line Infrastructure improvement project where we were able to utilize FWWGPs #1, #7, and #10A; and a Special Activity Wetland Transition Area Waiver for Linear Development to authorize the project.
Some of the Delco Lead improvements (particularly the single track improvements) that are proposed in wetland transition areas may be considered to be maintenance or rehabilitation activities in a wetland transition area and therefore may be exempt from any approvals under the FWWPA rules. It may be possible to authorize the proposed project under the following: FWWGP #1 for maintenance and repair of existing features for impacts in wetlands within the existing rail corridor for rehabilitation, replacement, or repair activities; FWWGP #10A or B for road crossings for the proposed extension of the Mile Run Culvert (authorizes up to ¼ acre of wetland and wetland transition area disturbance) and/or FWWGP #21 for above-ground utility lines for overhead catenary poles (if GP#1 does not apply). There are no disturbance area limitations under FWWGP #1 or for temporary impacts (non-forested wetland or wetland transition area impacts) under FWWGP #21. Permanent forested wetland and wetland transition area impacts of up to 0.5 acre is allowed under FWWGP #21. For new linear construction activities (including railroad improvements and/or utilities) where proposed impacts are limited to just wetland transition areas, we will explore the applicability of a Transition Area Waiver for Linear Development, which has no limitation on the area of disturbance. Wetland mitigation is required for permanent impacts to wetlands over 1/10 acre for FWWGP #10A and B and FWW #GP21. Mitigation for these impacts can be in the form of wetland mitigation bank credit purchase or a monetary donation to NJDEP. It is our understanding that available wetland mitigation credits are available within the area.
If a NJDEP Individual Wetlands Permit is required for the project, it must be demonstrated that there is no alternative that would reduce or avoid impacts to wetlands. Wetland mitigation will be required as a condition of the permit. The Jacobs Team will assist NJ TRANSIT in communication with Wetland Mitigation Banks whose service areas include the project area to determine availability of credits and credit costs. It is assumed that NJ TRANSIT will purchase credits from a wetland mitigation bank to satisfy this requirement and that no design of a wetland mitigation plan will be required. There are two existing wetland mitigation banks that service Watershed Management Area 9 from which credits may be purchased for wetland impacts in project area. Performance of a wetland mitigation site search and design of a wetlands mitigation plan are not anticipated to be required and therefore are not included in this scope of work and, if required, would be performed under the as Needed Task.
The ***NJ Freshwater Wetlands Protection Act*** rules and the ***NJ Flood Hazard Area Control Act*** rules include special protection for endangered and threatened species and their habitats. Forest areas in the study area are potentially in the geographic range of the federally-listed endangered Indiana bat. The U.S. Fish and Wildlife Service may impose timing restrictions on any tree clearing to protect the Indiana bat (likely restricted between April 1st and September 30th) as a condition of the NJDEP permits. The City of New Brunswick is a municipality in which the federally-listed threatened plant swamp pink (***Helonius bullata***) is known to occur. It is not anticipated that the project area contains suitable habitat for swamp pink. This scope of work does not currently include targeted surveys for any species of concern. A search of the current NJDEP Green Acres Program, Recreational and Open Space Inventory (ROSI) database was

conducted to identify publicly owned land within the vicinity of the project area. The Youth Sports Complex (identified as Block 321; Lot 4.01) is located across the tracks from the County Yard. In addition, the Finnegans Lane Area (County Open Space) is located with the southern end of the County Yard study area and Joyce Kilmer Park is located with the northern end of the study area. It is assumed that no acquisition of land from these parks will be required.

The construction of the County Yard Improvements and the new S&I facility will require work over and extension of the Mile Run culvert and wetland area. The available options will be studied in coordination with NJ TRANSIT to identify the best cost-effective solution that minimizes risk, while also minimizing environmental and hydraulic impacts. The need to obtain permits quickly will also be a key issue. Using a bridge for the culvert extension (maintaining existing streambed and banks as much as possible) will be the best chance of getting an easier NJDEP approval under an accelerated schedule. A hardship waiver will be required. Refer to the NJDEP Flood Hazard Area section for additional information on the culvert options.

DRAINAGE AND STORMWATER MANAGEMENT

The drainage system design along with the design of the SWM Best Management Practices (BMPs) will need to be advanced to a level early on to facilitate submission of the necessary environmental permits as soon as possible to accelerate the project schedule. It is recommended that the formal Soil Erosion application not be submitted until final design and until after feedback is received from NJDEP. The Soil Erosion application review time is shorter compared to NJDEP. Preliminary Soil Erosion Measures will be shown on the Permit Plans.

Stormwater Management

Approach

The proposed project improvements will result in a disturbance area greater than one acre so the project will be considered a “major development” under NJ’s SWM Rule (Rule) (N.J.A.C. 7:8). The project will thus be required to comply with the water quantity and groundwater recharge requirements in the Rule, which are:

- Quantity Control: post-construction peak runoff rates for the 2-, 10-, and 100-year storms must be no more than 50%, 75%, and 80%, respectively, of the pre-construction peak runoff rates.
- Groundwater Recharge: the average annual groundwater recharge must be maintained.

It is recognized that the existing soil are contaminated and an exemption for recharge from NJDEP would be pursued. Documentation will need to be submitted to NJDEP to show proof of the existing contamination and location The project will also add more than 0.25 acres of new impervious area; therefore, the project will also need to address the stormwater quality requirements in the Rule:

- Water Quality: 80% Total Suspended Solids (TSS) removal for construction of new impervious area, and 50% TSS removal for reconstruction of existing impervious area.

A “treatment train” of BMPs, including the use of Manufactured Treatment Devices (MTD’s), will be required to provide the required TSS treatment. Another key project SWM approach would be to maintain existing drainage divides to the separate Mile Run and Tributary to Mile Run. To comply with the requirements in the SWM Rule, both the concepts of Low Impact Development (LID) and constructed stormwater BMPs will need to be considered. LID concepts involve the use design principles to minimize the generation of stormwater by minimizing pavement areas and maintaining green space. To assess the potential change in the quantity of stormwater, the Jacobs Team will access land use changes within the project area. The change is land use is directly related to the change of stormwater runoff coming from the project. By minimizing the land use changes within the project, the size of any proposed drainage conveyance piping is minimized along with the size of any stormwater BMPs that address quantity control. Stormwater BMPs are then required to be constructed; the BMPs will be constructed in accordance with the NJ Stormwater BMP Manual. Our recent experience on the Portal Bridge project demonstrated that water quality and quantity control was not required by NJDEP. For the current Lackawanna Cutoff project, we performed a land use change analysis that showed adding the ballast and restoring the rail bed compared to the removal of trees and re-grading did not increase the runoff and compliance with water quantity control was not required. For the Meadowlands Rail Project, which has diesel trains, water quality treatment was required by NJDEP, but we demonstrated that water quantity control was not required. Our goal is to perform the necessary analysis upfront to obtain the necessary NJDEP buy-in on the SWM approach. We will also look to use porous pavement or open-celled block to comply with NJDEP Requirements. The use of alternate pavement systems may work well for the maintenance areas between the tracks that may not submit to high truck traffic or pollutant loading. In accordance with the NJDEP SWM Rules, the use of porous pavement or open-celled block can only be used for water quality treatment and not for peak flow reduction. We will also look to use vegetative filters around the proposed parking and building areas to provide visual buffers and additional water quality treatment. We will present some porous pavement and concrete paver concepts.
In addition to the conventional aboveground detention basins, the Jacobs Team will evaluate use of bioretention basins to provide detention and water quality treatment. The Jacobs Team will evaluate use of underground detention if site constraints prevent sufficient room to install aboveground bases, which are typically the most cost-effective for maintenance and are preferred by the Regulatory Agencies. Any belowground basins will be kept outside the limits of the tracks. The runoff to underground basins will need to be pretreated to minimize maintenance and as recommended by NJDEP. Presented below are some below ground basin and pre-treatment options. It is understood that permeability tests will not be required for each BMP to predict the permeability of the soils at potential basin areas as a result of the contaminated soils. Basin liners may be required to prevent infiltration of the stormwater. Groundwater information or readings will be required to assess the levels of the seasonal high

groundwater levels compared to the basin bottoms. This will need to be an early task item in order to minimize schedule impacts and allow for the submission of the NJDEP Permit documents as soon as possible. Use of liners may also preclude the need for new Observation Wells and readings over several months, which will avoid delays and help maintain schedule. The placement of any proposed stormwater BMP will be outside of any environmentally sensitive areas such as wetlands, floodplain/ floodway and forested areas. Right-of-way impacts will also need to be considered in the selection and placement of the stormwater BMPs. The design of the stormwater BMPs and drainage system will need to be advanced to a level sufficient to obtain the required environmental permits from the various agencies. We have identified five potential locations for SWM basins. ***Refer to the Sample Plan submission for the potential locations.*** The limited available space and the need to maximize train storage and yard operations and minimize proposed right-of-way will required at multiple smaller locations and potential use of belowground basins. We will study the five potential locations, but it is assumed that four locations will be advance to final design. It is understood that the Design of the Eastbound High-Level platform will only be advance to a 30% level. The SWM effort will include identifying potential solutions for SWM or use of basin areas for the Westbound platforms, but the final design effort will be addressed as a separate work tasks.

Drainage

Approach

The Jacobs Team will develop a drainage design for Delco Lead and the County Yard Improvements. This task will include the delineation of existing drainage patterns for the length of the project. Existing drainage patterns are to be maintained to the maximum extent practicable. The drainage design will consist of ditches and culverts, to convey runoff to the SWM facilities and regulated waterways/ ditches that are present within the project area. The ditches, if necessary, could serve as a stormwater BMP if check dams are installed in the bottom of the ditches to hold back the stormwater runoff. This could avoid the need for separate basins located outside the right-of-way. This design will be evaluated if needed and discussed with NJ TRANSIT since these ditches would require a higher level of maintenance. The need for underdrains within the areas where ballast is installed will also be evaluated, particularly in areas where high groundwater or poor subsurface soils exist. The use of ballast/stone surface treatment as much as possible will help minimize proposed stormwater flows so that existing ditch sizes and permit impacts can be minimized. The drainage design for the proposed yard area will involve the design of storm inlets and piping to safely convey runoff from the proposed yard area to a stormwater BMP or ditch/stream. A key design item will be to address the drainage outfall stability in accordance with the Standards for Soil Erosion and Sediment Control in NJ and the Off-Site Stability Standard. An Operation and Maintenance (O&M) Manual for the SWM facilities will also be required to be submitted to NJDEP as part of the Permit submission. The proposed drainage improvements will be designed in accordance with AASHTO/ NJDOT standards where applicable. The design will be done in MicroStation StormCAD so the proposed drainage design can be modeled and easily integrated into the civil plans. The drainage design will also need to

be coordinated with the soil erosion measures plus the hydraulic analysis of the regulated waterways and ditches within the project area.

Deliverables:
The Jacobs Team will prepare all necessary documents, process and obtain all applicable Land Use and Soil Erosion permits for the project including but not limited to the above noted items.

TASK 1.5 - GEOTECHNICAL INVESTIGATION:

The proposed improvements for County Yard seek to enhance operational and storage capacity withinthe existing County Yard/Mile Run that currently services Amtrak. The project site is located in New Brunswick Township, Middlesex County, NJ. The improvements will include the construction of five storage tracks and two pedestal tracks for S&I Facility of rail cars. The work also includes improvements and/or construction of a five-mile long Delco Lead. The proposed construction will include a new Crew Facility building, S&I Building, retaining walls, catenary structures, and embankment construction. An existing culvert located within the limits of the proposed S&I building will be extended, spanned over, and/or re-constructed. Geologically, the project site is located within the Piedmont physiographic province. A review of the Rutgers University Engineering Soil survey indicates that the site is underlain by Triassic Shale bedrock. It is anticipated that bedrock will be encountered at relatively shallow depths. The soil overburden is expected to consist of sand and silt and/or manmade fill material. A comprehensive subsurface investigation and laboratory-testing program will be planned and conducted by the design team. The investigation program will define the underlying soil conditions as they relate to the proposed construction. The subsurface investigation program will be prepared by Jacobs and PB and executed by our geotechnical subconsultant; Matrix New World Engineering, Inc. The design team anticipates drilling approximately 145 soil borings at the project site. The anticipated boring program is detailed in Section 1.5 “Subsurface Investigation.” The boring program will define the top of rock elevation throughout the project site and characteristics of the soil overburden. Observation wells will be installed to establish the depth to the groundwater table. The observation wells will be read over the course of six months to establish the seasonal high water table for the SWM design. Upon the completion of the subsurface investigation program, our subconsultant, Matrix, will prepare a Geotechnical Data Report. The data report will include a summary of all the data collected in the field and laboratory test results. The report will present boring location plans, soil boring logs, field testing data, and the results of laboratory testing performed. We anticipate submittal of the data report at the 30 percent design level. The design team will evaluate the soil condition and laboratory test results detailed in the Geotechnical Data Report. A “Preliminary Geotechnical Engineering Report” will be submitted to NJ TRANSIT summarizing the design team analyses of the data and provide preliminary design recommendations. The design team will also prepare geotechnical and foundation design criteria to be utilized for final design. The two documents will form the basis of our geotechnical and foundation design approach. The two documents will be submitted at the 30 percent along with the Geotechnical Data Report. Subsequently, the design team will perform geotechnical analyses and design

of the various elements of the project as the design progresses toward final submission of Contract Plans and Specifications. A “Final Geotechnical Engineering Report” will be prepared by the design team summarizing the results of the analyses performed and presenting foundation design and geotechnical recommendations for the various project design elements. The parameters of the various soil and rock stratums used in the design will be included in the report. We anticipate the Final Geotechnical Engineering Report submittal at the 90 percent design level.

Reporting
Matrix will prepare a geotechnical data report of the investigation, which will include:

- Boring location plan;
- Boring logs including descriptions of the subsurface materials and SPT data;
- Description of subsurface conditions;
- Visual identification of soil mottling in the collected soil samples to determine estimated seasonal high water table; and
- Laboratory testing results.

All test boring samples will be inspected by NJ TRANSIT’s ESU archeological subconsultant to determine the possible existence of archaeological significant artifacts. Soils testing should also be coordinated with this task as part of the environmental investigation.

Deliverables:

- Geotechnical Report that includes field and laboratory data and provides recommendations and design parameters for track work and structures, Five copies each

TASK 1.6 – PERMITS:
This task includes the effort to provide Management of the Permitting effort. It is understood that the design and application efforts are included in Task 1.4. The work effort will include the Tracking and Progress Reporting, and coordination for all required permitting. The following permits and agency coordination are anticipated and will be addressed in a Permit Management Report:

- NJDEP Land Use (Flood Hazard Area and Wetlands)
- Freehold Soil Conservation District - SESC
- NJDEP Treatment Works Approval (TWA)
- NJDEP Delaware and Raritan Canal Commission
- SHPO
- Utilities/Communications:
    - Verizon
    - PSEG Gas
    - PSEG Electric
    - New Brunswick Water Utility Department
    - New Brunswick Public Works Department

- Fiber optic-cable that runs along the rail line is owned by Verizon Business and AT Fiber

- County/Municipality
- Fire Protection approvals
- NJDCA
- ADAAG
- Amtrak owned facilities

The Permit Management Report will be a living document and as a minimum, an updated spreadsheet summarizing the status will be sent to the NJ TRANSIT Project Manager monthly.

Deliverables:
The below permitting items (to be provided by the Consultant and approved by NJ TRANSIT):

- Summary (table)
- Description
- Timeline
- Five copies each

TASK 1.7 - PRELIMINARY DESIGN/ENGINEERING (0% - 30% SUBMISSION):

On the basis of decisions made in the previous tasks, the Jacobs Team will prepare Preliminary Design Documents. The Preliminary Design Documents will serve to fix and describe the size and character ofthe project as to structural, mechanical, communication, and electrical systems, equipment, schedules and other essentials as appropriate, and should represent 30% complete design.

Track Alignment Development
Plan sheets at 1”= 30’ scale will be provided for the Track Alignment. Profiles will be prepared with proposed top of rail shown versus the existing top of rail elevation. All tracks will be constructed at the same elevation throughout the interlocking limits with the exception of restrictions beneath overhead bridges. All alignments will be developed in accordance with current AREMA guidelines, Amtrak, and NJ TRANSIT criteria as necessary. All drafting will conform to NJ TRANSIT drafting standards. As discussed in the Project Understanding, we will work with NJ TRANSIT to determine the optimum alignments/layouts to proceed with through this Phase. As part of the development of the horizontal and vertical alignment plans, horizontal curve cardinal points (TS, SC, PI, CS, and ST) and vertical curve points (PVC, PVI, and PVT) and gradients will be displayed. Geometry and curve data tabulations will be displayed showing relevant curve information including superelevation and unbalance, stationing and coordinate data. Tangent bearings and distances would also be tabulated. The locations and types of special trackwork (turnouts, crossovers, frogs, etc.) will also be shown. The layout of special trackwork configurations will utilize typical turnout “cells” depicting the limits from the Point of Switch (PS) to the last long timber (LLT) to determine the feasibility and placement of the switches. In addition, cardinal stations for the point of switch, point of intersection (PITO), and points of frog (PF), etc. will also be displayed

We understand NJ TRANSIT's guidelines for Track design:

- It is preferred that tracks are raised-undercutting will be used only as a last resort.
- The switches must be placed on tangent track.
- The top of rail of parallel tracks through any crossover must be at same elevation.
- No crossover or switch point can be in a cut section that is retained by a wall.
- Turn track design must be of adequate length and clearance, and #15 turnouts will be incorporated as stated in the RFP.

Final plans will include horizontal and vertical alignment sheets (plans and profiles), alignment datasheets and geometry tabulations, plans for geometric ties to horizontal and vertical controls, special trackwork layouts and details, typical sections and details, and contractor staging details.Jacobs will work closely with NJ TRANSIT to advance the trackwork design through the 30%, 60%, 90%, and 100% level of completion incorporating design review comments from NJ TRANSIT. The trackwork design will be coordinated and integrated with the civil, electrical, and utilities design. The track design will be integrated and developed together with other project elements to assure that the alignments, profiles, and horizontal and vertical clearances work together.

ARCHITECTURE

Shop and Yard Architecture

The surrounding context is industrial in nature. We think that we should accept and celebrate the essential industrial nature of the functions along with the NJ TRANSIT corporate identity and colors to develop a campus architecture that is unified. Since forklift traffic is anticipated in and around the proposed structures, the buildings are suited to be precast concrete or concrete masonry unit construction for a height of approximately 8'-0" above finished floor to reduce the potential of damage to the structure. This treatment can be either a panelized system, a single or double wythe masonry construction. We will look to maximize insulation within the system, so the likelihood will be that the double wythe wall or the precast panel system will be best suited for the application. The remainder of the building exterior is recommended to be a steel frame building with panelized curtain wall. This can be a pre-engineered structure with an insulated metal panel wall system or a recycled material, or a "stick-built" system. The roofs may be either a "flat" high-performance membrane, a pitched metal roof or possibly a green roof if the SWM issues call for it. The goal for the building enclosure systems will be to provide a balance between low maintenance, long-life span, economical building, and energy performance. Another key will be to allow flexibility for future expansion without significant construction cost or impact to the facilities operations. The primary factors that drive the decision making process in terms of architectural design and material/systems selection are both quantitative and qualitative. In terms of architectural design, the initial assessment will focus on minimizing building volume and maximizing the potential of under applied space. For example, the design team will analyze the initial facility footprint and volumes, and then work to shrinking the footprint and take advantage of upper floor volumes if the program and functional plan is workable. This work will be coordinated closely with the industrial

team so that the functional relationships are not compromised. The architects will approach the project from a qualitative perspective to determine whether the character of the spaces themselves can be modified in some demonstrable way to lower the construction cost. This may include modifications of the basic materials and systems of the facility, offering an alternate to finishes, etc.

Station Architecture

Legibility of the Station

The Jersey Avenue Station is separated from the street actual frontage providing access to it. Because of this, there are two levels of Architectural "legibility" that will need to successfully addressed during the design effort; the first is the way in which people perceive and understand that this is a rail station as they approach the station – almost an "announcement" of its presence and the second is the internal site queues that tell the approaching customer who wants to either park, or needs to be dropped off or picked up, or is arriving on foot or some type of other modal transfer – where to go and how to get there. Currently, a sign identifying the station marks the entry onto the access road. Some type of architectural element would enhance the station presence. This "object" or "landmark" should be scaled and designed to speak to the NJ TRANSIT corporate identity to establish the station presence. After the turn onto the property is made, the access road runs along the Mill Stone Branch affording a fairly direct view to the existing station building and the area that is currently used as an ad hoc informal drop off/pick-up behind active parking. With the new station platform location and the enhanced visual identification within the site that the new overpass, stairs and elevator towers will offer, we have the opportunity to develop a site layout that functions in a safe and clear way with respect to providing a more direct communication of the drop off/pick-up function and the way in which cars will circulate through the site. This will also include safe passenger movements through the parking areas for people coming from across Jersey Avenue as well as from within the onsite parking.

Station, Parking and Intermodal Connectivity

We will provide new commuter parking spaces and taxi's and kiss-and-ride functions to serve the station. We may also find that given the opportunity that the new station development offers, we will also need to accommodate NJ TRANSIT buses, and local business shuttles. All of these functions must be overlaid with pedestrian flow and connections to the new station platform(s). Clearly, this is not an easy undertaking. There are inherently conflicting physical needs, safety concerns, and flows. We will look at concepts for integrating all of these functions into harmonious community sensitive design that enhances the new context. Access to the station from the parking will have to be carefully merged with active traffic such as bus and car lanes.

Platform Egress

By their nature, center platforms complicate egress. NJ TRANSIT standards call for a minimum platform width of 26 feet. It may be desirable to widen the platform to accommodate the elevator width and wider stairs to the overpass given the 12-car consist and the potential population that it creates from an egress perspective. The outside width of an MRL elevator shaft is at least 9 feet and a stair/ could be as wide as

10’ to meet both the level of service (LOS) and egress needs. Coupled with a safe clearance envelope all around, this may suggest a platform width closer to 30’ for this station. With a 1,050 foot long platform (NEC 12 car platform length per the current standards), a 30’ wide platform would generate a platform egress population of over 1500 persons after discounting for the circulation elements. Additionally, there is a maximum dead end travel restriction that is 35 feet per IBC or one car length per NFPA 130, which the DCA is considering adopting and may have in place by the time this project reaches permitting. With one point of access via an overpass there are two issues to be addressed; first capacity- two platform stairs of 10’ effective width each (one in each direction from bridge to platform) will accommodate 1200 people, leaving approximately 300 or more passengers to be accommodated. This demand can be met by providing areas of assisted rescue at the ends of the platform that would be sized based on the relative position of the pedestrian bridge and the length of travel at bridge level across the main line and/or lead track. This would also solve the dead end travel issue. However, this approach could also create very large fenced areas at track level limiting crossovers and track geometry. Based on the 300 people to be served, the total area required would be approximately 1500 SF, which translates to an area that would be 50 feet long or more at each end of the platform. This will also require that a large space be created over the platform at bridge level where passengers can navigate around the elevator. The character and size of the overpass will be also require study, given that the standards call for a minimum width of 6’, but allow for larger widths based on the station requirements. From a simple egress width perspective, a one ended span serving 1200 persons would require a clear width of at least 12’ in order to accommodate the load. The need to accommodate a potential extension to the future eastbound platform also argues for a larger width to accommodate future loads. The future eastbound side platform will face similar issues, given that the site is landlocked. In addition, it appears that there is a large embankment that will make the development of areas of safe dispersal more difficult (more expensive) to construct.

Facility Services

Industrial Engineering

The Jacobs Team is prepared to work with NJ TRANSIT to review some of the innovations accepted by prior clients. Innovations such as providing cantilevered outside platforms (eliminating potential conflicts of columns interrupting worker access or repair areas) and at the same time eliminating the center platform to provide wide open areas for removing components and moving material. The use of full-length light weight roof top platforms eliminated the need for a motorized gantry type crane for roof access. This saved repair time and eliminated the need to maintain a motorized material handling device. The Jacobs Team would like to review the needs of NJ TRANSIT and develop a design that works best for this facility. We can duplicate or modify the proposed S&I facility footprint. The shop as presently designed appears to be capable of doing much more than S&I work. From the RFP, it appears that one of the largest tasks to be performed would be the cleaning of HVAC evaporators. We believe that items like brake shoes, seats, lights, electronic cards, windows could all be replaced here. We do not see any reference to changing out roof top A/C units or trucks

for example, however if this is desired we could easily add a mono rail system to accommodate these needs. The repairs to overhead catenary systems on the cars would be accommodated with the facility design. We envision a facility with pits, depressed side floors, platform access to the car interiors and roof top access (including fall protection) from a roof top platform. The shop size can be slightly reduced if the future plans do not call for more extensive repairs to be done in this shop, which would reduce the overall project cost with no loss in functionality. The unique use of platforms provides a good location for mechanic tool lockers as well as expendable materials to use during inspection and repairs, for example filters, lights, glass etc. could all be stored close to the point of use. In addition to the actual track layout, the shop will have several other features such as attached welfare facilities, general offices, a store room and loading dock.

HVAC

The NJ TRANSIT County Yard Improvements will have several facilities listed below which will be provided with HVAC systems.

- NJ TRANSIT Crew Quarters
- S&I Building
- Wayside Power/Building House Power Substation
- Control Room
- Parts Storage Building
- Relocated Amtrak Facility

The HVAC systems will be designed per ASHRAE Handbooks, Standards and Guidelines, and in compliance with NJ Building Codes. The design will incorporate NJ TRANSIT's requirements. The crew quarters and offices in the above facilities will be climate controlled. Also the Control Room will be climate controlled. Areas such as Locker Rooms, Toilets and Showers will be climate controlled and provided with 100% outdoor air supply and 100% exhaust. The service, inspection and storage facilities will be heated and ventilated. The heating and ventilating systems could be roof mounted indoor central system or localized area systems suitable for the facility. The exhaust air discharge will be located such that exhaust air do not enter the outdoor air intake for the facility. Space requirements for HVAC systems will be estimated and incorporated into plans for the proposed floor layouts. Traditional HVAC design techniques will be used to select system type, allocate equipment spaces and estimate construction cost. The HVAC systems will be energy efficient and will comply with energy conservation codes. The systems and equipment will be selected to suit the NJ TRANSIT's functional and operational needs of the facility. If required the critical areas will be provided with standby equipment. The equipment and systems will be arranged to provide adequate space for service, maintenance and replacement. The HVAC system controls will include Building Management System (BMS), which will provide centralized monitoring, trending, reporting and alarm notifications.

Fire Protection

The new design of NJ TRANSIT County Yard facilities will follow New Jersey State Department of Consumer Affairs, NJS Uniform Building Construction Code and

referenced standards, APTA, NJ TRANSIT, Amtrak, Conrail, FRA, OSHA, and requirements of local authorities having jurisdiction.

Site

The new proposed S&I, Crew's Quarters, Parts Storage, Amtrak Facilities building and platforms would require a new dedicated water service to be brought to the site. This site water service will be capable of handling anticipated fire fighting flows up to 3,000 gpm, for sprinkler systems being discharged with internal and external hose streams, of sufficient pressure at the full fire flows. It is recommended to have a secondary water service of the same capacity from a different street, for redundancy due to the long, narrow layout of the site. Otherwise, a single water supply with a fire reserve storage tank containing the one hour's fire fighting water supply must be erected on site.

Water Service

The new incoming fire protection water supply point of entry at the property line would be provided with a backflow prevention device with metered detector in compliance with the Middlesex, New Brunswick local water company and NJ DEP requirements. It would also be installed above the latest 100-year flood hazard elevations so that any such event would not cause contamination of the public water supply from County Yard operations, should flooding ever occur. This would be carefully designed and coordinated with the Civil site design layout. It would be protected from freezing by installation within a heated enclosure. Should the available water supply characteristics be inadequate to provide the required pressure for fire fighting, then a site fire pump with by-pass arrangement per NFPA 20 may be necessary to provide the boost in water pressure required for all of the facility and yard fire hydrants, buildings and at platform areas. The proposed fire fighting and fire suppression systems for specific spaces will be as follows:

- Fire Standpipe (wet for heated, and dry for unheated exterior applications) per NFPA 14.
- Automatic Sprinkler (wet for heated spaces, and dry pipe for unheated loading docks, covered exterior canopy against buildings and outdoor storage buildings) per NFPA 13.
- Alternate Clean Agent Fire Suppression (electronics, telecommunications and battery UPS rooms, computer data center rack equipment spaces) per NFPA 2001.
- All occupied and unoccupied spaces that require portable fire extinguishers per NFPA 10.
- Each open platform (one in either direction) will be provided with capped dry standpipe hose valve stations spaced along the platform run at the side facing away from the train consist, every 200 ft. with isolation valves every 800 ft., and the mains to the open platforms cross connected. The fire department connection (Siamese) will be located facing the nearest street and properly identified per NFPA 14 and NFPA 130 accordingly.

Sprinklers will be provided in all occupied facility rooms and storage spaces. The sprinkler systems will be electrically supervised by tamper switches and water flow switches. Alarm and supervisory signal from all alarm initiating devices installed on the fire protection systems will be transmitted to the facility central fire alarm panel that is monitored on the 24/7, 365 status.

Plumbing

All of the new County Yard buildings will be provided with plumbing systems. The new facilities listed below will contain occupied employee restrooms, locker rooms, employee lounges, workshops, and train servicing facilities.

- NJ TRANSIT Crew Quarters
- S&I Building
- Wayside Power/Building House Power Substation
- Control Room
- Parts Storage Building
- Relocated Amtrak Facility

All of these occupancies would require various domestic and industrial plumbing systems such as cold and hot water, sanitary, vent, storm water, general air tool compressed air, APTA standard high pressure brake test air, industrial drainage to an oil-water separator, floor drains, trench drains and roof drains. Depending upon the topology of the site, the gravity drainage may not be possible for all facility buildings. In those cases where the point of discharge to the sewers are higher than the facility gravity drainage system, sump pumps and ejector stations would be employed. This would elevate the effluents being discharged by pumping. Service and Inspection pits below the rail elevation would contain trench drains run longitudinally along the centerline of the pit. These would drain by gravity to sump pits, which would then be pumped up to a gravity drain pipe by duplex sump pumps.

Water Service

The new incoming domestic water supply point of entry at the property line would be provided with a backflow prevention device with meter in compliance with the Middlesex, New Brunswick local water company and NJ DEP requirements. It would also be installed above the latest 100-year flood hazard elevations so that any such event would not cause contamination of the public water supply from County Yard operations, should a flood ever occur. This would be carefully designed and coordinated with the Civil site design layout. It would be protected from freezing by installation within a heated enclosure. Local backflow preventers would be installed within facility buildings for point-of use industrial equipment, or boilers using chemical treatment for the hot water heating system. Domestic cold water will be distributed throughout the site to all of the NJ TRANSIT facility buildings. Each building will have its sub meter and backflow preventer to protect the yard distribution if a local contamination event occurs at any of the buildings. The welfare facility vending machines, industrial workshop process equipment or other chemical dispensing devices will be provided with point-of-use backflow preventer and shutoff valve. The facilities that are occupied will have all plumbing fixtures connected to the domestic cold water system. All of the branch piping will be insulated to prevent condensation. Domestic hot water will be generated using

storage type, high efficiency, condensing type, gas fired water heaters. Industrial hot water will be created the same way using dedicated high efficiency, condensing type, gas fired water heaters, or point-of-use gas fired tankless heaters on the most remote locations if required. The hot water distribution will be comprised of the circulation pumps and balancing valves on the return leg of the hot water piping layout from the furthest plumbing fixtures or equipment branches. The facilities that are occupied will have all plumbing fixtures connected to the domestic hot water system. All of the hot water mains and branch piping will be insulated to prevent energy loss. The industrial process equipment or chemical dispensing devices connected to the hot water distribution will be provided with point-of-use backflow preventer and shutoff valve. Outdoor hot water service, vertical standing hydrants, will be located along service tracks spaced at 170 feet intervals to facilitate access every two car lengths. All outdoor vertical hydrant stations will be enclosed in accessible heated cabinets to prevent freezing. Compressed air plant will be provided to two different systems. One general shop system will use duplex rotary screw, variable speed air compressors with duplex refrigerated air dryers for a dew point of 33°F to 50°F and a receiver tank. This system will operate at 110 psig for general shop tools used for servicing operations. The other brake test system will use positive displacement type air compressors and duplex desiccant type air dryers for a very low dew point of -40° F required by APTA for servicing and brake testing on passenger rail consists. All of the points of use convenience outlets spaced every 100 feet, for the general tool air will be provided with a pressure regulator to ensure 110 psig, air filter and lubricator device and quick-disconnect fitting. The brake test outlets with air regulator and pressure gauges will be spaced every 85 feet on service tracks will be provided with the NJ TRANSIT standard quick connect disconnect fitting to allow service crew engineers to test braking components as well as allow parking consists (push-pull) on adjacent track as needed during the scheduled service procedures. General industrial drainage systems would be run in areas where oily, grease laden effluent from servicing may accumulate. This will be conveyed by a gravity drain system to a formed-in-place concrete sand intercepting pit, then to an oil/water separator. Depending upon the water table and other site conditions, a NJS DEC compliant pre-manufactured, stand-alone solids and oil water separator vessel with double walled containment tank may be preferred. The full access oil coalescing section with liftout covers will be specified to comply with OSHA non-permit access requirements.

Servicing

The storage and dispensing of NJ TRANSIT consist industrial servicing and maintenance fluids will be located centrally adjacent to the servicing and inspection pit, close to the cars or diesel locomotive unit. Any waste fluids from on-board ecology tanks that may be drained will be collected safely in waste fluid receptacles or used fluid hoppers for later disposal by NJ TRANSIT's hazardous materials collection vendor. Sanitary and service dumps for the train toilets are recommended to be done outdoors, by mobile sanitary pump truck to reduce the likelihood of clogged underground piping systems within the service and inspection facility, as well as noxious odors caused by the dump operations. The Snyder fueling fill-valves with automatic shutoff protection will be specified.

Wash Down

The outdoor manual wash down station (or covered, open ended, wash down shed with access platforms and cut-out for OCS pantograph) will be provided with connections for hot water pressure washer equipment for elevated tracks specified under the industrial equipment inventory. This would allow servicing crews easy access to perform washing operations to remove sand and ice buildup of car undercarriage condensers, transformers and running stock. Elevated platform access to clean the roof top HVAC units would also have hook ups for high pressure hot water wands and nozzles. The detergent soap specified would be compatible with NJS EPA pH requirements and all drainage from the wash down procedures would be collected from the wash down area using trench drains and pre-treated with sand interceptors and oil-water separators before discharge to public sewer systems.

Servicing Reels

The locomotive servicing area will be provided with a tower containing all of the required system servicing reels for all of the dispensed fluids, compressed air, industrial water, lube fluids and electric outlet extension cables. This multi-use tower will help NJ TRANSIT service personnel to quickly perform all required servicing procedures in a safe, coordinated effort. The hose and line retraction mechanisms on the reel tower will mechanically assist in returning extended hoses and cables and reduce physical strain and fatigue to personnel. Each of the overhead reel systems will be properly labeled to clearly identify each system as well as any mandatory OSHA safety warnings.

Plumbing Fixtures

All of the specified plumbing fixtures will comply with the latest plumbing and energy conservation code requirement low-flow and ultra low-flow water consumption requirements to reduce water wastage from activities such as flushing toilets, urinals, showers, faucets and drinking fountains. Emergency combination shower and eye wash stations will be located adjacent to areas which may be hazardous to personnel such as battery rooms, chemical dispensing or hazardous materials storage rooms. These combination units will be provided with local strobe light and loud horn to immediately alert others who are nearby to assist the person using the emergency unit.

Stormwater from Facility Buildings

Any rainwater from facility building sloped roofs will be collected on the low point edges with architectural gutters and down comer leaders externally. These points will be provided with a connection to a storm leader within 5 feet of the building footprint to the external underground storm water piping, and connect to the underground site storm sewer.

Electrical

The electrical design and construction documents will be prepared to conform to applicable codes, railroad standards, and industry standards. Calculations for electrical load, voltage drop, energy density as required, substation grounding, cable pulling for long underground runs, short circuit/coordination/arc flash will be provided.

Site
The site electrical work will include site lighting, site power distribution, wayside power system, and the duct bank and manhole network to serve these systems. The site duct bank network will also serve communications circuits. Site lighting will consist of pole-mounted and building-mounted lights and will be designed in a way to avoid impact to the operations of the yard when lights must be maintained. The wayside power load centers will be located at positions to serve the trains which will be parked in the yard. The electrical engineers will also assist the civil engineers with utility relocation.

Crew Quarters
Electrical systems in the Crew Quarters will include an electric service to the building from the site power distribution system, and internal building power for equipment, lighting and receptacles. Interior lighting, lighting controls, emergency lighting and illuminated exit signs will be included. Grounding and bonding as required will be provided.

S & I Building
Electrical systems in the S & I Building will include an electric service to the building from the site power distribution system, and internal building power for equipment, lighting and receptacles. Interior lighting, lighting controls, emergency lighting and illuminated exit signs will be included. Special-purpose receptacles will be provided as required and special details will be developed for pit pedestal power and lighting and for other special situations. Grounding and bonding within the building as required for an electrified railroad will be provided.

Wayside Power/Building House Power Substation
The primary 60HZ AC power from PSE&G to the County Yard complex will come to the House Power Substation. The substation will contain the switchgear and necessary auxiliary equipment, such as batteries, for the main electric primary service and for distribution to downstream loads. These loads will include the wayside power substation which will have a transformer to step the primary voltage down to 480 volts for the wayside power load centers. The substation will distribute 60HZ power at primary voltage and at 480/277 volts to the other buildings on the site, as well as the signal and communications facilities. The voltage selected will be a function of the length of the circuit and the magnitude of the load. Grounding per substation standards will be provided. Power and lighting to serve the substation building itself will be provided. Coordination with PSE&G will be performed.

Parts Storage Building
Electrical systems in the Parts Storage Building will include an electric service to the building from the site power distribution system, and internal building power for equipment, lighting and receptacles. Interior lighting, lighting controls, emergency lighting and illuminated exit signs will be included. Grounding and bonding will be required.

Relocated Amtrak Building Facilities

Electrical systems in the Relocated Amtrak Building Facilities will include an electric service to the building from the site power distribution system, and internal building power for equipment, lighting and receptacles. Interior lighting, lighting controls, emergency lighting and illuminated exit signs will be included. Grounding and bonding will be required.

Station Platform
Electrical systems on the station platforms will include an electric service to the platforms from the site power distribution system, and power for equipment, lighting and receptacles. Platform lighting, and lighting of ancillary spaces and pedestrian walkways, emergency lighting and illuminated exit signs will be included. Lighting controls will be provided to improve energy efficiency. Grounding and bonding as required by Amtrak standards for an electrified railroad will be provided.

CIVIL/SITE
The civil plans will be generated at 1”=30’ scale and will be the general construction plans showing all existing features, contours/elevations, and the location and relationship of all of the infrastructure elements to be constructed. The plans will also show the track alignment, utilities, right-of-way, drainage, and miscellaneous site features. These plans will show any required grading to support these elements by detailing proposed contours. Rail systems elements, such as signal houses, transformer equipment houses, fences, ductbank and conduit runs, and catenary structures, will be shown on the civil plans. Typical and/or critical sections will be developed at scales to adequately document the conditions within the work limits early in the design phase. Cross sections will ultimately be developed every 50 feet as necessary using the DTM prepared under Task 1. Additionally, typical sections will be developed to the extent necessary to capture the necessary detail over a certain project area. Site clearing and any related demolition plans will also be included as necessary. Railroad utilities will be addressed and discussed under the various Rail Systems discussions. Location of ductbank and conduit runs to houses and equipment will be coordinated and shown on the civil plans, but routing for local feeds will not (see General Rail Systems Plans for these details).

Roadway Access/Parking

Access Road and Facility Parking
Access and parking throughout the expanded yard will be designed in conjunction with the tracks and maintenance facilities. Final alignment and grading plans along with typical sections for the access roads and parking lots will then be developed during this phase.

Park-and-Ride Facility
The parking lot layout will include elements of the concept plan that have been selected and advanced to design by the Jacobs Team, in collaboration with NJ TRANSIT. The

park-and-ride facility is likely to include new parking areas, drop-off/pick-up areas for buses, shuttles, taxis, and kiss-and-ride users. All of these functions will be overlaid with pedestrian flow and connections to the new station including the proposed pedestrian overpass to the eastbound platform.

Utilities
Public and Third-Party Utility Relocations and their protection will be covered under this effort. A sewer connection permit from NJDEP for the sewer extension and connection to the municipal sewer in Jersey Avenue will be required. Specific requirements for this permit will be identified during preliminary engineering. The design will include a sanitary force main and lift station. The design of the lift station includes determining the total sanitary and industrial load entering the system, pump selection, and wet well design. Other new services for the yard and facilities include domestic water, fire protection water, gas, and communications, and electric. These services will likely come from Jersey Avenue via the NJ TRANSIT employee entrance; however, investigations and discussions will be made with each utility company to determine location and service capacity. In addition, a dual redundant service for each utility, such as electric, will be discussed with NJ TRANSIT and the utility companies. Preliminary load calculations will be performed for each utility to determine available utility capacity and whether any overbuilds by the utility are required. Once the utility service is brought to the property and properly metered, the utility distribution throughout the yard will be designed.

Drainage
The goal of the drainage design is to maintain existing drainage patterns and facilities where practical.

Staging Plan Approach
The Jacobs Team engineers, designers, constructability experts, and rail operations planners will develop the comprehensive staging plan for the work. Of paramount importance is ensuring the safe, reliable operation of NJ TRANSIT service, while supporting the safe and efficient execution of the work. The Jacobs Team will ensure that all proposed track, electric traction, and/or signal system outages comply with the operating constraints of NJ TRANSIT Transportation and Rail Service Planning along with that of Amtrak. Possible alternatives were discussed in the Project Understanding, and we will advance those in concert with the appropriate stakeholders.

RAIL SYSTEMS

Operations Analyses
The Jacobs Team recognizes that every rail capital construction project has an operations planning and/or analysis component. We understand that capacity, flexibility, and resiliency of operations in terms of the size and number of trains, providing seats to customers, by time of day, and On-Time-Performance are important to NJ TRANSIT train riding customers, rail service planners, and the public at large. As the Track Design progresses during various stages, the Jacobs Team will collaborate at every

step of the way with NJ TRANSIT Rail Service Planners and Operations Staff to ensure that the track design meets the applicable AREMA and/or NJ TRANSIT guidelines and delivers a design that is operationally resilient, functional and without “single point of failures”. The Jacobs Team will provide assistance to the skilled staff at NJ TRANSIT as required to provide assistance in operations planning whenever necessary and as requested. Although we do not expect that any rail operations simulation will be required for this work, the Jacobs Team stands ready to respond to any specific NJ TRANSIT Transportation or Rail Service Planning concerns regarding operations during construction. If such a response requires operations analysis, we would prepare a task order proposal for NJ TRANSIT’s review and consideration. For example, as an option, if NJ TRANSIT desires, our team can provide a simulation of the design area using the RAILSIM operations simulation network database that was used to analyze Mid-line Loop travel times and the Amtrak / NJ TRANSIT signal design for the Raceway project. We will shape the model to start from New Brunswick, build the County Yard tracks, and model the activity at Handy Interlocking on the Delco lead. Deliverables would include but not be limited to Yard and Station Occupancy charts and trip time data for service planning analytical purposes. In the Jacobs Team design option, the existing County Yard tracks continue to be used and act as a staging area for trains while the new larger County Yard is being built over the existing Mile Run yard tracks, currently not in service. Jacobs Engineering proudly developed a yard plan that transfers operations from the existing yard to the new yard seamlessly. This approach to building a new yard meets NJ TRANSIT criteria of “Do No Harm” while sustaining operability. Our operations planners will coordinate with track engineers and constructability specialists to make sure that the design and the operating plans are achievable with minimal service disruptions. We will provide critical input that leads the design from point “A” – the current layout – to point “B” – the proposed final layout.

RAIL SYSTEMS INTEGRATION

Systems Integration is a necessary process to ensure that all rail systems operate correctly and in concert with each other. This is a process that must start with the beginning of the design. There needs to be a process in place that provides a well-documented and detailed methodology to ensure that all interfaces are accounted for and that there is no conflict at the interface. This includes all electrical to electrical system interfaces as well as electrical to civil interfaces. The process starts with the Rail System Integration Manager, George S. Pristach, PE, developing a Systems Integration Plan (SIP).

Systems Integration Plan

The major components of a SIP are a System Integration Matrix and a strategy to manage this matrix. The Systems Integration Matrix is prepared under the direction of the Rail Systems integration Manager (RSIM). It is a comprehensive list of each interface for each discipline working on the design task. After preparation of the matrix, the RSIM will circulate the matrix to all design task leads for review and signoff.
The purpose of this review is to ensure there is not conflict at any interface. An example of such conflict would be the placing of an overhead contact system (OCS) support in front of a signal, making the signal difficult or impossible to see. During the design

process many interfaces may change. It is the task leaders responsibility to report these changes to the RSIM who will see what disciplines are affected by the change and he will ensure that all of these managers are notified of the change. In cases where a conflict arises, the RSIM will facilitate a resolution of the conflict. The development of this plan will begin at NTP and will be approved by the Project Manager. The process continues during the design. All design drawings will be distributed to all discipline task leaders for review and sign off. The review is intended to check once again for any interface conflicts. Again the RSIM will facilitate the resolution of any conflicts. This interdisciplinary sign-off is a critical part of the process to ensure all systems are properly integrated. No design submittal will be considered *Final* until this process is complete. The RSIM will schedule regular meetings with all discipline design leads to ensure that the SIP is being followed. These meetings will also allow the various designers to communicate with each other. This is especially important when the coordinating designers disciplines are of such a diverse nature, that one designer is not familiar with the work of another discipline. The SIP will also include the necessary plans for integrating County Yard Rail Systems with the existing Amtrak systems currently installed on the NEC, as well as any potential changes due to work on the High Speed Improvement Project and Midline Loop. The basis for a Systems Integration Test Plan will also be part of the SIP. This test plan will serve to verify the Systems Integration process, after the complete installation of the equipment.

SIGNALS

Preliminary Signal Design

For the Preliminary Design Phase, we will work with the Operations members of the team to determine the signal and power switch requirements for Handy and Delco interlockings, the signaling requirements on the Delco Lead(s), and power-operated yard switches required for the storage and S&I tracks. We will review the impact of the new yard tracks on the existing County Interlocking. We will work with NJ TRANSIT and Amtrak engineering to determine the extent to which additional signal facilities that will be required at County Interlocking. Among the considerations will be the moves between the yard and the Delco lead, as well as to and from the Millstone Running Track. We will identify the Amtrak signal facilities that will be impacted by the new yard construction, and determine how these facilities will be relocated or replaced. We will determine the best method to provide “blue flag” protection within the yard storage and shop tracks, and where derails may need to be provided. PB has designed similar facilities for Metro North in their New Haven Yard and Shop complex in Connecticut.

The documentation to be produced at the Preliminary Design Level will include the following:

- Signal Layout plans for Handy, County, and Delco Interlockings on the NEC Main Line
- Route and Aspect Charts for the above
- Preliminary code charts for Handy and Delco Interlockings and modification to the code charts for County Interlocking

- Proposed location of signal control housings
- Signal Layout plans for the proposed yard interlockings
- Signal Layout plans for the up to two additional interlockings – one each to the west and east of North Brunswick station, on Delco lead, to facilitate movements between the double-tracked portions
- Preliminary control panel layout for Yardmaster control of power-operated yard switches, derails, and blue flag protection
- Cable and conduit plans for interlockings
- Control of yard signaling by the Yardmaster
- Source of signal power supply
- Snow Melter requirements for both main line and yard switches
- Block signaling requirements for the portion of the Delco lead in this project, and tie in to the Mid-line loop project
- Signal Construction Cost Estimates
- Signal Construction Schedule

Final Signal Design

During the Final Design Phase, the facilities developed and agreed to in the Preliminary phase will be taken to the appropriate level of completion. It is recognized that substantial coordination will be required, to determine how the signal equipment will be procured, and who will complete the installation. Installation will be by Amtrak Force Account on the NEC interlockings, and either NJ TRANSIT or an installation Contractor in the Yard. Final design plans will include all necessary circuit /hardware wiring plans, software for microprocessor based systems, and equipment location and installation plans. Standard Amtrak and NJ TRANSIT plans will be used for installation of equipment where available. Modifications to CETC for Handy, County, and Delco at the control office will be designed by Amtrak. Specific location of signals will take into account the location of the catenary disconnect switches. Specifications will be provided for all procured signal equipment, and for installation work that may be assigned to a Contractor.

Circuit plans will be provided for

- Handy Interlocking
- County Interlocking
- Delco Interlocking
- Two New interlockings for the siding or double-track on Delco Leads (Tracks 5&6)
- Control of power operated yard switches and derails
- Blue Light Protection System
- Automatic Block signals on the Delco Lead
- Snow Melter equipment for Main Line and Yard Switches
- Final Signal Construction Cost Estimates including Procurement, Installation, and Force Account Costs
- Final Signal Construction Schedule

Parson Brinckerhoff signal engineering has worked with NJ TRANSIT and Amtrak to design the Route and Aspect charts for the “Raceway” Project between Morrisville, PA and New Brunswick, NJ. We are very familiar with the goals of that project, and the proposed facilities which are in various stages of construction. For the “Raceway” Project, Parsons Brinckerhoff optimized the throughput on the Northeast Corridor within the territory of Amtrak’s New Jersey High Speed Rail Improvement Program (NJ-HSRIP). During this signal design effort, control lines were developed for various speeds and analyzed to determine the speed at which the maximum capacity (throughput) was achieved. Because of our deep understanding of NORAC Rule 562 (Cab, No Wayside) signal system, the past work on HDIS, a very high expertise of RAILSIM® Signal Design tool and ability to provide seamless coordination between stakeholders at Amtrak and NJ TRANSIT, we completed this signal design on time, within budget, and received praise from both agencies. Parsons Brinckerhoff has also designed the improvements for the Morrisville Yard built by NJ TRANSIT years ago. We will work with NJ TRANSIT to implement updated versions of these designs on the County Yard project. Final Designs will be progressed at the 60%, 90%, and 100% levels. Comments received at each level will be incorporated at the next level. Design plans and specifications will be in the format acceptable to NJ TRANSIT or Amtrak as appropriate.

COMMUNICATIONS

A key area is to work toward interfacing with NJ TRANSIT’s existing systems, programs, and applications. We will also review NJ TRANSIT’s Security requirements for both Stations and Crew Quarters to assure the current and planned systems and sub systems are incorporated accordingly. The County Yard design will include the development and conceptual design of required fiber optic facilities, Telecom, and security related systems, including access control to occupy and function at the new County Yard Facility and new Platforms. Current communications infrastructure is along the ROW as are existing Amtrak facilities. New CIH’s/Comm. Huts will be designed at required locations to minimize cable/systems interruptions and impact to existing communications infrastructure. The new CIH/Comm. Huts will interface with both the Yard (Crew Quarters, S&I Building, Storage, and relocated Amtrak) Facilities and Platforms. This will assure adequate and complete service to areas such as the Crew Quarters, Maintenance areas, Platforms, and interface as required with the existing facilities while minimizing downtime. Being familiar with NJ TRANSIT and Amtrak Communications Groups, Departments, and Divisions as well as their respective specifications, and design requirements will assist in providing a complete package. The preliminary design will include the Comm. & Security Systems conceptual designs, one line diagrams, cable pathways, points of presence, interface locations, and specification outlines.

Systems to be included, but not limited to include:

<u>Communications</u>

- Communications infrastructure to include copper and fiber facilities, including third party/leased facilities in and around the project site.

- Telecom and Network for the new NJ TRANSIT Inspection Building, Crew Quarters, Storage, Station, and Wayside Facilities will be defined and designed to ensure NJ TRANSIT Network facilities are in all applicable areas.
- Passenger Information Systems to include ADA compliant Public Address and Variable Message Signage will be defined and in compliance with the NJ TRANSIT Station Standards as well as the recent startup of the SMART Station Initiative.

Security

- CCTV in and around the required areas based on the NJ TRANSIT Security Guidelines for Stations, Yard & Shop Facilities and the required interface into the NICE System. All cameras will be added to and interface with the NICE System that records and interconnects with NJ TRANSIT Network. Providing system access to required personnel with varying levels of viewing rights to view the video in real time or retrieved as needed. CCTV Cameras will be located to provide complete coverage of all passenger areas including platforms, stairs, overpass, walkways, waiting areas, TVM's and ticket agent. In the yard and shops CCTV cameras will monitor the perimeter of the facility and access points such as driveways and passenger gates. If needed cameras can be added to monitor entrances to the buildings. Cabling will connect the IP cameras back to a secure room or bungalow with adequate HVAC and UPS power. Jacobs will ensure there is enough storage to record all the video locally. Connections will be made to NJ TRANSIT's network to provide remote access and alarming functions. In the areas of the facility. NJ TRANSIT may want to consider an option of low light or infra-red cameras for areas where there is insufficient lighting.

- Access Control will be defined to include external and internal access to buildings, offices, electrical/mechanical spaces and other areas that require controlled access. With the yard and shops being fenced off to prevent unauthorized access, card access will be provided for vehicles and pedestrians. The driveways will have card access to control the automatic gates with vehicle detector loops. As options NJ TRANSIT may want to consider a manned gate or vehicle perimeter security. A manned gate would require a guard house and would be helpful for deliveries or when there are a large flow of vehicles such as the start or end of a shift. Vehicle perimeter security options which may be considered are K-rated bollards, fencing or other installations to stop vehicles. This would be installed in areas which are vulnerable to car or truck intrusion.

- Intrusion Detection will also be defined with the basis/foundation being to secure the perimeter of a building along with key (high value) internal areas and to have local/remote monitoring. Jacobs has extensive experience using technology to assist in detecting unauthorized activity. Video analytics can be used to establish a virtual fence to detect intrusions. Other video analytics which NJ TRANSIT may want to consider are loitering, bag left behind, graffiti, movement in restricted areas, or facial capture at access control. Jacobs can review the technology with NJ TRANSIT and discuss how it can be most effectively implemented.

OCS AND TRACTION POWER
The design team will develop cost-effective modifications to the electric traction facilities and design for the electrification of County Yard Train Storage Yard consisting of two pedestal tracks and five yard storage tracks in addition to providing wayside power outlets for the two pedestal tracks while minimizing and mitigating operational impacts and providing an efficient design that will improve NJ TRANSIT's maintenance and storage capabilities which will support enhanced train service along the Northeast Corridor. All design will be in accordance with Amtrak's AED-1 specification, "Procedures And Design Criteria To Be Employed By Electrification Consultants Engaged In The Design Of Electrification Facilities On The National Railroad Passenger Corporation" and other applicable NJ TRANSIT and Amtrak specifications and guidelines.

SAFETY & QUALITY CONSCIOUSNESS:
The team is highly safety conscious and has a large number of Engineers Track safety trained for both NJ TRANSIT and Amtrak. Its Engineers and Designers firmly believe that Safety and Quality must be incorporated into the system starting with planning, and design, and followed up in construction to ensure highest quality, safe and reliable operation of the systems involved.

<u>Knowledge of Amtrak NEC Power Supply System</u>
Parsons Brinckerhoff is providing Program Management Support Services to Amtrak for the NJ High Speed Rail Improvements Program and is familiar with the traction power supply arrangements, both existing and the proposed augmentation thereto, in this segment of the Northeast Corridor, and has the knowledge to fully integrate the design of the County Yard into this system. PB has also performed extensive analysis of NJ TRANSIT's electric traction systems as part of the work on the ET Power Grid Analysis project, and as such has extensive knowledge of its design and operating practices.

TRANSMISSION WIRE RELOCATION
The relocation of the Jersey Avenue Platform to the eastbound side of the tracks will require a pedestrian overpass to be constructed across the Northeast Corridor tracks. The proposed location for the overpass will be coordinated with Amtrak's High Speed Raceway Project design. The arrangement of the Amtrak and Utility transmission wires will be dependent on the final pole configuration of the raceway project. The design will include the necessary catenary structure modifications to facilitate the relocation of the overhead transmission systems, and to provide the required electrical clearances above and below the bridge. A concept for the modification of the transmission wires would be to install pole extensions on the catenary structures along the Northeast Corridor to maintain the required electrical clearances above the catenary system, and below the Amtrak signal power transmission wires.

OVERHEAD CATENARY DESIGN
To facilitate the construction staging of the project, portal catenary structures will be designed in the yard area that are coordinated with the track alignment. For the DELCO

lead track, cantilever structures will be incorporated into the design, which are independent from Amtrak's existing structures along the corridor to the extent possible. The yard catenary systems will need to interface with Amtrak's main line tracks at several locations, and will be designed with full tension overlaps, to provide a distinct separation between Amtrak and NJ TRANSIT catenary systems. All catenary designed in the yard and along the 5 miles of the Delco Lead track from Jersey Avenue platform to the retaining wall structures for the Midline Loop Project will utilize NJ TRANSIT hardware and NJ TRANSIT standards. The catenary design will include modifications to accommodate the proposed Jersey Avenue high level platform, as required. All NJ TRANSIT motor operated sectionalizing switches will be capable of operating on DC or AC power at any frequency, and will be controlled from the NJ TRANSIT Rail Operations Center (ROC) in Kearny. The yard will be designed with lighting to allow the lamps to be replaced without impacting yard operations.

MODIFICATION TO MILLSTONE SUBSTATION

The County Yard Improvements Project will enhance NJ TRANSIT and Amtrak commuter rail service along the NEC by providing additional maintenance and storage facilities. The continuity of yard operations must be maintained during contingency conditions in order to support the anticipated increase in peak hour train service. The addition of a circuit breaker on the load-side of the Millstone substation (Sub 37) to feed a portion of County yard during normal operations would increase the reliability of the yard's electrification system and distribute train loading due to train operations in the yard between a new circuit breaker on Bus 36 and the existing circuit breaker on Bus 37 of the Millstone substation. The layout for the Millstone substation will be modified to include the addition of a circuit breaker and its associated line disconnect switch with the appropriate capacities. This layout will conform to all applicable codes, guidelines and the spatial and access requirements. This layout will also conform to the necessary civil/structural design requirements within the substations. The switchgear configuration will be such that in case of either of the yard feeding circuit breakers going out of service the other circuit breaker will be able to feed the whole yard lines.

SECTIONALIZING

The traction power feeding arrangement and associated catenary sectionalization will be designed to meet the following two requirements specified by NJ TRANSIT:

- Sectionalizing scheme will be such that allows yard tracks to be de-energized in pairs without affecting train operations through the use of motor operated disconnect switches (MOD).
- The NJ TRANSIT owned and operated line disconnect switches will be designed such that the breakers at Millstone substation are separated from the catenary.

A conceptual sectionalizing scheme conforming to these requirements allows yard tracks to be de-energized in pairs. Under normal operations each of the two yard feeders from Millstone Substation (Sub 37) feed half of the yard tracks. In case of failure of one feeder, the second can feed all the yard tracks. There is an alternative arrangement to take into account the failure of both the feeders. Under such conditions

the yard tracks can be fed from the main line tracks 3 or 4 by a suitable manipulation of motor operated disconnect switches. The control of this motor operated switch will probably be by Amtrak. With this proposed arrangement there will be no need for tie switches to permit the yard to be fed from either breaker and from the Northeast Corridor The safety of personnel working in the S&I facility is of paramount importance. Trolley break switches will be installed at the doors of the S&I facility, and a hand operated grounding switch will be installed on each track. A Kirk-Key type system will be installed to prevent personnel from accessing the inspection platform unless the Catenary is de-energized and grounded. We acknowledge that the proposed sectionalization plan is one of the many alternative options available for achieving the objective of keeping the County Yard operational under all circumstances. This aspect will be discussed further with NJ TRANSIT, and if required, with Amtrak to arrive at an optimal sectionalization plan.

POWER SUPPLY FOR MOTOR OPERATED DISCONNECTS (MOD)

Low voltage power for the MODs will be supplied by wayside power control cubicles (WPC). It is seen from the proposed sectionalization scheme that two WPCs will be required to provide low voltage ac and/or dc power for operation, control and status monitoring of the motor operated disconnects, one of each located at the east and west end of the yard. These WPCs will house power backup batteries, battery charger/UPC, ac/dc panel, a socket for portable generating set and an RTU for interface with the SCADA system. Both ac as well as dc power will be available to operate the motors of the motor operated disconnects. The WPC will have a prefabricated structure with approximate dimensions 10’x8’x8’.

POWER FOR SWITCH SNOW MELTERS

During the winter months, snow melters will be required to ensure proper operation of track switches. Power for these snow melters will be supplied through a properly protected step-down transformer (12 kV / 480-240 V) which feeds snow melter panels. Snow melters and panels will be designed in accordance with the applicable NJ TRANSIT standards. Locations of switch heater substations will be selected to minimize the quantity required. 12 kV / 480-240 V transformers will be installed by traction power personnel. Low voltage circuitry, including snow melter control panels and track heaters, will be installed by signal personnel or contractors.

DESIGN WAYSIDE POWER SUBSTATION

The design of the service and maintenance facility which spans over the two pedestal tracks will include wayside power outlets to support 12 multi-level electromotive units each of which draw a current of 130 amps at a nominal voltage of 480 V on both of the pedestal tracks. The wayside power substation could be fed off of a facility power supply connection with available local utility transmission or distribution service. The wayside power substation low voltage switchgear line-up could be co-located with other facility power equipment required for facility electrical services (i.e. lighting, HVAC, etc.) in the service and maintenance facility. Standby power would be provided to the wayside power substation in conjunction with facility standby power system. This could be accomplished through the use of a diesel generator.

PROVIDING INTERFACING, COORDINATION AND INTEGRATION OF THE NEW SYSTEMS WITH EXISTING SYSTEMS

A detailed, logical plan will be developed to integrate the new systems with the existing systems on the NEC. This plan will address all the relevant interface issues and provide viable solutions. This plan will be submitted to NJ TRANSIT for review and approval.

OBTAINING NJ TRANSIT AND AMTRAK APPROVAL

Regular coordination and communication will be maintained with the applicable officials of NJ TRANSIT and Amtrak. The relevant data will be obtained from NJ TRANSIT and Amtrak as applicable. Various assumptions made and contingency conditions to be evaluated will be discussed with NJ TRANSIT and its concurrence obtained. The results of the traction power study and design outputs after different stages of design will be submitted to NJ TRANSIT and Amtrak, their concerns and comments addressed and their approval obtained.

DELIVERABLES

The Overhead Catenary System design documents will specifically address and include the following within the project limits:

- Location Plans showing pole locations, alignment of catenaries, section breaks and section insulators, traction power feeder circuits and aerial ground wire systems
- Sectionalization Schematic.
- Transmission profile showing vertical clearances to overhead pedestrian bridge at Jersey Avenue Platform
- Structure Erection diagrams.
- Catenary profiles.
- Catenary insulated assemblies.
- Structural steel details.
- Foundation and anchor details.
- Grounding and bonding plans.
- Suggested construction staging.
- Interlocking lighting layouts
- Snowmelter plans
- Switch Heater Unit Substation location
- Signal power locations
- Bills of materials
- Calculation Sheets.
- Construction cost estimate.
- Division of work and material supply

The Electric Traction Power Design will specifically address and include the following within the project limits:

- Division of work indicating description of work element, and parties responsible for Material, Fabrication, Erection, and Labor.
- Draft and Final Report of Arc Flash Analysis Study
- Plans showing modifications to the system configuration at Millstone substation
- Plans showing modified layouts for the Millstone substation
- Plans showing single-line diagram of track sectionalization of the County Yard
- Plans showing a typical WPC – elevation and plan
- Plans showing LV ac/ dc power supply arrangements at WPC for operation MODs
- Plans showing LV power supply arrangement for switch heaters
- Specifications of major equipment, e.g., MODs, WPC, etc.

General Rail Systems Plans

Complete railroad systems plans will be created to coordinate the various designs (i.e. Signals, Communications, Traction Power, and Commercial Power) with the site/civil and structural disciplines. These plans will display a true systems overview of the project and will indicate the required cross reference drawing number for the specific discipline detail.

These plans will include, but not limited to, the following:

- Locations of all signal house and case facilities
- Locations of all signal bridges, cantilever, and mast
- Locations of all switch points
- Locations of communications facilities
- Locations of remote terminal unit (RTU) houses for controlling catenary sectionalizing switches
- Locations of switch heater unit substations and switch heater distribution cases
- Locations of utility power service drops and related distribution equipment
- Locations of interlocking lighting control stations
- Locations of signal power transformers
- Locations of cable troughs and ductbanks for the various electrical systems
- Locations of access
- Locations and pertinent cross-reference information for all civil/structural features related to support of rail systems equipment

The progression of these rail systems plans through 60%, 90%, and 100% submissions will be used to continually coordinate between rail systems and site/civil/structural groups to identify/avoid interferences during the design process.

STRUCTURES

Maintainability

The following is a list of items that impact the maintainability of the station platforms and buildings:

- Placement of screening below the platforms to prevent accumulations of trash
- Application of graffiti coatings to accessible concrete surfaces
- Minimization of horizontal surfaces on tops of walls (use sloped faces) to discourage the public from leaving cans/bottles and other trash on the surfaces
- Provision of a pigeon deterrent system
- Use of protective coatings and galvanized reinforcement
- Use of low permeability concrete to minimize chloride intrusion from deicing salts into the reinforcement
- Use of vandal-resistant building finishes (coordinated with the architect)
- Provision of adequate canopy drainage (if canopies are used) to protect structural members from leakage from clogged drainage gutters and leader
- Investigation of alternatives to timber rub rails, which often deteriorate very quickly

Station/Platforms

As part of the overall project for the County Yard Train Storage Yard, NJ TRANSIT is considering the relocation of the existing Jersey Avenue station platforms to a new location along Amtrak's Northeast Corridor. As part of this project, we will advance the design of a westbound island high level platform with elevator/stair access to the 100% design level, and advance the design of an eastbound high level platform with overhead bridge access from the westbound platform to the 30% design level. All of the structural design for the platforms and station buildings will be performed in accordance with the current edition of the NJ TRANSIT Commuter Rail Stations Guidelines and Standards Manual. The relocation of the existing platforms to this new location needs to consider the following issues related to structural design.

Coordination with Amtrak and NJ TRANSIT

First and foremost, the new high level platforms along the Northeast Corridor must be constructed while minimizing disruption to Amtrak and NJ TRANSIT passenger service between New Brunswick and Trenton. Therefore, all design (and subsequent construction) must consider Contractor's means and methods, as well as overall staging and constructability, to accomplish the task. Further discussion can be found in the Constructability Section below.

Alternate Structure Types

The structural design of the platforms, pedestrian bridge crossings, and associated elevator/stair towers will be fully coordinated with our architect to insure that the architect's concepts can be constructed. We will maximize structural flexibility to accommodate various architectural treatments for the station buildings, especially architectural skin treatments. However, in addition to architectural considerations, the following structural options will be investigated, and cost-benefit studies will be prepared to aid in the best selection. The studies will consider long-term maintenance costs.

Platform Options:

1. Precast concrete deck slabs supported by steel or concrete beams
2. Cast-in-place concrete deck slabs supported by steel or concrete beams

Foundation Options (dependent on the results of soil investigations):

1. Drilled shafts
2. Steel pipe piles
3. Steel H-piles
4. Spread footings
5. Optimum spacing of piers/foundations

Stair Options:

1. Precast concrete
2. Steel

Pedestrian Crossing over Delco Lead/Track 5

Since the westbound island platform will be designed to the 100% level, and most likely constructed first, careful consideration should be given to the possibility of tunneling below the Delco Lead Track from the parking area rather than providing a pedestrian crossing above the track. We are fully cognizant of the security and drainage issues that can be problematic for a pedestrian tunnel; however, by providing a pedestrian tunnel with adequate stairs, ramps, lighting, waterproofing, and drainage, one elevator tower could be completely eliminated from the project, which projects a significant cost savings to NJ TRANSIT. A full investigation of this possible scenario is warranted considering the magnitude of the cost savings, which would be in the range of $1 million. Additionally, since the procurement of elevators and their related equipment is a long-lead item that could delay construction activities, the elimination of one elevator could provide substantial benefit to NJ TRANSIT. In any event, we will maximize the structural flexibility of the elevator towers to allow for the possibility of the participation of several manufacturers in the provision of elevator equipment.

Platforms

Every effort will be made to locate the platforms on tangent portions of the adjacent tracks. Platform lengths will be determined by the needs of NJ TRANSIT. However, the platforms will be designed to accommodate the possibility of future expansion (lengthening). If freight traffic is anticipated on either the Delco Lead Track or on Amtrak's tracks, retractable platform edges might be required and will be considered in the design process. As part of the platform design, we will determine locations of emergency egress to evacuation areas in which passengers can be gathered and safely removed. This effort will include the provision of ramps and/or stairs at ends of platforms or in other locations determined in coordination with NJ TRANSIT and other interested parties. During the design of the platforms, consideration will be given not only to platform type, but also to platform surfaces, such as non-skid coatings, protective

coatings, the use of galvanized steel reinforcement, and the use of high performance concrete.

Miscellaneous Design Issues

Other miscellaneous design issues that often impact station platform and building design come from our previous experiences in designing stations for NJ TRANSIT. These issues include the following:

- Making structural accommodations to allow for lighting, electrical, and passenger information systems.
- Making allowances for the addition of platform and/or stair canopies, if required.
- Providing for under-platform fencing, if required.
- Providing for the addition of wind breaks, if required.
- Providing for Arts in Transit, if required.

Constructability

The design of the westbound island platform and its associated elevator/stair towers must accommodate the future overhead pedestrian bridge that will ultimately provide access to the westbound high level platform elevator/stair tower. Since different contractors (and potentially different designers) will be carrying out the future pedestrian bridge design and construction, the design of this project must maintain flexibility regarding the placement of the pedestrian bridge. A key constructability item regarding minimizing impacts to the railroad is the use of large cranes. If at all possible, the use of low level cranes and drill rigs will minimize interference with catenary or other wires, so their use will be greatly encouraged. Therefore, our designs will not require the use of larger, taller equipment. In that regard, we could suggest the use of drilled shafts instead of piles, which would require only the use of backhoes with augers to construct the shafts. Another possibility that could eliminate the use of tall cranes is to consider the use of an MSE or modular wall that would create a “perimeter wall” for a berm on which we can support the platforms. This suggestion would require the installation of some duct ways and vaults in which to place utilities that are normally suspended from the bottom of the platforms.

SERVICE & INSPECTION AND OTHER FACILITIES

The S&I building will be supported by steel framing founded on concrete spread footings. The S&I building will be a moment frame in the North-South direction and a steel braced frame in the East-West direction. The shop will have an overhead crane covering the entire facility Mile Run Creek passes under the proposed S&I building at about its east-west mid-point. Alternatives will be considered are:

- Extending the existing culvert, and
- Bridging over the creek.

Upon consideration of the two alternatives, NJ TRANSIT and the Jacobs/PB Team will decide the best scheme to carry the stream under the building.

Bridge Option:
A bridge placed under the S&I Building and over Mile Run Creek would support several S&I Building columns, two (2) tracks supporting Cooper E80 Railroad loads, and the S&I service pits (See discussion under Task 1.4 E and Figure included in the end of this Scope of Services.). The advantage of the bridge is that it would avoid placing significant structures in the creek flood plain. It is anticipated that a bridge with reinforced concrete superstructures and substructures would be used. Preliminary calculations show about eight feet of clearance between the bottom of the superstructure and the high water elevation of the 100 year flood, but this will be confirmed during the Project Definition Phase of the project. It is considered good practice to provide at least 2 feet clearance to the bottom of the superstructure at flood stage. There appears to be sufficient vertical clearance if NJ TRANSIT and the Jacobs/PB team decide to lower the yard tracks.

Culvert Option:
A single or twin cell box culvert would be low enough to accommodate the two (2) service pits for the S&I shop area. The columns for the S&I building could probably be placed so as to miss the culvert, or possibly could be supported by the culvert. But the use of a culvert to carry the stream would be difficult to permit with NJDEP, and would add schedule time to accommodate the permitting process. If the culvert option were chosen, on the south side of the S&I building, a junction chamber may be appropriate to provide a smooth hydraulic transition from the shape of the brick culvert to the shape chosen for the new box culvert. This chamber would be of the “dog house” type where the base would be cast around the existing brick conduit and the tops placed over the conduit. Construction of the box culvert would be complicated by that fact that its construction would require a dry weather period where no significant rain is anticipated. Bypass pumping may be required. With a bypass pumping system set up, construction sequence would be as follows:

1. The brick conduit would be plugged upstream of the new concrete box culvert.
2. The new box culvert would then be installed on a bed of crushed stone.
3. The new box culvert would be connected to the junction chamber.
4. Finally, invert transitions would be constructed in the junction chamber.

Again, it is stressed that NJ TRANSIT and the Team will probably favor the bridge option.

Existing Brick Culvert under the Existing Yard Tracks:
In order not to add stresses to the existing brick culvert that extends under the existing yard tracks, a “Relieving Platform” will be required to protect the existing brick culvert. The relieving platform could be supported on either prestressed planks or box girders that are founded on sheet piling.

RETAINING WALLS AND MISC STRUCTURES
There are three retaining walls anticipated within the yard area of varying length. Various types of retaining walls will be evaluated for their use on this project. The selected wall type will be dependent upon soil conditions, as well as from the loading

conditions imposed by nearby buildings and rails. Among the wall types that might be considered are traditional reinforced concrete cantilever walls, sheet pile walls with concrete facing, soldier pile and concrete lagging walls, and retained earth structures. We anticipate several walls of varying length along the Delco Lead (For purposes of this proposal, 500 feet of modular type walls have been assumed, and 500 feet of cast-in-place concrete wall has been assumed), along with the need to extend or span several culverts. Additionally there are three overhead bridges the Delco will cross beneath:

1. The existing pier at the Route 1 Bridge is at least 2'-6" thick thus precluding the need to add a crash wall.
2. At the Adams Lane Bridge, clearances are sufficient for two (2) tracks.
3. Drawings (especially foundation drawings) will be readily available from NJDOT regarding the How Lane, Route 1, and Adams Lane Bridge, and that it will not be necessary to open up test pits to determine size and type of foundations for the subject bridges

For most of the length of the Delco Lead Track there is a drainage ditch between the Lead Track and Amtrak's Main Line. The drainage ditch varies in size from approximately 5 feet wide and 2 feet deep to as much as 20 feet wide and 10 feet deep. Retaining walls will probably be required along portions of the north side of the ditch to retain fill for Track 5. For retained heights under five (5) feet tall, a modular or pre-cast wall is anticipated. But for greater wall heights a cast-in-place concrete wall will be used. Miscellaneous "stub" culverts will probably be required at various locations along the Delco Lead alignment to slightly extend existing culverts that are perpendicular to Amtrak's main line. See the list of assumptions above where it is assumed that NJDEP will not require the use of short span bridges. At the existing How Lane Bridge, the north pier is already protected by a six (6) foot tall crash wall, therefore, no structural changes are anticipated for the How Lane Bridge. At the Route 1 Bridge, clearances appear sufficient for two (2) tracks, but this will be confirmed. It may be necessary to move a catenary guy wire to achieve sufficient clearance. A crash wall probably will not be needed because the existing pier appears to already be at least 2'-6" thick (as required by AREMA). At the Adams Lane Bridge, a crash wall is already present. Clearances appear sufficient for two (2) tracks.

GEOTECHNICAL

Based on the available geotechnical data, the design team believes spread footing foundations can be utilized to support the various structures for the County Yard project. This will need to be confirmed based on the soil data collected. Bearing capacity and settlement analyses will be performed to establish allowable bearing pressure for the design of shallow foundations. The design team will also study the use of drilled shafts for areas in close proximity to active rail tracks. We anticipate that drilled shaft foundation will be used to support Catenary Structures. Three retaining walls are proposed in the concept plans. The limits and height of the retaining walls will be finalized as the site plans for the rail yard and track profiles are studied in the preliminary engineering phase. At this stage we anticipate the height of two walls at the eastern end of the project to range from 12 to 15 feet. The third wall is located north of

the S&I Facility and is around 30 feet high. Considering good soil conditions are anticipated, the design team will evaluate the use of Mechanically Stabilized Earth (MSE) walls for the two walls at the eastern end of the project. Typically, the MSE walls provide an economical retaining wall system. Other wall systems such as H-pile and lagging, sheeting, or conventional cantilevered reinforced concrete wall will be considered as physical constraints, construction staging and soil conditions are better defined. An important aspect of the geotechnical design will be the foundation support system and structural configuration where the Mile Run culvert extension or bridge crosses beneath the S&I Facility and the retaining wall north of the facility. The culvert extension or bridge will have to be designed to safely sustain the loads from the S&I Facility and the retaining wall. Additionally, the structural and foundation configuration of the culvert crossing or bridge will have to be coordinated to accommodate any interference between S & I Facility and retaining wall foundations. It is anticipated that the retaining wall with an exposed height of up to 30 feet will be of the cantilever cast-in-place type and will be designed to carry surcharge loads from the access road and the S & I facility foundations. There may be a need to support the retaining wall on deep foundations to minimize its base footprint, if needed. Pavement design will be performed for the access roads and parking facilities within the yard.

The Final Geotechnical Engineering Report will include:

- A geologic description of the project site
- Summary of field investigation activities
- Summary of subsurface exploration data
- Boring location plans and subsurface profiles
- Summary of field in-situ test data and laboratory test results
- Geotechnical and foundation design recommendations
- Recommendations for the type of the retaining walls
- Construction Considerations

Construction Cost Estimating

The Jacobs Team includes estimators with skills in and knowledge of the estimating process, along with knowledge of working in an active railroad environment. Importantly, they are familiar with Railroad practices from many years of design and construction experience. Our Team has also prepared numerous estimates of work to be undertaken by force account personnel. Our approach at arriving at accurate construction cost estimates starts with the establishment of specific guidelines for use in developing each specific cost estimate, creating a uniform code of account, and using consistent methods of determining add-on allowances and soft-costs.

Developing the Estimate

The sequence of construction for each work element along with construction staging plans are analyzed and reviewed with the designers and their impact on construction cost are defined. Project schedules are reviewed to determine the timeframe in which the work has to be performed, to determine what parts of the work require track outages or can be performed outside normal working windows, or whether time restrictions are present that may impact productivity. Our estimators are part of our systems integration

team and would participate at appropriate meetings to become familiar with the project details.

Direct Costs

Quantities of work and incidental items are taken off and classified by overall work discipline along with construction contract package(s); Force Account work; and private and public utility company work. These work elements are then sorted by the typical cost categories. We will base our unit prices upon information compiled from significant rail infrastructure projects in the vicinity, as applicable. Construction equipment required to perform the work is identified, and hourly rental rates in addition to the operating costs are applied to the equipment hours. Production rates for the work crews based on past experience and available historical data will be analyzed and installation unit costs developed. The estimate will take into account decreases in productivity due to time and related restrictions; staging and site accessibility; working near and on active tracks; safety; maintenance and protection of railroad traffic; phasing requirements; and rail operation requirements. Interfacing with adjacent Force Account or contractor work in the area will also be considered. Material costs will be solicited from vendors. These prices will be examined to determine whether incidental items such as freight shipping charges have been included in the quoted prices or need to be added. In the later phases of design, estimated costs for each work element are then analyzed and broken down into labor, equipment, and material costs. Work crews comprised of different trade classifications are assembled in accordance with local union rules and regulations. Latest labor rates inclusive of base wages, premium time for overtime, health and welfare benefits, payroll taxes, and worker's compensation insurance are applied to the workers' hours.

Indirect Costs

After the direct cost is prepared, indirect costs including site overhead (indirect field costs or general conditions) are added. The site overhead cost includes costs of work elements that are not directly associated with a specific work element, such as contractor field supervision and engineering personnel, worker's facilities, rental costs of the contractor's staging area, and rental costs of construction equipment for support of all construction activities, such as cranes and trucks for the duration of the contract.
A percentage of the total contract value of the construction is added to cover the cost of Performance and Payment Bonds. Unit costs applied to develop the construction cost estimate are generally based on historical cost data of similar projects and physical characteristics. Since no two projects are alike, it is acceptable to include an allowance for design contingency to cover costs of the difference, uncertainties, and unknowns at the respective stage of design completion. This allowance can be applied either as an appropriate percent factor of the base estimated cost, or as a lump-sum amount that would be reduced as the engineering design progresses. The basis of estimated unit costs will be the year when the estimate is prepared. The estimate will be increased by forecasted escalation factors to reflect the mid-point of construction for each procurement or construction package, based on the master project schedule. These escalation factors will be determined by examining past and future construction cost

indices published in national publications. Fluctuations in the construction marketplace are always a significant consideration.

Data Management and Estimate Review
The preparation of the construction cost estimate requires a sizable database of construction cost information and procedures that enable a thorough review and cross-check of the data and avoidance of errors. Estimates will be reviewed with the Project Team, designers, and peers before release. The review includes comparing cost estimates against cost targets for each design element of the project and for any alternative designs/concepts/studies being considered. Any changes resulting from the review comments will be incorporated.

Submission of the Cost Estimate
All project cost estimates will be kept confidential and will be issued to NJ TRANSIT. We understand these estimates would be used for establishing budgets for early procurement of long-lead items, construction contract package(s), in-house Force Account work and other Third-Party work. As the design progresses, the estimates for each portion of the project will be updated and incorporated into the current working estimate for the overall project.

Specifications
The Construction Specifications Institute (CSI) format will be employed in the development of the Technical Provisions. At the 30% level, Outline Specifications will be provided. NJ TRANSIT's Division of Work will be considered in the development of all specifications.

Division of Work
It is understood that Division of Work must be determined at an early stage to successfully advance this program. We will engage stakeholders for NJ TRANSIT, Amtrak and Conrail and all associated discipline within to obtain direction and buy-in. The Jacobs Team will prepare Preliminary Design documents and present 30% complete design. The following will be included:

1. **Site Design**
   - Grading
   - Roadway
   - Drainage
   - Sanitary Sewer
   - Water, Electric, Gas
   - Lighting
   - Hot Water
   - Pavement
   - Landscaping
   - Communications lines (including fiber optic)
   - Site improvement structures including an analysis for bridge versus retaining wall structure over Mile Run culvert.

- Civil retaining walls
- Delco Lead Improvements – retaining walls or bridge structures

2. **Yard Design**
   - Track
   - Electric Traction
     a) All catenary is to be designed using NJ TRANSIT hardware and to NJ TRANSIT standards.
     b) Design is to incorporate full-tension construction overlaps between Amtrak and NJ TRANSIT territories.
     c) Switch heaters and panels to be NJ TRANSIT standard.
     d) Wayside power should be rated at 130 amps per car and have remote circuit breakers. Trackside power breakers will not be accepted.
     e) Consultant to provide an ARC Flash analysis for all components.
     f) Consultant to provide single line diagrams for traction power and wayside power circuits.
     g) Consultant to develop commissioning plan for all new components.

   - Signals

     a) Yard – design with operations plan & options (i.e. derail or electric switches)

     b) Main Line – design to include coordination with Amtrak's Raceway Project

     c) Delco Lead Improvements

   - Pathways
   - Lighting will be designed in such a way it can be maintained/relamped without impacting yard operations.
   - Water
   - Hot Water
   - Catenary Structures
     a) New
     b) Modified
     c) The use of common Cat, Body, and Steady spans that support both Amtrak and NJ TRANSIT catenary will not be allowed.
   - Profiles
   - Sections

3. **Yard Facilities**
   - Sanding
   - Inspection

4. **Buildings**
   - S&I Building
     a) Protection scheme for NJ TRANSIT mechanical forces working in close proximity to the catenary.

b) Wayside Power/building house power substation
    1. provide SCADA control for main incoming line and indication
    2. climate control for control room
c) Remote Terminal Unit (RTU) for traction power

- Crew Quarters
  a) Space Layout
  b) Interior
  c) HVAC
  d) Plumbing
  e) Security
  f) Fire Protection
  g) ADA Compliance
  h) Foundations
  i) Structure
  j) Roof
  k) Electrical
  l) Communications
  m) Telephone
  n) Facility Access – including security
  o) Fall Protection
- Relocated Amtrak Building Facilities
- Parts Storage Building

5. **Railroad**
   - Division of Work
   - Early Relocations
   - Electric Traction
   - Hotel Power
   - Track - Yard
   - Lead Track
   - Turnout Package
   - Delco Lead improvements – engineering and alternatives analysis to address storage capacity and operational considerations for single track, single track with passing sidings, and double track improvements for existing Delco Lead from Jersey Avenue platform to the retaining wall structures for the Mid-Line Loop project.
   - Signals
     a) Yard – design with operations plan and options (i.e. derail or electric switches)
     b) Main Line – design to include coordination with Amtrak's Raceway Project

6. **High-Level Platform**
   - Relocated Jersey Avenue Platform
     a) Westbound - island HLP and advance to 100% Design
     b) Eastbound – HLP with overhead bridge access from westbound side (mirror location across tracks from WB platform) advance to 30% Design Only.

7. **Technical Specifications**
- Cost Estimate
- Schedule
- Technical Specifications

8. **Construction Staging**
- Early Railroad Relocation
- Environmental
- Phasing – coordinate construction with environmental work and maintain train operations within yard facility and access to/from NEC tracks and Delco Lead improvements.

The Preliminary Design Drawings, Specifications, schedules, and associated documents will include at least the following information:

a. Cover Sheet
b. Index of Drawings
c. Site Drawings
d. Track Alignment Plans, Profiles, and Cross Sections
e. Signal Power, Road Diagrams, Blocks, and Aspects
f. Electric Traction Systems
g. Utility Distribution Systems
h. Plans, Elevations, Sections, and other details pertinent to the feature of design Utility Plant
i. Design Analyses, separately bound and labeled and sufficiently complete to permit review of:
    1) Structural analysis
    2) Mechanical analysis, with line diagrams and utility room sections
    3) Electrical analysis, with line diagrams and load protection
    4) Special features (e.g., acoustics, automated systems, communications, corrosion prevention, etc.)
    5) Building and site security (as applicable)
j. Technical Specifications in CSI 16 Division Format
k. Statement of Estimated Construction Costs and Schedule (staging if appropriate) in sufficient detail (e.g., with quantity take-offs) so as to permit evaluation.
l. Annual Maintenance Cost Estimate:
    1) Crew Quarters
    2) Service & Inspection Building
    3) Parts Storage Building
    4) Relocated Amtrak Building Facilities
    5) Platform
    6) Delco Lead improvements

Deliverables: The Preliminary Design submission will include 15 copies:
- Twelve half-scale sets

- One half-scale reproducible set
- Two full-size sets
- Updated sketches

Any comments/revisions generated as a result of the review process will be incorporated during the Final Design tasks.

TASK 1.8 - INTERAGENCY COORDINATION:
The elements of this task will only be performed at the sole discretion of NJ TRANSIT and will not be initiated without prior authorization by NJ TRANSIT. If and when directed by NJ TRANSIT, the Jacobs Team will conduct the following subtasks within the **500 hours allotted**:

Agency Coordination
The Jacobs Team will assist NJ TRANSIT with any coordination with federal, state, county, and local authorities regarding this project. The Jacobs Team recognizes that a successful rail improvement project requires a proactive, ongoing interagency outreach that is integrated with each phase of the project from conceptual design through construction. The Jacobs Team will work closely with NJ TRANSIT to reach out, inform, listen to the concerns of agency stakeholders, and provide meaningful feedback to address their issues. This scope of work assumes that up to ten meetings with individual agencies or group agency meetings will be held. This may include the formation of a Technical Advisory Committee (TAC) for this project and its associated committee meetings. Potential agencies for coordination may include, but are not limited to, Amtrak, NJDOT, NJTPA, Middlesex County, City of New Brunswick, FTA, FRA, Conrail, NJDEP, NJDCA, SHPO, local governmental entities, and groups representing the elderly and handicapped community, as well as other state and federal environmental resource or regulatory agencies. The Jacobs Team will organize the agency meetings, prepare meeting materials (meeting invitations, agenda, handouts, presentations, minutes), and participate at the meetings. All meetings will be organized to provide at least one-week notice to attendees and NJ TRANSIT personnel. A database will be developed and maintained including all meeting held, project contacts and comments received on the project.

Public Outreach
Jacobs will assist NJ TRANSIT with the public outreach required for the County Yard Improvements Project. Our public outreach approach has been developed over many years on projects of all sizes, some of which have been highly controversial. This approach has proven that the public and stakeholders participate more effectively when they are informed and educated about the project issues. Stakeholders in the County Yard Improvements Project will be interested and perhaps concerned about visual impacts, flooding, hazardous materials, property value impacts, and temporary construction related impacts such as service disruptions noise and vibration. The Jacobs Team will highlight issues to NJ TRANSIT in conjunction with discussion of engineering and operating scenarios so that the NJ TRANSIT project manager and

study team can make informed decisions about whether and when to discuss potential concepts with other stakeholders. Our approach to outreach activities for the County Yard Improvements Project will begin with the development of a Stakeholder Outreach Plan Technical Memorandum to be prepared collaboratively with NJ TRANSIT in order to establish outreach objectives and outline responsibilities, actions, and a schedule for meetings with stakeholders and the public. Likely next steps will be individual meetings with representatives of the City of New Brunswick and Middlesex County to discuss the project and their concerns and elicit feedback from them on the best approaches to working with community groups and property owners along the study corridor. Working with NJ TRANSIT and using the input received from the City and County, we will coordinate the desired method to disseminate information regarding the project to the public, which may include traditional media advertisements, web-based advertisements, mailings, e-notifications, fact sheets, flyers, presentations, or community/civic group meetings. This scope of work assumes a maximum of two public meetings. The Jacobs Team will organize the meetings, prepare meeting materials, and participate at the meetings. All meetings held, project contacts, and comments received on the project will be included in the project database.

Renderings

The Jacobs Team will prepare renderings at 30 percent and 100 percent complete design for the project. The Jacobs Team has extensive graphic visualization skills and tools to assist in the design definition of the yard. The renderings will be used to visualize potential changes, and to that end we can illustrate conceptual architecture for project, design layout, amenities, and features in relation to the surrounding environment. A particularly powerful and accessible tool we employ is the “before and after” rendering technique, which builds up an image from an existing conditions photo and transforms into a layered, compelling vision of the project.

TASK 1.9 - AS DIRECTED ASSIGNMENTS:

We have included include in its proposal an allowance of **1,500 man-hours** in excess of the hours necessary to complete all the work for all other tasks, to be used at the sole discretion of NJ TRANSIT. We will not charge any time against this task, unless explicitly authorized to do so by NJ TRANSIT. [Note: This allowance includes provision for Phase I, Task 1.4 Environmental Investigation / Requirements, Subtask E - NJDEP Land Use Regulation Permits & Soil Erosion Plan Certification, Item 3g.]

NJ TRANSIT Contract No. 13-041
County Yard Improvements
Phase I: Preliminary and Engineering
Design Services 0% - 30%

Exhibit B
Cost Information

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

SUMMARY COST TABLE
Jacobs Engineering TEAM

TOTAL DIRECT SALARY (Jacobs and Subs)	$ 2,464,664.23
OVERHEAD@ OF DIRECT SALARY COST	$ 3,337,903.33
SUBTOTAL: SALARY + OVERHEAD	$ 5,802,567.56
FIXED FEE @ 10% OF SALARY + OVERHEAD	$ 580,256.76
DIRECT EXPENSES	$ 310,740.00
DBE SUBCONSULTANTS	$ 2,537,431.14
SUBTOTAL (Basis for DBE Percentage)	$ 6,693,564.32
DBE PERCENTAGE	33%
TOTAL	$ 7,641,757.77

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - TEAM

FIRM **Jacobs Team**

TASK	DESCRIPTION	Jacobs	Parsons	BEM	GTS	SSA	Amy Greene	Matrix	IH	Total
1.1	Project Definition/Concept Planning	$ 271,206.58	$ 198,859.96	$ -	$ 19,050.90	$ 89,022.00	$ -	$ -	$ 20,591.70	$ 598,731.14
1.2	Site Inspection, Inventory and Survey	$ 29,664.64	$ 56,414.00	$ -	$ 620,445.04	$ 21,925.50	$ -	$ 10,735.22	$ 10,166.34	$ 749,350.74
1.3	Program Scheduling	$ 149,133.32	$ 155,620.07	$ -	$ -	$ 431,027.52	$ -	$ -	$ 7,477.80	$ 743,258.71
1.4	Environmental Investigation/Requirements	$ 870,481.25	$ 16,968.64	$ 49,374.87	$ -	$ -	$ 58,083.32	$ -	$ -	$ 994,908.08
1.5	Geotechnical Investigation	$ 66,283.47	$ 59,789.94	$ 44,698.76	$ -	$ -	$ -	$ 649,536.52	$ 2,669.26	$ 822,977.95
1.6	Permits	$ 320,071.73	$ 88,587.42	$ -	$ -	$ 95,254.40	$ -	$ -	$ 45,350.80	$ 549,264.35
1.7	Preliminary Design/Engineering (0% - 30% Submission)	$ 1,177,372.19	$ 1,319,209.48	$ 46,791.31	$ 25,401.20	$ 206,458.58	$ -	$ -	$ 120,314.20	$ 2,895,546.95
1.8	Interagency Coordination	$ 39,567.00	$ 15,657.40	$ -	$ -	$ 14,229.60	$ -	$ -	$ -	$ 69,454.00
1.9	As-Directed Assignments	$ 65,945.00	$ 62,629.60	$ -	$ 37,963.75	$ 28,459.20	$ 8,146.33	$ 15,121.98	$ -	$ 218,265.85
Totals		$ 2,989,725.17	$ 1,973,736.51	$ 140,864.94	$ 702,860.89	$ 886,376.80	$ 66,229.64	$ 675,393.71	$ 206,570.10	$ 7,641,757.77

Total Cost - County Yard Improvements *$ 7,641,757.77*

DBE PARTICIPATION

	TOTAL COST %
GTS Consultants, Inc.	9%
Sowinski Sullivan Architects, PC	12%
Amy S. Greene Environmental Consultants, Inc.	1%
Matrix New World Engineering, Inc.	9%
IH Engineers, P.C.	3%
DBE TOTAL	**33%**

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - TEAM

FIRM **Jacobs Team**

FIRM	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Jacobs Engineering Group	Prime	20,974	$ 1,194,005.49	$ 1,408,926.48	$ 2,602,931.97	$ 260,293.20	$ 126,500.00	$ 2,989,725.17
Parsons Brinckerhoff	Sub	12,654	$ 689,418.47	$ 1,094,796.53	$ 1,784,215.01	$ 178,421.50	$ 11,100.00	$ 1,973,736.51
BEM Systems, Inc.	Sub	888	$ 38,386.26	$ 64,872.78	$ 103,259.04	$ 10,325.90	$ 27,280.00	$ 140,864.94
GTS Consultants, Inc.	Sub	6,118	$ 223,854.00	$ 338,019.54	$ 561,873.54	$ 56,187.35	$ 84,800.00	$ 702,860.89
Sowinski Sullivan Architects, PC	Sub	5,890	$ 319,000.00	$ 431,288.00	$ 750,288.00	$ 75,028.80	$ 61,060.00	$ 886,376.80
Amy S. Greene Environmental Consultants, Inc. (ASGECI)	Sub	535	$ 22,018.53	$ 37,277.37	$ 59,295.90	$ 5,929.59	$ 1,004.15	$ 66,229.64
Matrix New World Engineering, INC	Sub	1,742	$ 64,628.82	$ 96,910.92	$ 161,539.74	$ 16,153.97	$ 497,700.00	$ 675,393.71
IH Engineers, P.C.	Sub	1,704	$ 84,905.00	$ 101,886.00	$ 186,791.00	$ 18,679.10	$ 1,100.00	$ 206,570.10
Totals		46,524	$ 2,464,664.23	$ 3,337,903.33	$ 5,802,567.56	$ 580,256.76	$ 310,740.00	$ 7,641,757.77

DBE PARTICIPATION

	TOTAL COST %
GTS Consultants, Inc.	9%
Sowinski Sullivan Architects, PC	12%
Amy S. Greene Environmental Consultants, Inc.	1%
Matrix New World Engineering, Inc.	9%
IH Engineers, P.C.	3%
DBE TOTAL	**33%**

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - BY FIRM / TASK

FIRM Jacobs Engineering Group

TASK	DESCRIPTION	MAN HOURS	DIRECT LABOR	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
1.1	Project Definition/Concept Planning	1,352	$ 111,637.44	$ 131,732.18	$ 243,369.62	$ 24,336.96	$ 3,500.00	$ 271,206.58
1.2	Site Inspection, Inventory and Survey	220	$ 11,953.56	$ 14,105.20	$ 26,058.76	$ 2,605.88	$ 1,000.00	$ 29,664.64
1.3	Program Scheduling	780	$ 61,356.68	$ 72,400.88	$ 133,757.56	$ 13,375.76	$ 2,000.00	$ 149,133.32
1.4	Environmental Investigation/Requirements	6,647	$ 354,662.74	$ 418,502.03	$ 773,164.77	$ 77,316.48	$ 20,000.00	$ 870,481.25
1.5	Geotechnical Investigation	472	$ 26,807.12	$ 31,632.40	$ 58,439.52	$ 5,843.95	$ 2,000.00	$ 66,283.47
1.6	Permits	1,280	$ 96,777.20	$ 114,197.10	$ 210,974.30	$ 21,097.43	$ 88,000.00	$ 320,071.73
1.7	Preliminary Design/Engineering (0% - 30% Submission)	9,423	$ 111,637.44	$ 574,436.69	$ 1,061,247.44	$ 106,124.74	$ 10,000.00	$ 1,177,372.19
1.8	Interagency Coordination	300	$ 486,810.75	$ 19,470.00	$ 35,970.00	$ 3,597.00	$ -	$ 39,567.00
1.9	As-Directed Assignments	500	$ 16,500.00	$ 32,450.00	$ 59,950.00	$ 5,995.00	$ -	$ 65,945.00
Totals		20,974	$ 1,278,142.93	$ 1,408,926.48	$ 2,602,931.97	$ 260,293.20	$ 126,500.00	$ 2,989,725.17

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - BY FIRM / TASK

FIRM Parsons Brinckerhoff

TASK	DESCRIPTION	MAN HOURS	DIRECT LABOR	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
1.1	Project Definition/Concept Planning	1,062	$ 69,151.31	$ 109,812.28	$ 178,963.60	$ 17,896.36	$ 2,000.00	$ 198,859.96
1.2	Site Inspection, Inventory and Survey	335	$ 19,641.00	$ 31,189.91	$ 50,830.91	$ 5,083.09	$ 500.00	$ 56,414.00
1.3	Program Scheduling	622	$ 54,313.64	$ 86,250.06	$ 140,563.70	$ 14,056.37	$ 1,000.00	$ 155,620.07
1.4	Environmental Investigation/Requirements	72	$ 5,960.60	$ 9,465.43	$ 15,426.03	$ 1,542.60	$ -	$ 16,968.64
1.5	Geotechnical Investigation	352	$ 20,862.00	$ 33,128.86	$ 53,990.86	$ 5,399.09	$ 400.00	$ 59,789.94
1.6	Permits	388	$ 30,696.72	$ 48,746.39	$ 79,443.11	$ 7,944.31	$ 1,200.00	$ 88,587.42
1.7	Preliminary Design/Engineering (0% - 30% Submission)	9,323	$ 461,293.20	$ 732,533.60	$ 1,193,826.80	$ 119,382.68	$ 6,000.00	$ 1,319,209.48
1.8	Interagency Coordination	100	$ 5,500.00	$ 8,734.00	$ 14,234.00	$ 1,423.40	$ -	$ 15,657.40
1.9	As-Directed Assignments	400	$ 22,000.00	$ 34,936.00	$ 56,936.00	$ 5,693.60	$ -	$ 62,629.60
Totals		12,654	$ 689,418.47	$ 1,094,796.53	$ 1,784,215.01	$ 178,421.50	$ 11,100.00	$ 1,973,736.51

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - BY FIRM / TASK

FIRM BEM Systems, Inc.

TASK	DESCRIPTION	MAN HOURS	DIRECT LABOR	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
1.1	Project Definition/Concept Planning	-	$ -	$ -	$ -	$ -	$ -	$ -
1.2	Site Inspection, Inventory and Survey	-	$ -	$ -	$ -	$ -	$ -	$ -
1.3	Program Scheduling	-	$ -	$ -	$ -	$ -	$ -	$ -
1.4	Environmental Investigation/Requirements	392	$ 16,385.56	$ 27,691.60	$ 44,077.16	$ 4,407.72	$ 890.00	$ 49,374.87
1.5	Geotechnical Investigation	158	$ 6,488.26	$ 10,965.16	$ 17,453.42	$ 1,745.34	$ 25,500.00	$ 44,698.76
1.6	Permits	-	$ -	$ -	$ -	$ -	$ -	$ -
1.7	Preliminary Design/Engineering (0% - 30% Submission)	338	$ 15,512.44	$ 26,216.02	$ 41,728.46	$ 4,172.85	$ 890.00	$ 46,791.31
1.8	Interagency Coordination	-	$ -	$ -	$ -	$ -	$ -	$ -
1.9	As-Directed Assignments	-	$ -	$ -	$ -	$ -	$ -	$ -
Totals		888	$ 38,386.26	$ 64,872.78	$ 103,259.04	$ 10,325.90	$ 27,280.00	$ 140,864.94

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - BY FIRM / TASK

FIRM GTS Consultants, Inc.

TASK	DESCRIPTION	MAN HOURS	DIRECT LABOR	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
1.1	Project Definition/Concept Planning	120	$ 6,900.00	$ 10,419.00	$ 17,319.00	$ 1,731.90	$ -	$ 19,050.90
1.2	Site Inspection, Inventory and Survey	5,588	$ 194,004.00	$ 292,946.04	$ 486,950.04	$ 48,695.00	$ 84,800.00	$ 620,445.04
1.3	Program Scheduling	-	$ -	$ -	$ -	$ -	$ -	$ -
1.4	Environmental Investigation/Requirements	-	$ -	$ -	$ -	$ -	$ -	$ -
1.5	Geotechnical Investigation	-	$ -	$ -	$ -	$ -	$ -	$ -
1.6	Permits	-	$ -	$ -	$ -	$ -	$ -	$ -
1.7	Preliminary Design/Engineering (0% - 30% Submission)	160	$ 9,200.00	$ 13,892.00	$ 23,092.00	$ 2,309.20	$ -	$ 25,401.20
1.8	Interagency Coordination	-	$ -	$ -	$ -	$ -	$ -	$ -
1.9	As-Directed Assignments	250	$ 13,750.00	$ 20,762.50	$ 34,512.50	$ 3,451.25	$ -	$ 37,963.75
Totals		6,118	$ 223,854.00	$ 338,019.54	$ 561,873.54	$ 56,187.35	$ 84,800.00	$ 702,860.89

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - BY FIRM / TASK

FIRM: Sowinski Sullivan Architects, PC

TASK	DESCRIPTION	MAN HOURS	DIRECT LABOR	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
1.1	Project Definition/Concept Planning	542	$ 22,500.00	$ 30,420.00	$ 52,920.00	$ 5,292.00	$ 30,810.00	$ 89,022.00
1.2	Site Inspection, Inventory and Survey	306	$ 8,320.00	$ 11,248.64	$ 19,568.64	$ 1,956.86	$ 400.00	$ 21,925.50
1.3	Program Scheduling	2,160	$ 166,600.00	$ 225,243.20	$ 391,843.20	$ 39,184.32	$ -	$ 431,027.52
1.4	Environmental Investigation/Requirements	-	$ -	$ -	$ -	$ -	$ -	$ -
1.5	Geotechnical Investigation	-	$ -	$ -	$ -	$ -	$ -	$ -
1.6	Permits	600	$ 27,000.00	$ 36,504.00	$ 63,504.00	$ 6,350.40	$ 25,400.00	$ 95,254.40
1.7	Preliminary Design/Engineering (0% - 30% Submission)	1,982	$ 78,080.00	$ 105,564.16	$ 183,644.16	$ 18,364.42	$ 4,450.00	$ 206,458.58
1.8	Interagency Coordination	100	$ 5,500.00	$ 7,436.00	$ 12,936.00	$ 1,293.60	$ -	$ 14,229.60
1.9	As-Directed Assignments	200	$ 11,000.00	$ 14,872.00	$ 25,872.00	$ 2,587.20	$ -	$ 28,459.20
Totals		5,890	$ 319,000.00	$ 431,288.00	$ 750,288.00	$ 75,028.80	$ 61,060.00	$ 886,376.80

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - BY FIRM / TASK

FIRM Amy S. Greene Environmental Consultants, Inc. (ASGECI)

TASK	DESCRIPTION	MAN HOURS	DIRECT LABOR	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
1.1	Project Definition/Concept Planning	-	$ -	$ -	$ -	$ -	$ -	$ -
1.2	Site Inspection, Inventory and Survey	-	$ -	$ -	$ -	$ -	$ -	$ -
1.3	Program Scheduling	-	$ -	$ -	$ -	$ -	$ -	$ -
1.4	Environmental Investigation/Requirements	485	$ 19,268.53	$ 32,621.62	$ 51,890.15	$5,189.02	$ 1,004.15	$ 58,083.32
1.5	Geotechnical Investigation	-	$ -	$ -	$ -	$ -	$ -	$ -
1.6	Permits	-	$ -	$ -	$ -	$ -	$ -	$ -
1.7	Preliminary Design/Engineering (0% - 30% Submission)	-	$ -	$ -	$ -	$ -	$ -	$ -
1.8	Interagency Coordination	-	$ -	$ -	$ -	$ -	$ -	$ -
1.9	As-Directed Assignments	50	$ 2,750.00	$ 4,655.75	$ 7,405.75	$ 740.58	$ -	$ 8,146.33
Totals		535	$ 22,018.53	$ 37,277.37	$ 59,295.90	$ 5,929.59	$ 1,004.15	$ 66,229.64

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - BY FIRM / TASK

FIRM Matrix New World Engineering, INC

TASK	DESCRIPTION	MAN HOURS	DIRECT LABOR	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
1.1	Project Definition/Concept Planning	-	$ -	$ -	$ -	$ -	$ -	$ -
1.2	Site Inspection, Inventory and Survey	88	$ 3,649.90	$ 5,473.03	$ 9,122.93	$ 912.29	$ 700.00	$ 10,735.22
1.3	Program Scheduling	-	$ -	$ -	$ -	$ -	$ -	$ -
1.4	Environmental Investigation/Requirements	-	$ -	$ -	$ -	$ -	$ -	$ -
1.5	Geotechnical Investigation	1,554	$55,478.92	$ 83,190.64	$ 138,669.56	$ 13,866.96	$ 497,000.00	$ 649,536.52
1.6	Permits	-	$ -	$ -	$ -	$ -	$ -	$ -
1.7	Preliminary Design/Engineering (0% - 30% Submission)	-	$ -	$ -	$ -	$ -	$ -	$ -
1.8	Interagency Coordination	-	$ -	$ -	$ -	$ -	$ -	$ -
1.9	As-Directed Assignments	100	$ 5,500.00	$ 8,247.25	$ 13,747.25	$ 1,374.73	$ -	$ 15,121.98
Totals		1,742	$ 64,628.82	$ 96,910.92	$ 161,539.74	$ 16,153.97	$ 497,700.00	$ 675,393.71

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

COST AND FEE RECAP - BY FIRM / TASK

FIRM IH Engineers, P.C.

TASK	DESCRIPTION	MAN HOURS	DIRECT LABOR	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
1.1	Project Definition/Concept Planning	164	$ 8,385.00	$ 10,062.00	$ 18,447.00	$ 1,844.70	$ 300.00	$ 20,591.70
1.2	Site Inspection, Inventory and Survey	80	$ 4,077.00	$ 4,892.40	$ 8,969.40	$ 896.94	$ 300.00	$ 10,166.34
1.3	Program Scheduling	40	$ 3,090.00	$ 3,708.00	$ 6,798.00	$ 679.80	$ -	$ 7,477.80
1.4	Environmental Investigation/Requirements	-	$ -	$ -	$ -	$ -	$ -	$ -
1.5	Geotechnical Investigation	20	$ 1,103.00	$ 1,323.60	$ 2,426.60	$ 242.66	$ -	$ 2,669.26
1.6	Permits	400	$18,740.00	$ 22,488.00	$ 41,228.00	$ 4,122.80	$ -	$ 45,350.80
1.7	Preliminary Design/Engineering (0% - 30% Submission)	1,000	$49,510.00	$ 59,412.00	$ 108,922.00	$ 10,892.20	$ 500.00	$ 120,314.20
1.8	Interagency Coordination	-	$ -	$ -	$ -	$ -	$ -	$ -
1.9	As-Directed Assignments	-	$ -	$ -	$ -	$ -	$ -	$ -
Totals		1,704	$ 84,905.00	$ 101,886.00	$ 186,791.00	$ 18,679.10	$ 1,100.00	$ 206,570.10

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **Jacobs**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal In Charge	0	$ -	$ -
	Project Manager	120	$ 104.81	$ 12,577.20
	Deputy Project Manager	120	$ 109.03	$ 13,083.60
	Chief Engineer	80	$ 114.06	$ 9,124.80
	Principal Engineer	0	$ 90.46	$ -
	Principal Engineer	0	$ 107.95	$ -
	Technical Specialist	24	$ 114.62	$ 2,750.88
	Senior Engineer	60	$ 59.36	$ 3,561.60
	Principal Engineer	40	$ 110.52	$ 4,420.80
	Principal Engineer	40	$ 76.92	$ 3,076.80
	Tech Spec VIII	40	$ 112.12	$ 4,484.80
	Tech Spec VII	16	$ 81.79	$ 1,308.64
	Princ Engr VII	16	$ 73.15	$ 1,170.40
	Senior Engineer	0	$ 65.00	$ -
	CADD Designer V	0	$ 40.00	$ -
	Track QA/QC	0	$ 114.88	$ -
	Technical Specialist	100	$ 76.90	$ 7,690.00
	Technical Specialist	40	$ 90.87	$ 3,634.80
	Senior Engineer	40	$ 70.71	$ 2,828.40
	Rail Operations/Staging	0	$ 125.00	$ -
	Senior Engineer	40	$ 60.00	$ 2,400.00
	Engineer	0	$ 35.00	$ -
	CADD	80	$ 27.00	$ 2,160.00
	Tech. Specialist	0	$ 65.38	$ -
	Tech. Specialist	24	$ 83.43	$ 2,002.32
	Tech. Specialist	0	$ 88.28	$ -
	Rail Systems Lead	16	$ 113.58	$ 1,817.28
	Comm. Task Manager	12	$ 89.95	$ 1,079.40
	Comm. Engineer	0	$ 73.01	$ -
	Senior Civil Engineer	0	$ 71.96	$ -
	Civil Engineer	40	$ 41.30	$ 1,652.00
	Geot Group Manager	16	$ 77.62	$ 1,241.92
	Principal Engineer	0	$ 62.39	$ -
	Engineer	0	$ 30.29	$ -
	Project Manager	0	$ 95.49	$ -
	Design Leader	8	$ 65.48	$ 523.84
	Project Engineer	0	$ 52.03	$ -
	Technical Specialist	16	$ 84.17	$ 1,346.72

	Principal Engineer	32	$ 49.02	$ 1,568.64
	Senior Engineer	0	$ 60.00	$ -
	CADD	0	$ 27.00	$ -
	Principal Engineer	40	$ 69.25	$ 2,770.00
	CADD	0	$ 27.00	$ -
	Landscape Architect	0	$ 50.40	$ -
	Principal Designer	80	$ 64.11	$ 5,128.80
	Senior Designer	40	$ 113.56	$ 4,542.40
	Project Manager	0	$ 94.75	$ -
	Design Leader	40	$ 74.56	$ 2,982.40
	Engineer/Planner	0	$ 35.00	$ -
	Designer Cadd	0	$ 30.00	$ -
	Env. Lead	24	$ 98.10	$ 2,354.40
	Outreach Task Lead	0	$ 75.21	$ -
	Sr. Environmental Scientist	32	$ 46.81	$ 1,497.92
	Environmental Scientist	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Value Engineering Lead	28	$ 116.31	$ 3,256.68
	Engineering Specialist	0	$ 75.00	$ -
	Admin/Typing	0	$ 25.00	$ -
	Principal Engineer	48	$ 75.00	$ 3,600.00
	Senior Engineer	0	$ 59.97	$ -
	Senior Designer	0	$ 55.15	$ -
	Senior Designer	0	$ 42.48	$ -
	Electrical Engineer	0	$ 28.86	$ -
	Electrical Engineer	0	$ 26.92	$ -
	Electrical Engineer	0	$ 37.14	$ -
TOTAL ESTIMATED HOURS		1352		

TOTAL DIRECT SALARY			$ 111,637.44
OVERHEAD@ 118.00% OF DIRECT SALARY COST			$ 131,732.18
SUBTOTAL: SALARY + OVERHEAD			$ 243,369.62
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 24,336.96
DIRECT EXPENSES (itemized)		$	
travel	$	2,000.00	
reproduction	$	1,000.00	
mail	$	500.00	
	$	-	
	$	-	
TOTAL DIRECT EXPENSES			$ 3,500.00
TOTAL THIS TASK (Jacobs)			$ 271,206.58

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **Parsons Brinckerhoff, Inc.**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Sr. Eng. Manager	8	$ 97.23	$ 777.84
	Signal QA/QC	20	$ 84.41	$ 1,688.20
	Signal PM	-	$ 55.00	$ -
	Signal Designer	-	$ 45.00	$ -
	Signal Programmer	-	$ 45.00	$ -
	Signal CADD	-	$ 40.00	$ -
	Foundation Eng.	-	$ 60.00	$ -
	Sr. Spvg. Eng.	-	$ 90.40	$ -
	Sr. Supvg. Eng.	36	$ 74.77	$ 2,691.72
	Sr. Eng.	40	$ 42.28	$ 1,691.20
	Engineer	40	$ 28.71	$ 1,148.40
	CADD	110	$ 41.14	$ 4,525.40
	Spvg. Eng.	40	$ 67.05	$ 2,682.00
	Structural Eng.	40	$ 34.54	$ 1,381.60
	Assoc. Eng.	40	$ 25.00	$ 1,000.00
	Senior CADD Oper.	-	$ 43.88	$ -
	CADD Operator	-	$ 19.20	$ -
	Sr. Eng. Manager	-	$ 84.09	$ -
	Sr. Supvg. Eng.	40	$ 74.70	$ 2,988.00
	Sr. Eng.	-	$ 42.49	$ -
	Sr. Eng.	-	$ 45.18	$ -
	CADD	-	$ 37.84	$ -
	Prn. Rail Ops Anal.	80	$ 58.13	$ 4,650.40
	Sr. Prn. Rail Ops Plnr.	-	$ 71.44	$ -
	Sr. Spvg. Traffic Lead	8	$ 75.44	$ 603.52
	Spvg. Engineer	8	$ 61.20	$ 489.63
	Lead Engineer	32	$ 49.16	$ 1,573.12
	Lead Engineer	-	$ 44.71	$ -
	Asst. Eng.	-	$ 30.15	$ -
	Sr. CADD Tech	48	$ 39.14	$ 1,878.72
	Spvg. Engineer	16	$ 53.31	$ 852.96
	Spvg. Engineer	-	$ 60.29	$ -
	Spvg. Eng.	8	$ 55.60	$ 444.80

	Sr. Eng.	-	$ 51.32	$ -
	CADD	-	$ 33.92	$ -
	Eng. Mngr.	-	$ 91.21	$ -
	Spvg. Eng.	24	$ 78.36	$ 1,880.64
	Engineer	-	$ 32.35	$ -
	Sr. Spvg. Eng.	16	$ 91.73	$ 1,467.68
	Engineer I	40	$ 32.66	$ 1,306.40
	Sr. Spvg. Eng.	20	$ 71.65	$ 1,433.00
	Sr. Spvg. Eng.	-	$ 79.14	$ -
	Sr. Spvg. Eng.	-	$ 75.35	$ -
	Engineer II	20	$ 33.99	$ 679.80
	Asst. Eng.	-	$ 25.74	$ -
	Engineer I	-	$ 28.96	$ -
	Engineer II	-	$ 40.42	$ -
	Sr. Eng. Mgr.	-	$ 95.56	$ -
	Sr. Eng. Mgr.	16	$ 75.66	$ 1,210.56
	Sr. Eng. Mngr.	60	$ 96.86	$ 5,811.60
	Sr. Prin Tech. Specialist	-	$ 68.08	$ -
	Technical Manager	-	$ 75.66	$ -
	Sr. Eng. Mngr.	60	$ 103.99	$ 6,239.40
	Engineering Manager	72	$ 84.76	$ 6,102.72
	Sr. Eng. Mngr.	-	$ 110.18	$ -
	Sr. Eng. Mngr.	-	$ 124.05	$ -
	Sr. Spvg. Eng.	-	$ 87.27	$ -
	Sr. Spvg. Control Spcst.	-	$ 86.59	$ -
	Sr. Eng. Mngr.	-	$ 93.55	$ -
	Sr. Eng. Manager	40	$ 108.16	$ 4,326.40
	Sr. Spvg. Estimator	80	$ 95.32	$ 7,625.60
				$ -
TOTAL ESTIMATED HOURS		1,062		

TOTAL DIRECT SALARY			$ 69,151.31
OVERHEAD@ 149.95% OF DIRECT SALARY COST			$ 109,812.28
SUBTOTAL: SALARY + OVERHEAD			$ 178,963.60
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 17,896.36
DIRECT EXPENSES (itemized)		$	
	Travel	$ 1,000.00	
	Mail	$ 500.00	
	Communications	$ 500.00	
		$ -	
TOTAL DIRECT EXPENSES			$ 2,000.00
TOTAL THIS TASK (PB)			$ 198,859.96

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **BEM**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Project Manager / Coordinator	-	$ 59.42	$ -
	Principal Engineer/Scientist	-	$ 57.94	$ -
	Project Engineer/Scientist	-	$ 49.11	$ -
	Senior Engineer / Scientist	-	$ 37.83	$ -
	GIS Specialist / CADD Technician	-	$ 25.75	$ -
	Clerical Staff	-	$ 28.43	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY			$ -
OVERHEAD@ 169.00% OF DIRECT SALARY COST			$ -
SUBTOTAL: SALARY + OVERHEAD			$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ -
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	mail	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (BEM)			$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **GTS**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal in charge	0	$ 63.00	$ -
	Project Manager	0	$ 57.50	$ -
	Project Surveyor	0	$ 57.50	$ -
	Party Chief	0	$ 27.00	$ -
	Instrument person	0	$ 17.00	$ -
	Supv. Technician	0	$ 30.00	$ -
	Principal Technician	0	$ 27.00	$ -
	Project Engineer	120	$ 57.50	$ 6,900.00
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
TOTAL ESTIMATED HOURS		120		

TOTAL DIRECT SALARY		$ 6,900.00
OVERHEAD@ 151.00% OF DIRECT SALARY COST		$ 10,419.00
SUBTOTAL: SALARY + OVERHEAD		$ 17,319.00
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 1,731.90
DIRECT EXPENSES (itemized)	$	
travel		
reproduction		
communications		
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (GTS)		$ 19,050.90

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **SSA**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal Architect	124	$ 75.00	$ 9,300.00
	Quality Assurance Director	58	$ 60.00	$ 3,480.00
I	Project Task Leader Shops & Yards	120	$ 40.00	$ 4,800.00
	Project Task Leader Stations & Restoration	-	$ 35.00	$ -
0	Architect III	-	$ 25.00	$ -
0	Architect II	40	$ 23.00	$ 920.00
0	Architect I	200	$ 20.00	$ 4,000.00
0	Scheduler	-	$ 77.30	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		542		

TOTAL DIRECT SALARY			$ 22,500.00
OVERHEAD@ 135.20% OF DIRECT SALARY COST			$ 30,420.00
SUBTOTAL: SALARY + OVERHEAD			$ 52,920.00
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 5,292.00
DIRECT EXPENSES (itemized)		$	
	travel	$ 690.00	
	reproduction	$ 120.00	
	boards/display	$ 30,000.00	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 30,810.00
TOTAL THIS TASK (SSA)			$ 89,022.00

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **Amy Greene**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal	-	$ 85.00	$ -
	Project Manager	-	$ 51.25	$ -
	Sr. Environmental Scientist	-	$ 38.76	$ -
	Environmental Scientist	-	$ 25.25	$ -
	Environmental Tech.	-	$ 25.13	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.30% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Amy Greene)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **Matrix**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Geotechnical Project Manager	-	$ 55.15	$ -
	Senior Geotechnical Engineer	-	$ 43.78	$ -
	Geotechnical Engineer	-	$ 31.20	$ -
	Senior CADD Operator	-	$ 31.85	$ -
	Project Assistant	-	$ 27.28	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 149.95% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **IH Engineers**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
P VII	Project Manager	20	$ 77.25	$ 1,545.00
P V	Project Engineer	72	$ 53.25	$ 3,834.00
P IV	Senior Engineer	-	$ 46.00	$ -
P III	Engineer	72	$ 41.75	$ 3,006.00
ET 3	Senior Technician		$ 38.50	$ -
		-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		164		

TOTAL DIRECT SALARY		$ 8,385.00
OVERHEAD@ 120.00% OF DIRECT SALARY COST		$ 10,062.00
SUBTOTAL: SALARY + OVERHEAD		$ 18,447.00
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 1,844.70
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ 300.00	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ 300.00
TOTAL THIS TASK (Matrix)		$ 20,591.70

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.2 Site Inspection, Inventory and Survey **Firm:** **Jacobs**

TECHNICAL STAFF				
STAFF PERSON/	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal In Charge	0	$ -	$ -
	Project Manager	24	$ 104.81	$ 2,515.44
	Deputy Project Manager	12	$ 109.03	$ 1,308.36
	Chief Engineer	0	$ 114.06	$ -
	Principal Engineer	0	$ 90.46	$ -
	Principal Engineer	0	$ 107.95	$ -
	Technical Specialist	0	$ 114.62	$ -
	Senior Engineer	0	$ 59.36	$ -
	Principal Engineer	0	$ 110.52	$ -
	Principal Engineer	0	$ 76.92	$ -
	Tech Spec VIII	0	$ 112.12	$ -
	Tech Spec VII	0	$ 81.79	$ -
	Princ Engr VII	0	$ 73.15	$ -
	Senior Engineer	0	$ 65.00	$ -
	CADD Designer V	0	$ 40.00	$ -
	Track QA/QC	0	$ 114.88	$ -
	Technical Specialist	0	$ 76.90	$ -
	Technical Specialist	0	$ 90.87	$ -
	Senior Engineer	0	$ 70.71	$ -
	Rail Operations/Staging	0	$ 125.00	$ -
	Senior Engineer	0	$ 60.00	$ -
	Engineer	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Tech. Specialist	0	$ 65.38	$ -
	Tech. Specialist	0	$ 83.43	$ -
	Tech. Specialist	0	$ 88.28	$ -
	Rail Systems Lead	0	$ 113.58	$ -
	Comm. Task Manager	0	$ 89.95	$ -
	Comm. Engineer	0	$ 73.01	$ -
	Senior Civil Engineer	24	$ 71.96	$ 1,727.04
	Civil Engineer	64	$ 41.30	$ 2,643.20
	Geot Group Manager	0	$ 77.62	$ -
	Principal Engineer	0	$ 62.39	$ -
	Engineer	0	$ 30.29	$ -
	Project Manager	0	$ 95.49	$ -
	Design Leader	0	$ 65.48	$ -
	Project Engineer	0	$ 52.03	$ -

	Technical Specialist	0	$ 84.17	$ -
	Principal Engineer	0	$ 49.02	$ -
	Senior Engineer	0	$ 60.00	$ -
	CADD	0	$ 27.00	$ -
	Principal Engineer	0	$ 69.25	$ -
	CADD	0	$ 27.00	$ -
	Landscape Architect	0	$ 50.40	$ -
	Principal Designer	0	$ 64.11	$ -
	Senior Designer	0	$ 113.56	$ -
	Project Manager	0	$ 94.75	$ -
	Design Leader	0	$ 74.56	$ -
	Engineer/Planner	80	$ 35.00	$ 2,800.00
	Designer Cadd	0	$ 30.00	$ -
	Env. Lead	0	$ 98.10	$ -
	Outreach Task Lead	0	$ 75.21	$ -
	Sr. Environmental Scientist	0	$ 46.81	$ -
	Environmental Scientist	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Value Engineering Lead	0	$ 116.31	$ -
	Engineering Specialist	0	$ 75.00	$ -
	Admin/Typing	0	$ 25.00	$ -
	Principal Engineer	0	$ 75.00	$ -
	Senior Engineer	16	$ 59.97	$ 959.52
	Senior Designer	0	$ 55.15	$ -
	Senior Designer	0	$ 42.48	$ -
	Electrical Engineer	0	$ 28.86	$ -
	Electrical Engineer	0	$ 26.92	$ -
	Electrical Engineer	0	$ 37.14	$ -
TOTAL ESTIMATED HOURS		220		

TOTAL DIRECT SALARY			$ 11,953.56
OVERHEAD@ 118.00% OF DIRECT SALARY COST			$ 14,105.20
SUBTOTAL: SALARY + OVERHEAD			$ 26,058.76
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 2,605.88
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	mail	$ 1,000.00	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 1,000.00
TOTAL THIS TASK (Jacobs)			$ 29,664.64

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.2 Site Inspection, Inventory and Survey **Firm:** **Parsons Brinckerhoff, Inc.**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Sr. Eng. Manager	4	$ 97.23	$ 388.92
	Signal QA/QC	20	$ 84.41	$ 1,688.20
	Signal PM	-	$ 55.00	$ -
	Signal Designer	20	$ 45.00	$ 900.00
	Signal Programmer	-	$ 45.00	$ -
	Signal CADD	-	$ 40.00	$ -
	Foundation Eng.	-	$ 60.00	$ -
	Sr. Spvg. Eng.	4	$ 90.40	$ 361.60
	Sr. Supvg. Eng.	8	$ 74.77	$ 598.16
	Sr. Eng.	8	$ 42.28	$ 338.24
	Engineer	12	$ 28.71	$ 344.52
	CADD	-	$ 41.14	$ -
	Spvg. Eng.	20	$ 67.05	$ 1,341.00
	Structural Eng.	24	$ 34.54	$ 828.96
	Assoc. Eng.	13	$ 25.00	$ 325.00
	Senior CADD Oper.	6	$ 43.88	$ 263.28
	CADD Operator	6	$ 19.20	$ 115.20
	Sr. Eng. Manager	-	$ 84.09	$ -
	Sr. Supvg. Eng.	2	$ 74.70	$ 149.40
	Sr. Eng.	-	$ 42.49	$ -
	Sr. Eng.	8	$ 45.18	$ 361.44
	CADD	-	$ 37.84	$ -
	Prn. Rail Ops Anal.	-	$ 58.13	$ -
	Sr. Prn. Rail Ops Plnr.	-	$ 71.44	$ -
	Sr. Spvg. Traffic Lead	-	$ 75.44	$ -
	Spvg. Engineer	-	$ 61.20	$ -
	Lead Engineer	8	$ 49.16	$ 393.28
	Lead Engineer	-	$ 44.71	$ -
	Asst. Eng.	-	$ 30.15	$ -
	Sr. CADD Tech	-	$ 39.14	$ -
	Spvg. Engineer	16	$ 53.31	$ 852.96
	Spvg. Engineer	-	$ 60.29	$ -
	Spvg. Eng.	8	$ 55.60	$ 444.80
	Sr. Eng.	24	$ 51.32	$ 1,231.68
	CADD	-	$ 33.92	$ -

	Eng. Mngr.	4	$ 91.21	$ 364.84
	Spvg. Eng.	16	$ 78.36	$ 1,253.76
	Engineer	16	$ 32.35	$ 517.60
	Sr. Spvg. Eng.	-	$ 91.73	$ -
	Engineer I	-	$ 32.66	$ -
	Sr. Spvg. Eng.	10	$ 71.65	$ 716.50
	Sr. Spvg. Eng.	10	$ 79.14	$ 791.40
	Sr. Spvg. Eng.	-	$ 75.35	$ -
	Engineer II	10	$ 33.99	$ 339.90
	Asst. Eng.	10	$ 25.74	$ 257.40
	Engineer I	-	$ 28.96	$ -
	Engineer II	-	$ 40.42	$ -
	Sr. Eng. Mgr.	-	$ 95.56	$ -
	Sr. Eng. Mgr.	-	$ 75.66	$ -
	Sr. Eng. Mngr.	8	$ 96.86	$ 774.88
	Sr. Prin Tech. Specialist	-	$ 68.08	$ -
	Technical Manager	-	$ 75.66	$ -
	Sr. Eng. Mngr.	16	$ 103.99	$ 1,663.84
	Engineering Manager	24	$ 84.76	$ 2,034.24
	Sr. Eng. Mngr.	-	$ 110.18	$ -
	Sr. Eng. Mngr.	-	$ 124.05	$ -
	Sr. Spvg. Eng.	-	$ 87.27	$ -
	Sr. Spvg. Control Spcst.	-	$ 86.59	$ -
	Sr. Eng. Mngr.	-	$ 93.55	$ -
	Sr. Eng. Manager	-	$ 108.16	$ -
	Sr. Spvg. Estimator	-	$ 95.32	$ -
				$ -
TOTAL ESTIMATED HOURS		335		

TOTAL DIRECT SALARY			$ 19,641.00
OVERHEAD@ 149.95% OF DIRECT SALARY COST			$ 31,189.91
SUBTOTAL: SALARY + OVERHEAD			$ 50,830.91
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 5,083.09
DIRECT EXPENSES (itemized)		$	
	Travel	$ 500.00	
	Mail	$ -	
	Communications	$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 500.00
TOTAL THIS TASK (PB)			$ 56,414.00

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.2 Site Inspection, Inventory and Survey **Firm:** **BEM**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Project Manager / Coordinator	-	$ 59.42	$ -
	Principal Engineer/Scientist	-	$ 57.94	$ -
	Project Engineer/Scientist	-	$ 49.11	$ -
	Senior Engineer / Scientist	-	$ 37.83	$ -
	GIS Specialist / CADD Technician	-	$ 25.75	$ -
	Clerical Staff	-	$ 28.43	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.00% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
mail	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (BEM)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.2 Site Inspection, Inventory and Survey **Firm:** **GTS**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal in charge	90	$ 63.00	$ 5,670.00
	Project Manager	616	$ 57.50	$ 35,420.00
	Project Surveyor	984	$ 57.50	$ 56,580.00
	Party Chief	1,280	$ 27.00	$ 34,560.00
	Instrument person	1,280	$ 17.00	$ 21,760.00
	Supv. Technician	1,296	$ 30.00	$ 38,880.00
	Principal Technician	42	$ 27.00	$ 1,134.00
	Project Engineer	0	$ 57.50	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
TOTAL ESTIMATED HOURS		5,588		

TOTAL DIRECT SALARY		$ 194,004.00
OVERHEAD@ 151.00% OF DIRECT SALARY COST		$ 292,946.04
SUBTOTAL: SALARY + OVERHEAD		$ 486,950.04
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 48,695.00
DIRECT EXPENSES (itemized)	$	
aerial mapping	$ 75,000.00	
control disk	$ 300.00	
tolls, parking, deed	$ 500.00	
soft dig excavation	$ 9,000.00	
	$ -	
TOTAL DIRECT EXPENSES		$ 84,800.00
TOTAL THIS TASK (GTS)		$ 620,445.04

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.2 Site Inspection, Inventory and Survey **Firm:** **SSA**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal Architect	-	$ 75.00	$ -
	Quality Assurance Director	-	$ 60.00	$ -
	Project Task Leader Shops & Yards	80	$ 40.00	$ 3,200.00
	Project Task Leader Stations & Restoration	24	$ 35.00	$ 840.00
	Architect III	-	$ 25.00	$ -
	Architect II	80	$ 23.00	$ 1,840.00
0	Architect I	122	$ 20.00	$ 2,440.00
0	Scheduler	-	$ 77.30	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		306		

TOTAL DIRECT SALARY			$ 8,320.00
OVERHEAD@ 135.20% OF DIRECT SALARY COST			$ 11,248.64
SUBTOTAL: SALARY + OVERHEAD			$ 19,568.64
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 1,956.86
DIRECT EXPENSES (itemized)		$	
	travel	$ 120.00	
	reproduction	$ 280.00	
	boards/display	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 400.00
TOTAL THIS TASK (SSA)			$ 21,925.50

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.2 Site Inspection, Inventory and Survey **Firm:** **Amy Greene**

TECHNICAL STAFF				
STAFF PERSON/ ION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal	-	$ 85.00	$ -
	Project Manager	-	$ 51.25	$ -
	Sr. Environmental Scientist	-	$ 38.76	$ -
	Environmental Scientist	-	$ 25.25	$ -
	Environmental Tech.	-	$ 25.13	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.30% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Amy Greene)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.2 Site Inspection, Inventory and Survey **Firm:** **Matrix**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Geotechnical Project Manager	22	$ 55.15	$ 1,213.30
	Senior Geotechnical Engineer	30	$ 43.78	$ 1,313.40
	Geotechnical Engineer	36	$ 31.20	$ 1,123.20
	Senior CADD Operator	-	$ 31.85	$ -
	Project Assistant	-	$ 27.28	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		88		

TOTAL DIRECT SALARY			$ 3,649.90
OVERHEAD@ 149.95% OF DIRECT SALARY COST			$ 5,473.03
SUBTOTAL: SALARY + OVERHEAD			$ 9,122.93
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 912.29
DIRECT EXPENSES (itemized)		$	
	travel	$ 500.00	
	reproduction	$ 200.00	
	communications	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 700.00
TOTAL THIS TASK (Matrix)			$ 10,735.22

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.2 Site Inspection, Inventory and Survey **Firm:** **IH Engineers**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
P VII	Project Manager	8	$ 77.25	$ 618.00
P V	Project Engineer	32	$ 53.25	$ 1,704.00
P IV	Senior Engineer	20	$ 46.00	$ 920.00
P III	Engineer	20	$ 41.75	$ 835.00
ET 3	Senior Technician	-	$ 38.50	$ -
		-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		80		

TOTAL DIRECT SALARY			$ 4,077.00
OVERHEAD@ 120.00% OF DIRECT SALARY COST			$ 4,892.40
SUBTOTAL: SALARY + OVERHEAD			$ 8,969.40
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 896.94
DIRECT EXPENSES (itemized)		$	
travel	$ 300.00		
reproduction	$ -		
communications	$ -		
	$ -		
	$ -		
TOTAL DIRECT EXPENSES			$ 300.00
TOTAL THIS TASK (Matrix)			$ 10,166.34

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.3 Program Scheduling **Firm:** **Jacobs**

TECHNICAL STAFF				
STAFF PERSON/	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal In Charge	0	$ -	$ -
	Project Manager	80	$ 104.81	$ 8,384.80
	Deputy Project Manager	80	$ 109.03	$ 8,722.40
	Chief Engineer	80	$ 114.06	$ 9,124.80
	Principal Engineer	0	$ 90.46	$ -
	Principal Engineer	0	$ 107.95	$ -
	Technical Specialist	0	$ 114.62	$ -
	Senior Engineer	400	$ 59.36	$ 23,744.00
	Principal Engineer	16	$ 110.52	$ 1,768.32
	Principal Engineer	16	$ 76.92	$ 1,230.72
	Tech Spec VIII	0	$ 112.12	$ -
	Tech Spec VII	0	$ 81.79	$ -
	Princ Engr VII	0	$ 73.15	$ -
	Senior Engineer	0	$ 65.00	$ -
	CADD Designer V	0	$ 40.00	$ -
	Track QA/QC	0	$ 114.88	$ -
	Technical Specialist	80	$ 76.90	$ 6,152.00
	Technical Specialist	0	$ 90.87	$ -
	Senior Engineer	0	$ 70.71	$ -
	Rail Operations/Staging	0	$ 125.00	$ -
	Senior Engineer	0	$ 60.00	$ -
	Engineer	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Tech. Specialist	0	$ 65.38	$ -
	Tech. Specialist	0	$ 83.43	$ -
	Tech. Specialist	0	$ 88.28	$ -
	Rail Systems Lead	0	$ 113.58	$ -
	Comm. Task Manager	4	$ 89.95	$ 359.80
	Comm. Engineer	0	$ 73.01	$ -
	Senior Civil Engineer	0	$ 71.96	$ -
	Civil Engineer	0	$ 41.30	$ -
	Geot Group Manager	0	$ 77.62	$ -
	Principal Engineer	0	$ 62.39	$ -
	Engineer	0	$ 30.29	$ -
	Project Manager	0	$ 95.49	$ -
	Design Leader	0	$ 65.48	$ -
	Project Engineer	0	$ 52.03	$ -

	Technical Specialist	8	$ 84.17	$ 673.36
	Principal Engineer	0	$ 49.02	$ -
	Senior Engineer	0	$ 60.00	$ -
	CADD	0	$ 27.00	$ -
	Principal Engineer	0	$ 69.25	$ -
	CADD	0	$ 27.00	$ -
	Landscape Architect	0	$ 50.40	$ -
	Principal Designer	0	$ 64.11	$ -
	Senior Designer	0	$ 113.56	$ -
	Project Manager	0	$ 94.75	$ -
	Design Leader	8	$ 74.56	$ 596.48
	Engineer/Planner	0	$ 35.00	$ -
	Designer Cadd	0	$ 30.00	$ -
	Env. Lead	0	$ 98.10	$ -
	Outreach Task Lead	0	$ 75.21	$ -
	Sr. Environmental Scientist	0	$ 46.81	$ -
	Environmental Scientist	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Value Engineering Lead	0	$ 116.31	$ -
	Engineering Specialist	0	$ 75.00	$ -
	Admin/Typing	0	$ 25.00	$ -
	Principal Engineer	8	$ 75.00	$ 600.00
	Senior Engineer	0	$ 59.97	$ -
	Senior Designer	0	$ 55.15	$ -
	Senior Designer	0	$ 42.48	$ -
	Electrical Engineer	0	$ 28.86	$ -
	Electrical Engineer	0	$ 26.92	$ -
	Electrical Engineer	0	$ 37.14	$ -
TOTAL ESTIMATED HOURS		780		

TOTAL DIRECT SALARY			$ 61,356.68
OVERHEAD@ 118.00% OF DIRECT SALARY COST			$ 72,400.88
SUBTOTAL: SALARY + OVERHEAD			$ 133,757.56
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 13,375.76
DIRECT EXPENSES (itemized)		$	
travel	$	1,000.00	
reproduction	$	-	
mail	$	1,000.00	
	$	-	
	$	-	
TOTAL DIRECT EXPENSES			$ 2,000.00
TOTAL THIS TASK (Jacobs)			$ 149,133.32

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.3 Program Scheduling **Firm:** **Parsons Brinckerhoff, Inc.**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Sr. Eng. Manager	8	$ 97.23	$ 777.84
	Signal QA/QC	-	$ 84.41	$ -
	Signal PM	-	$ 55.00	$ -
	Signal Designer	-	$ 45.00	$ -
	Signal Programmer	-	$ 45.00	$ -
	Signal CADD	-	$ 40.00	$ -
	Foundation Eng.	-	$ 60.00	$ -
	Sr. Spvg. Eng.	-	$ 90.40	$ -
	Sr. Supvg. Eng.	-	$ 74.77	$ -
	Sr. Eng.	-	$ 42.28	$ -
	Engineer	-	$ 28.71	$ -
	CADD	-	$ 41.14	$ -
	Spvg. Eng.	20	$ 67.05	$ 1,341.00
	Structural Eng.	-	$ 34.54	$ -
	Assoc. Eng.	-	$ 25.00	$ -
	Senior CADD Oper.	-	$ 43.88	$ -
	CADD Operator	-	$ 19.20	$ -
	Sr. Eng. Manager	-	$ 84.09	$ -
	Sr. Supvg. Eng.	8	$ 74.70	$ 597.60
	Sr. Eng.	-	$ 42.49	$ -
	Sr. Eng.	-	$ 45.18	$ -
	CADD	-	$ 37.84	$ -
	Prn. Rail Ops Anal.	-	$ 58.13	$ -
	Sr. Prn. Rail Ops Plnr.	-	$ 71.44	$ -
	Sr. Spvg. Traffic Lead	-	$ 75.44	$ -
	Spvg. Engineer	-	$ 61.20	$ -
	Lead Engineer	-	$ 49.16	$ -
	Lead Engineer	-	$ 44.71	$ -
	Asst. Eng.	-	$ 30.15	$ -

	Sr. CADD Tech	-	$ 39.14	$ -
	Spvg. Engineer	-	$ 53.31	$ -
	Spvg. Engineer	-	$ 60.29	$ -
	Spvg. Eng.	8	$ 55.60	$ 444.80
	Sr. Eng.	-	$ 51.32	$ -
	CADD	-	$ 33.92	$ -
	Eng. Mngr.	-	$ 91.21	$ -
	Spvg. Eng.	8	$ 78.36	$ 626.88
	Engineer	-	$ 32.35	$ -
	Sr. Spvg. Eng.	-	$ 91.73	$ -
	Engineer I	-	$ 32.66	$ -
	Sr. Spvg. Eng.	8	$ 71.65	$ 573.20
	Sr. Spvg. Eng.	-	$ 79.14	$ -
	Sr. Spvg. Eng.	-	$ 75.35	$ -
	Engineer II	-	$ 33.99	$ -
	Asst. Eng.	-	$ 25.74	$ -
	Engineer I	-	$ 28.96	$ -
	Engineer II	-	$ 40.42	$ -
	Sr. Eng. Mgr.	-	$ 95.56	$ -
	Sr. Eng. Mgr.	-	$ 75.66	$ -
	Sr. Eng. Mngr.	-	$ 96.86	$ -
	Sr. Prin Tech. Specialist	-	$ 68.08	$ -
	Technical Manager	-	$ 75.66	$ -
	Sr. Eng. Mngr.	80	$ 103.99	$ 8,319.20
	Engineering Manager	80	$ 84.76	$ 6,780.80
	Sr. Eng. Mngr.	-	$ 110.18	$ -
	Sr. Eng. Mngr.	-	$ 124.05	$ -
	Sr. Spvg. Eng.	-	$ 87.27	$ -
	Sr. Spvg. Control Spcst.	400	$ 86.59	$ 34,636.00
	Sr. Eng. Mngr.	-	$ 93.55	$ -
	Sr. Eng. Manager	2	$ 108.16	$ 216.32
	Sr. Spvg. Estimator	-	$ 95.32	$ -
				$ -
TOTAL ESTIMATED HOURS		622		

TOTAL DIRECT SALARY		$ 54,313.64
OVERHEAD@ 149.95% OF DIRECT SALARY COST		$ 86,250.06
SUBTOTAL: SALARY + OVERHEAD		$ 140,563.70
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 14,056.37
DIRECT EXPENSES (itemized)	$	
Travel	$ 500.00	
Mail	$ 500.00	
Communications	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ 1,000.00
TOTAL THIS TASK (PB)		$ 155,620.07

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.3 Program Scheduling **Firm:** **BEM**

TECHNICAL STAFF				
STAFF PERSON/ IFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Project Manager / Coordinator	-	$ 59.42	$ -
	Principal Engineer/Scientist	-	$ 57.94	$ -
	Project Engineer/Scientist	-	$ 49.11	$ -
	Senior Engineer / Scientist	-	$ 37.83	$ -
	GIS Specialist / CADD Technician	-	$ 25.75	$ -
	Clerical Staff	-	$ 28.43	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.00% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
mail	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (BEM)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.3 Program Scheduling **Firm:** **GTS**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal in charge	0	$ 63.00	$ -
	Project Manager	0	$ 57.50	$ -
	Project Surveyor	0	$ 57.50	$ -
	Party Chief	0	$ 27.00	$ -
	Instrument person	0	$ 17.00	$ -
	Supv. Technician	0	$ 30.00	$ -
	Principal Technician	0	$ 27.00	$ -
	Project Engineer	0	$ 57.50	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
TOTAL ESTIMATED HOURS		0		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 151.00% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel		
reproduction		
communications		
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (GTS)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.3 Program Scheduling **Firm:** **SSA**

TECHNICAL STAFF				
STAFF PERSON/	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal Architect	160	$ 75.00	$ 12,000.00
	Quality Assurance Director	-	$ 60.00	$ -
	Project Task Leader Shops & Yards	-	$ 40.00	$ -
	Project Task Leader Stations & Restoration	-	$ 35.00	$ -
0	Architect III	-	$ 25.00	$ -
0	Architect II	-	$ 23.00	$ -
0	Architect I	-	$ 20.00	$ -
0	Scheduler	2,000	$ 77.30	$ 154,600.00
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		2,160		

TOTAL DIRECT SALARY			$ 166,600.00
OVERHEAD@ 135.20% OF DIRECT SALARY COST			$ 225,243.20
SUBTOTAL: SALARY + OVERHEAD			$ 391,843.20
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 39,184.32
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	boards/display	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (SSA)			$ 431,027.52

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.3 Program Scheduling **Firm:** **Amy Greene**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal	-	$ 85.00	$ -
	Project Manager	-	$ 51.25	$ -
	Sr. Environmental Scientist	-	$ 38.76	$ -
	Environmental Scientist	-	$ 25.25	$ -
	Environmental Tech.	-	$ 25.13	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.30% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Amy Greene)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.3 Program Scheduling **Firm:** **Matrix**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Geotechnical Project Manager	-	$ 55.15	$ -
	Senior Geotechnical Engineer	-	$ 43.78	$ -
	Geotechnical Engineer	-	$ 31.20	$ -
	Senior CADD Operator	-	$ 31.85	$ -
	Project Assistant	-	$ 27.28	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 149.95% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.3 Program Scheduling **Firm:** **IH Engineers**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
P VII	Project Manager	40	$ 77.25	$ 3,090.00
P V	Project Engineer	-	$ 53.25	$ -
P IV	Senior Engineer	-	$ 46.00	$ -
P III	Engineer	-	$ 41.75	$ -
ET 3	Senior Technician		$ 38.50	$ -
		-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		40		

TOTAL DIRECT SALARY		$ 3,090.00
OVERHEAD@ 120.00% OF DIRECT SALARY COST		$ 3,708.00
SUBTOTAL: SALARY + OVERHEAD		$ 6,798.00
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 679.80
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (IH)		$ 7,477.80

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.4 Environmental Investigation/Requirements **Firm:** **Jacobs**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal In Charge	0	$ -	$ -
	Project Manager	120	$ 104.81	$ 12,577.20
	Deputy Project Manager	120	$ 109.03	$ 13,083.60
	Chief Engineer	0	$ 114.06	$ -
	Principal Engineer	0	$ 90.46	$ -
	Principal Engineer	0	$ 107.95	$ -
	Technical Specialist	0	$ 114.62	$ -
	Senior Engineer	0	$ 59.36	$ -
	Principal Engineer	0	$ 110.52	$ -
	Principal Engineer	0	$ 76.92	$ -
	Tech Spec VIII	0	$ 112.12	$ -
	Tech Spec VII	0	$ 81.79	$ -
	Princ Engr VII	0	$ 73.15	$ -
	Senior Engineer	0	$ 65.00	$ -
	CADD Designer V	0	$ 40.00	$ -
	Track QA/QC	0	$ 114.88	$ -
	Technical Specialist	0	$ 76.90	$ -
	Technical Specialist	0	$ 90.87	$ -
	Senior Engineer	0	$ 70.71	$ -
	Rail Operations/Staging	0	$ 125.00	$ -
	Senior Engineer	0	$ 60.00	$ -
	Engineer	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Tech. Specialist	0	$ 65.38	$ -
	Tech. Specialist	0	$ 83.43	$ -
	Tech. Specialist	0	$ 88.28	$ -
	Rail Systems Lead	0	$ 113.58	$ -
	Comm. Task Manager	0	$ 89.95	$ -
	Comm. Engineer	0	$ 73.01	$ -
	Senior Civil Engineer	0	$ 71.96	$ -
	Civil Engineer	0	$ 41.30	$ -
	Geot Group Manager	0	$ 77.62	$ -
	Principal Engineer	0	$ 62.39	$ -
	Engineer	0	$ 30.29	$ -
	Project Manager	0	$ 95.49	$ -
	Design Leader	0	$ 65.48	$ -
	Project Engineer	0	$ 52.03	$ -

	Technical Specialist	565	$ 84.17	$ 47,556.05
	Principal Engineer	2135	$ 49.02	$ 104,657.70
	Senior Engineer	1900	$ 60.00	$ 114,000.00
	CADD	1160	$ 27.00	$ 31,320.00
	Principal Engineer	0	$ 69.25	$ -
	CADD	0	$ 27.00	$ -
	Landscape Architect	0	$ 50.40	$ -
	Principal Designer	0	$ 64.11	$ -
	Senior Designer	0	$ 113.56	$ -
	Project Manager	0	$ 94.75	$ -
	Design Leader	0	$ 74.56	$ -
	Engineer/Planner	0	$ 35.00	$ -
	Designer Cadd	0	$ 30.00	$ -
	Env. Lead	68	$ 98.10	$ 6,670.80
	Outreach Task Lead	0	$ 75.21	$ -
	Sr. Environmental Scientist	419	$ 46.81	$ 19,613.39
	Environmental Scientist	108	$ 35.00	$ 3,780.00
	CADD	52	$ 27.00	$ 1,404.00
	Value Engineering Lead	0	$ 116.31	$ -
	Engineering Specialist	0	$ 75.00	$ -
	Admin/Typing	0	$ 25.00	$ -
	Principal Engineer	0	$ 75.00	$ -
	Senior Engineer	0	$ 59.97	$ -
	Senior Designer	0	$ 55.15	$ -
	Senior Designer	0	$ 42.48	$ -
	Electrical Engineer	0	$ 28.86	$ -
	Electrical Engineer	0	$ 26.92	$ -
	Electrical Engineer	0	$ 37.14	$ -
TOTAL ESTIMATED HOURS		6647		

TOTAL DIRECT SALARY			$ 354,662.74
OVERHEAD@ 118.00% OF DIRECT SALARY COST			$ 418,502.03
SUBTOTAL: SALARY + OVERHEAD			$ 773,164.77
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 77,316.48
DIRECT EXPENSES (itemized)		$	
travel	$	-	
reproduction	$	-	
mail	$	-	
misc.	$	20,000.00	
	$	-	
TOTAL DIRECT EXPENSES			$ 20,000.00
TOTAL THIS TASK (Jacobs)			$ 870,481.25

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.4 Environmental Investigation/Requirements **Firm:** **Parsons Brinckerhoff, Inc.**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Sr. Eng. Manager	-	$ 97.23	$ -
	Signal QA/QC	-	$ 84.41	$ -
	Signal PM	-	$ 55.00	$ -
	Signal Designer	-	$ 45.00	$ -
	Signal Programmer	-	$ 45.00	$ -
	Signal CADD	-	$ 40.00	$ -
	Foundation Eng.	-	$ 60.00	$ -
	Sr. Spvg. Eng.	-	$ 90.40	$ -
	Sr. Supvg. Eng.	-	$ 74.77	$ -
	Sr. Eng.	-	$ 42.28	$ -
	Engineer	-	$ 28.71	$ -
	CADD	-	$ 41.14	$ -
	Spvg. Eng.	-	$ 67.05	$ -
	Structural Eng.	-	$ 34.54	$ -
	Assoc. Eng.	-	$ 25.00	$ -
	Senior CADD Oper.	-	$ 43.88	$ -
	CADD Operator	-	$ 19.20	$ -
	Sr. Eng. Manager	-	$ 84.09	$ -
	Sr. Supvg. Eng.	-	$ 74.70	$ -
	Sr. Eng.	-	$ 42.49	$ -
	Sr. Eng.	-	$ 45.18	$ -
	CADD	-	$ 37.84	$ -
	Prn. Rail Ops Anal.	-	$ 58.13	$ -
	Sr. Prn. Rail Ops Plnr.	-	$ 71.44	$ -
	Sr. Spvg. Traffic Lead	-	$ 75.44	$ -
	Spvg. Engineer	-	$ 61.20	$ -
	Lead Engineer	8	$ 49.16	$ 393.28
	Lead Engineer	-	$ 44.71	$ -
	Asst. Eng.	-	$ 30.15	$ -
	Sr. CADD Tech	-	$ 39.14	$ -
	Spvg. Engineer	-	$ 53.31	$ -
	Spvg. Engineer	-	$ 60.29	$ -
	Spvg. Eng.	-	$ 55.60	$ -
	Sr. Eng.	-	$ 51.32	$ -

	CADD	-	$ 33.92	$ -
	Eng. Mngr.	-	$ 91.21	$ -
	Spvg. Eng.	-	$ 78.36	$ -
	Engineer	-	$ 32.35	$ -
	Sr. Spvg. Eng.	-	$ 91.73	$ -
	Engineer I	-	$ 32.66	$ -
	Sr. Spvg. Eng.	8	$ 71.65	$ 573.20
	Sr. Spvg. Eng.	4	$ 79.14	$ 316.56
	Sr. Spvg. Eng.	4	$ 75.35	$ 301.40
	Engineer II	-	$ 33.99	$ -
	Asst. Eng.	-	$ 25.74	$ -
	Engineer I	-	$ 28.96	$ -
	Engineer II	-	$ 40.42	$ -
	Sr. Eng. Mgr.	-	$ 95.56	$ -
	Sr. Eng. Mgr.	-	$ 75.66	$ -
	Sr. Eng. Mngr.	-	$ 96.86	$ -
	Sr. Prin Tech. Specialist	-	$ 68.08	$ -
	Technical Manager	-	$ 75.66	$ -
	Sr. Eng. Mngr.	16	$ 103.99	$ 1,663.84
	Engineering Manager	32	$ 84.76	$ 2,712.32
	Sr. Eng. Mngr.	-	$ 110.18	$ -
	Sr. Eng. Mngr.	-	$ 124.05	$ -
	Sr. Spvg. Eng.	-	$ 87.27	$ -
	Sr. Spvg. Control Spcst.	-	$ 86.59	$ -
	Sr. Eng. Mngr.	-	$ 93.55	$ -
	Sr. Eng. Manager	-	$ 108.16	$ -
	Sr. Spvg. Estimator	-	$ 95.32	$ -
				$ -
TOTAL ESTIMATED HOURS		72		

TOTAL DIRECT SALARY			$ 5,960.60
OVERHEAD@ 149.95% OF DIRECT SALARY COST			$ 9,465.43
SUBTOTAL: SALARY + OVERHEAD			$ 15,426.03
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 1,542.60
DIRECT EXPENSES (itemized)		$	
	Travel	o	
	Mail	$ -	
	Communications	$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (PB)			$ 16,968.64

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.4 Environmental Investigation/Requirements **Firm:** **BEM**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Project Manager / Coordinator	40	$ 59.42	$ 2,376.80
	Principal Engineer/Scientist	20	$ 57.94	$ 1,158.80
	Project Engineer/Scientist	100	$ 49.11	$ 4,911.00
	Senior Engineer / Scientist	160	$ 37.83	$ 6,052.80
	GIS Specialist / CADD Technician	60	$ 25.75	$ 1,545.00
	Clerical Staff	12	$ 28.43	$ 341.16
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		392		

TOTAL DIRECT SALARY			$ 16,385.56
OVERHEAD@ 169.00% OF DIRECT SALARY COST			$ 27,691.60
SUBTOTAL: SALARY + OVERHEAD			$ 44,077.16
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 4,407.72
DIRECT EXPENSES (itemized)		$	
	travel	$ 600.00	
	reproduction	$ 250.00	
	mail	$ 40.00	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 890.00
TOTAL THIS TASK (BEM)			$ 49,374.87

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.4 Environmental Investigation/Requirements **Firm:** **GTS**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal in charge	0	$ 63.00	$ -
	Project Manager	0	$ 57.50	$ -
	Project Surveyor	0	$ 57.50	$ -
	Party Chief	0	$ 27.00	$ -
	Instrument person	0	$ 17.00	$ -
	Supv. Technician	0	$ 30.00	$ -
	Principal Technician	0	$ 27.00	$ -
	Project Engineer	0	$ 57.50	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
TOTAL ESTIMATED HOURS		0		

TOTAL DIRECT SALARY			$ -
OVERHEAD@ 151.00% OF DIRECT SALARY COST			$ -
SUBTOTAL: SALARY + OVERHEAD			$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ -
DIRECT EXPENSES (itemized)		$	
	travel		
	reproduction		
	communications		
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (GTS)			$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.4 Environmental Investigation/Requirements **Firm:** **SSA**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal Architect	-	$ 75.00	$ -
	Quality Assurance Director	-	$ 60.00	$ -
	Project Task Leader Shops & Yards	-	$ 40.00	$ -
	Project Task Leader Stations & Restoration	-	$ 35.00	$ -
	Architect III	-	$ 25.00	$ -
0	Architect II	-	$ 23.00	$ -
0	Architect I	-	$ 20.00	$ -
0	Scheduler	-	$ 77.30	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 135.20% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
boards/display	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (SSA)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.4 Environmental Investigation/Requirements **Firm:** **Amy Greene**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal	20	$ 85.00	$ 1,700.00
	Project Manager	145	$ 51.25	$ 7,431.25
	Sr. Environmental Scientist	148	$ 38.76	$ 5,736.48
	Environmental Scientist	60	$ 25.25	$ 1,515.00
	Environmental Tech.	60	$ 25.13	$ 1,507.80
	Clerical	52	$ 26.50	$ 1,378.00
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		485		

TOTAL DIRECT SALARY			$ 19,268.53
OVERHEAD@ 169.30% OF DIRECT SALARY COST			$ 32,621.62
SUBTOTAL: SALARY + OVERHEAD			$ 51,890.15
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 5,189.02
DIRECT EXPENSES (itemized)		$	
	travel	$ 70.00	
	reproduction	$ 200.00	
	communications	$ 200.00	
		$ 534.15	
		$ -	
TOTAL DIRECT EXPENSES			$ 1,004.15
TOTAL THIS TASK (Amy Greene)			$ 58,083.32

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.4 Environmental Investigation/Requirements **Firm:** **Matrix**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Geotechnical Project Manager	-	$ 55.15	$ -
	Senior Geotechnical Engineer	-	$ 43.78	$ -
	Geotechnical Engineer	-	$ 31.20	$ -
	Senior CADD Operator	-	$ 31.85	$ -
	Project Assistant	-	$ 27.28	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 149.95% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.4 Environmental Investigation/Requirements **Firm:** **IH Engineers**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
P VII	Project Manager	-	$ 77.25	$ -
P V	Project Engineer	-	$ 53.25	$ -
P IV	Senior Engineer	-	$ 46.00	$ -
P III	Engineer	-	$ 41.75	$ -
ET 3	Senior Technician		$ 38.50	$ -
		-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY			$ -
OVERHEAD@ 120.00% OF DIRECT SALARY COST			$ -
SUBTOTAL: SALARY + OVERHEAD			$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ -
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	communications	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (IH)			$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.5 Geotechnical Investigation **Firm:** **Jacobs**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal In Charge	0	$ -	$ -
	Project Manager	8	$ 104.81	$ 838.48
	Deputy Project Manager	4	$ 109.03	$ 436.12
	Chief Engineer	0	$ 114.06	$ -
	Principal Engineer	0	$ 90.46	$ -
	Principal Engineer	0	$ 107.95	$ -
	Technical Specialist	0	$ 114.62	$ -
	Senior Engineer	0	$ 59.36	$ -
	Principal Engineer	0	$ 110.52	$ -
	Principal Engineer	0	$ 76.92	$ -
	Tech Spec VIII	0	$ 112.12	$ -
	Tech Spec VII	0	$ 81.79	$ -
	Princ Engr VII	0	$ 73.15	$ -
	Senior Engineer	0	$ 65.00	$ -
	CADD Designer V	0	$ 40.00	$ -
	Track QA/QC	0	$ 114.88	$ -
	Technical Specialist	0	$ 76.90	$ -
	Technical Specialist	0	$ 90.87	$ -
	Senior Engineer	0	$ 70.71	$ -
	Rail Operations/Staging	0	$ 125.00	$ -
	Senior Engineer	0	$ 60.00	$ -
	Engineer	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Tech. Specialist	0	$ 65.38	$ -
	Tech. Specialist	0	$ 83.43	$ -
	Tech. Specialist	0	$ 88.28	$ -
	Rail Systems Lead	0	$ 113.58	$ -
	Comm. Task Manager	0	$ 89.95	$ -
	Comm. Engineer	0	$ 73.01	$ -
	Senior Civil Engineer	0	$ 71.96	$ -
	Civil Engineer	0	$ 41.30	$ -
	Geot Group Manager	104	$ 77.62	$ 8,072.48
	Principal Engineer	208	$ 62.39	$ 12,977.12
	Engineer	148	$ 30.29	$ 4,482.92
	Project Manager	0	$ 95.49	$ -
	Design Leader	0	$ 65.48	$ -
	Project Engineer	0	$ 52.03	$ -

	Technical Specialist	0	$ 84.17	$ -
	Principal Engineer	0	$ 49.02	$ -
	Senior Engineer	0	$ 60.00	$ -
	CADD	0	$ 27.00	$ -
	Principal Engineer	0	$ 69.25	$ -
	CADD	0	$ 27.00	$ -
	Landscape Architect	0	$ 50.40	$ -
	Principal Designer	0	$ 64.11	$ -
	Senior Designer	0	$ 113.56	$ -
	Project Manager	0	$ 94.75	$ -
	Design Leader	0	$ 74.56	$ -
	Engineer/Planner	0	$ 35.00	$ -
	Designer Cadd	0	$ 30.00	$ -
	Env. Lead	0	$ 98.10	$ -
	Outreach Task Lead	0	$ 75.21	$ -
	Sr. Environmental Scientist	0	$ 46.81	$ -
	Environmental Scientist	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Value Engineering Lead	0	$ 116.31	$ -
	Engineering Specialist	0	$ 75.00	$ -
	Admin/Typing	0	$ 25.00	$ -
	Principal Engineer	0	$ 75.00	$ -
	Senior Engineer	0	$ 59.97	$ -
	Senior Designer	0	$ 55.15	$ -
	Senior Designer	0	$ 42.48	$ -
	Electrical Engineer	0	$ 28.86	$ -
	Electrical Engineer	0	$ 26.92	$ -
	Electrical Engineer	0	$ 37.14	$ -
TOTAL ESTIMATED HOURS		472		

TOTAL DIRECT SALARY			$ 26,807.12
OVERHEAD@ 118.00% OF DIRECT SALARY COST			$ 31,632.40
SUBTOTAL: SALARY + OVERHEAD			$ 58,439.52
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 5,843.95
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	mail	$ 2,000.00	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 2,000.00
TOTAL THIS TASK (Jacobs)			$ 66,283.47

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.5 Geotechnical Investigation **Firm:** **Parsons Brinckerhoff, Inc.**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Sr. Eng. Manager	-	$ 97.23	$ -
	Signal QA/QC	-	$ 84.41	$ -
	Signal PM	-	$ 55.00	$ -
	Signal Designer	-	$ 45.00	$ -
	Signal Programmer	-	$ 45.00	$ -
	Signal CADD	-	$ 40.00	$ -
	Foundation Eng.	-	$ 60.00	$ -
	Sr. Spvg. Eng.	-	$ 90.40	$ -
	Sr. Supvg. Eng.	-	$ 74.77	$ -
	Sr. Eng.	-	$ 42.28	$ -
	Engineer	-	$ 28.71	$ -
	CADD	-	$ 41.14	$ -
	Spvg. Eng.	-	$ 67.05	$ -
	Structural Eng.	-	$ 34.54	$ -
	Assoc. Eng.	-	$ 25.00	$ -
	Senior CADD Oper.	-	$ 43.88	$ -
	CADD Operator	-	$ 19.20	$ -
	Sr. Eng. Manager	48	$ 84.09	$ 4,036.32
	Sr. Supvg. Eng.	88	$ 74.70	$ 6,573.60
	Sr. Eng.	96	$ 42.49	$ 4,079.04
	Sr. Eng.	48	$ 45.18	$ 2,168.64
	CADD	48	$ 37.84	$ 1,816.32
	Prn. Rail Ops Anal.	-	$ 58.13	$ -
	Sr. Prn. Rail Ops Plnr.	-	$ 71.44	$ -
	Sr. Spvg. Traffic Lead	-	$ 75.44	$ -
	Spvg. Engineer	-	$ 61.20	$ -

	Lead Engineer	-	$ 49.16	$ -
	Lead Engineer	-	$ 44.71	$ -
	Asst. Eng.	-	$ 30.15	$ -
	Sr. CADD Tech	-	$ 39.14	$ -
	Spvg. Engineer	-	$ 53.31	$ -
	Spvg. Engineer	-	$ 60.29	$ -
	Spvg. Eng.	-	$ 55.60	$ -
	Sr. Eng.	-	$ 51.32	$ -
	CADD	-	$ 33.92	$ -
	Eng. Mngr.	-	$ 91.21	$ -
	Spvg. Eng.	-	$ 78.36	$ -
	Engineer	-	$ 32.35	$ -
	Sr. Spvg. Eng.	-	$ 91.73	$ -
	Engineer I	-	$ 32.66	$ -
	Sr. Spvg. Eng.	-	$ 71.65	$ -
	Sr. Spvg. Eng.	-	$ 79.14	$ -
	Sr. Spvg. Eng.	-	$ 75.35	$ -
	Engineer II	-	$ 33.99	$ -
	Asst. Eng.	-	$ 25.74	$ -
	Engineer I	-	$ 28.96	$ -
	Engineer II	-	$ 40.42	$ -
	Sr. Eng. Mgr.	-	$ 95.56	$ -
	Sr. Eng. Mgr.	-	$ 75.66	$ -
	Sr. Eng. Mngr.	-	$ 96.86	$ -
	Sr. Prin Tech. Specialist	-	$ 68.08	$ -
	Technical Manager	-	$ 75.66	$ -
	Sr. Eng. Mngr.	8	$ 103.99	$ 831.92
	Engineering Manager	16	$ 84.76	$ 1,356.16
	Sr. Eng. Mngr.	-	$ 110.18	$ -
	Sr. Eng. Mngr.	-	$ 124.05	$ -
	Sr. Spvg. Eng.	-	$ 87.27	$ -
	Sr. Spvg. Control Spcst.	-	$ 86.59	$ -
	Sr. Eng. Mngr.	-	$ 93.55	$ -
	Sr. Eng. Manager	-	$ 108.16	$ -
	Sr. Spvg. Estimator	-	$ 95.32	$ -
				$ -
TOTAL ESTIMATED HOURS		352		

TOTAL DIRECT SALARY			$ 20,862.00
OVERHEAD@ 149.95% OF DIRECT SALARY COST			$ 33,128.86
SUBTOTAL: SALARY + OVERHEAD			$ 53,990.86
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 5,399.09
DIRECT EXPENSES (itemized)		$	
	Travel	$ 200.00	
	Mail	$ 200.00	
	Communications	$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 400.00
TOTAL THIS TASK (PB)			$ 59,789.94

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.5 Geotechnical Investigation **Firm:** **BEM**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Project Manager / Coordinator	8	$ 59.42	$ 475.36
	Principal Engineer/Scientist	-	$ 57.94	$ -
	Project Engineer/Scientist	30	$ 49.11	$ 1,473.30
	Senior Engineer / Scientist	120	$ 37.83	$ 4,539.60
	GIS Specialist / CADD Technician	-	$ 25.75	$ -
	Clerical Staff	-	$ 28.43	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		158		

TOTAL DIRECT SALARY			$ 6,488.26
OVERHEAD@ 169.00% OF DIRECT SALARY COST			$ 10,965.16
SUBTOTAL: SALARY + OVERHEAD			$ 17,453.42
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 1,745.34
DIRECT EXPENSES (itemized)		$	
	travel	$ 1,000.00	
	pcb site disposal	$ 10,500.00	
	drum disposal	$ 5,000.00	
	drum disposal	$ 9,000.00	
		$ -	
TOTAL DIRECT EXPENSES			$ 25,500.00
TOTAL THIS TASK (BEM)			$ 44,698.76

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.5 Geotechnical Investigation **Firm:** **GTS**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal in charge	0	$ 63.00	$ -
	Project Manager	0	$ 57.50	$ -
	Project Surveyor	0	$ 57.50	$ -
	Party Chief	0	$ 27.00	$ -
	Instrument person	0	$ 17.00	$ -
	Supv. Technician	0	$ 30.00	$ -
	Principal Technician	0	$ 27.00	$ -
	Project Engineer	0	$ 57.50	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
TOTAL ESTIMATED HOURS		0		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 151.00% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel		
reproduction		
communications		
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (GTS)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.5 Geotechnical Investigation **Firm:** **SSA**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal Architect	-	$ 75.00	$ -
	Quality Assurance Director	-	$ 60.00	$ -
	Project Task Leader Shops & Yards	-	$ 40.00	$ -
	Project Task Leader Stations & Restoration	-	$ 35.00	$ -
	Architect III	-	$ 25.00	$ -
0	Architect II	-	$ 23.00	$ -
0	Architect I	-	$ 20.00	$ -
0	Scheduler	-	$ 77.30	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 135.20% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
boards/display	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (SSA)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.5 Geotechnical Investigation **Firm:** **Amy Greene**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal	-	$ 85.00	$ -
	Project Manager	-	$ 51.25	$ -
	Sr. Environmental Scientist	-	$ 38.76	$ -
	Environmental Scientist	-	$ 25.25	$ -
	Environmental Tech.	-	$ 25.13	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.30% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Amy Greene)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.5 Geotechnical Investigation **Firm:** **Matrix**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Geotechnical Project Manager	140	$ 55.15	$ 7,721.00
	Senior Geotechnical Engineer	288	$ 43.78	$ 12,608.64
	Geotechnical Engineer	1,056	$ 31.20	$ 32,947.20
	Senior CADD Operator	64	$ 31.85	$ 2,038.40
	Project Assistant	6	$ 27.28	$ 163.68
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		1,554		

TOTAL DIRECT SALARY			$ 55,478.92
OVERHEAD@ 149.95% OF DIRECT SALARY COST			$ 83,190.64
SUBTOTAL: SALARY + OVERHEAD			$ 138,669.56
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 13,866.96
DIRECT EXPENSES (itemized)		$	
	travel	$ 6,000.00	
	reproduction	$ 1,000.00	
	lab/equipment	$ 40,000.00	
	drilling	$ 450,000.00	
		$ -	
TOTAL DIRECT EXPENSES			$ 497,000.00
TOTAL THIS TASK (Matrix)			$ 649,536.52

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.5 Geotechnical Investigation **Firm:** **IH Engineers**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
P VII	Project Manager	4	$ 77.25	$ 309.00
P V	Project Engineer	8	$ 53.25	$ 426.00
P IV	Senior Engineer	8	$ 46.00	$ 368.00
P III	Engineer	-	$ 41.75	$ -
ET 3	Senior Technician	-	$ 38.50	$ -
		-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		20		

TOTAL DIRECT SALARY			$ 1,103.00
OVERHEAD@ 120.00% OF DIRECT SALARY COST			$ 1,323.60
SUBTOTAL: SALARY + OVERHEAD			$ 2,426.60
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 242.66
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	communications	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (Matrix)			$ 2,669.26

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.6 Permits **Firm:** **Jacobs**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal In Charge	0	$ -	$ -
	Project Manager	120	$ 104.81	$ 12,577.20
	Deputy Project Manager	120	$ 109.03	$ 13,083.60
	Chief Engineer	0	$ 114.06	$ -
	Principal Engineer	0	$ 90.46	$ -
	Principal Engineer	0	$ 107.95	$ -
	Technical Specialist	0	$ 114.62	$ -
	Senior Engineer	0	$ 59.36	$ -
	Principal Engineer	80	$ 110.52	$ 8,841.60
	Principal Engineer	80	$ 76.92	$ 6,153.60
	Tech Spec VIII	80	$ 112.12	$ 8,969.60
	Tech Spec VII	0	$ 81.79	$ -
	Princ Engr VII	0	$ 73.15	$ -
	Senior Engineer	0	$ 65.00	$ -
	CADD Designer V	0	$ 40.00	$ -
	Track QA/QC	0	$ 114.88	$ -
	Technical Specialist	0	$ 76.90	$ -
	Technical Specialist	0	$ 90.87	$ -
	Senior Engineer	0	$ 70.71	$ -
	Rail Operations/Staging	0	$ 125.00	$ -
	Senior Engineer	0	$ 60.00	$ -
	Engineer	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Tech. Specialist	0	$ 65.38	$ -
	Tech. Specialist	0	$ 83.43	$ -
	Tech. Specialist	0	$ 88.28	$ -
	Rail Systems Lead	0	$ 113.58	$ -
	Comm. Task Manager	0	$ 89.95	$ -
	Comm. Engineer	0	$ 73.01	$ -
	Senior Civil Engineer	120	$ 71.96	$ 8,635.20
	Civil Engineer	180	$ 41.30	$ 7,434.00
	Geot Group Manager	0	$ 77.62	$ -
	Principal Engineer	0	$ 62.39	$ -
	Engineer	0	$ 30.29	$ -
	Project Manager	0	$ 95.49	$ -
	Design Leader	0	$ 65.48	$ -
	Project Engineer	0	$ 52.03	$ -

	Technical Specialist	120	$ 84.17	$ 10,100.40
	Principal Engineer	100	$ 49.02	$ 4,902.00
	Senior Engineer	200	$ 60.00	$ 12,000.00
	CADD	40	$ 27.00	$ 1,080.00
	Principal Engineer	0	$ 69.25	$ -
	CADD	0	$ 27.00	$ -
	Landscape Architect	0	$ 50.40	$ -
	Principal Designer	0	$ 64.11	$ -
	Senior Designer	0	$ 113.56	$ -
	Project Manager	0	$ 94.75	$ -
	Design Leader	0	$ 74.56	$ -
	Engineer/Planner	0	$ 35.00	$ -
	Designer Cadd	0	$ 30.00	$ -
	Env. Lead	0	$ 98.10	$ -
	Outreach Task Lead	0	$ 75.21	$ -
	Sr. Environmental Scientist	0	$ 46.81	$ -
	Environmental Scientist	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Value Engineering Lead	0	$ 116.31	$ -
	Engineering Specialist	0	$ 75.00	$ -
	Admin/Typing	0	$ 25.00	$ -
	Principal Engineer	40	$ 75.00	$ 3,000.00
	Senior Engineer	0	$ 59.97	$ -
	Senior Designer	0	$ 55.15	$ -
	Senior Designer	0	$ 42.48	$ -
	Electrical Engineer	0	$ 28.86	$ -
	Electrical Engineer	0	$ 26.92	$ -
	Electrical Engineer	0	$ 37.14	$ -
TOTAL ESTIMATED HOURS		1280		

TOTAL DIRECT SALARY			$ 96,777.20
OVERHEAD@ 118.00% OF DIRECT SALARY COST			$ 114,197.10
SUBTOTAL: SALARY + OVERHEAD			$ 210,974.30
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 21,097.43
DIRECT EXPENSES (itemized)		$	
travel	$	2,000.00	
reproduction	$	5,000.00	
mail	$	1,000.00	
NJDEP	$	80,000.00	
	$	-	
TOTAL DIRECT EXPENSES			$ 88,000.00
TOTAL THIS TASK (Jacobs)			$ 320,071.73

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.6 Permits **Firm:** **Parsons Brinckerhoff, Inc.**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Sr. Eng. Manager	-	$ 97.23	$ -
	Signal QA/QC	-	$ 84.41	$ -
	Signal PM	-	$ 55.00	$ -
	Signal Designer	-	$ 45.00	$ -
	Signal Programmer	-	$ 45.00	$ -
	Signal CADD	-	$ 40.00	$ -
	Foundation Eng.	-	$ 60.00	$ -
	Sr. Spvg. Eng.	-	$ 90.40	$ -
	Sr. Supvg. Eng.	-	$ 74.77	$ -
	Sr. Eng.	-	$ 42.28	$ -
	Engineer	-	$ 28.71	$ -
	CADD	-	$ 41.14	$ -
	Spvg. Eng.	60	$ 67.05	$ 4,023.00
	Structural Eng.	-	$ 34.54	$ -
	Assoc. Eng.	-	$ 25.00	$ -
	Senior CADD Oper.	-	$ 43.88	$ -
	CADD Operator	-	$ 19.20	$ -
	Sr. Eng. Manager	-	$ 84.09	$ -
	Sr. Supvg. Eng.	-	$ 74.70	$ -
	Sr. Eng.	-	$ 42.49	$ -
	Sr. Eng.	-	$ 45.18	$ -
	CADD	-	$ 37.84	$ -
	Prn. Rail Ops Anal.	-	$ 58.13	$ -
	Sr. Prn. Rail Ops Plnr.	-	$ 71.44	$ -
	Sr. Spvg. Traffic Lead	8	$ 75.44	$ 603.52
	Spvg. Engineer	-	$ 61.20	$ -
	Lead Engineer	-	$ 49.16	$ -
	Lead Engineer	-	$ 44.71	$ -
	Asst. Eng.	-	$ 30.15	$ -
	Sr. CADD Tech	-	$ 39.14	$ -
	Spvg. Engineer	40	$ 53.31	$ 2,132.40
	Spvg. Engineer	-	$ 60.29	$ -
	Spvg. Eng.	40	$ 55.60	$ 2,224.00
	Sr. Eng.	-	$ 51.32	$ -

	CADD	-	$ 33.92	$ -
	Eng. Mngr.	40	$ 91.21	$ 3,648.40
	Spvg. Eng.	-	$ 78.36	$ -
	Engineer	-	$ 32.35	$ -
	Sr. Spvg. Eng.	-	$ 91.73	$ -
	Engineer I	-	$ 32.66	$ -
	Sr. Spvg. Eng.	40	$ 71.65	$ 2,866.00
	Sr. Spvg. Eng.	-	$ 79.14	$ -
	Sr. Spvg. Eng.	-	$ 75.35	$ -
	Engineer II	-	$ 33.99	$ -
	Asst. Eng.	-	$ 25.74	$ -
	Engineer I	-	$ 28.96	$ -
	Engineer II	-	$ 40.42	$ -
	Sr. Eng. Mgr.	-	$ 95.56	$ -
	Sr. Eng. Mgr.	-	$ 75.66	$ -
	Sr. Eng. Mngr.	40	$ 96.86	$ 3,874.40
	Sr. Prin Tech. Specialist	-	$ 68.08	$ -
	Technical Manager	-	$ 75.66	$ -
	Sr. Eng. Mngr.	60	$ 103.99	$ 6,239.40
	Engineering Manager	60	$ 84.76	$ 5,085.60
	Sr. Eng. Mngr.	-	$ 110.18	$ -
	Sr. Eng. Mngr.	-	$ 124.05	$ -
	Sr. Spvg. Eng.	-	$ 87.27	$ -
	Sr. Spvg. Control Spcst.	-	$ 86.59	$ -
	Sr. Eng. Mngr.	-	$ 93.55	$ -
	Sr. Eng. Manager	-	$ 108.16	$ -
	Sr. Spvg. Estimator	-	$ 95.32	$ -
				$ -
TOTAL ESTIMATED HOURS		388		

TOTAL DIRECT SALARY			$ 30,696.72
OVERHEAD@ 149.95% OF DIRECT SALARY COST			$ 48,746.39
SUBTOTAL: SALARY + OVERHEAD			$ 79,443.11
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 7,944.31
DIRECT EXPENSES (itemized)		$	
	Travel	$ 500.00	
	Mail	$ 500.00	
	Communications	$ 200.00	
		$ -	
TOTAL DIRECT EXPENSES			$ 1,200.00
TOTAL THIS TASK (PB)			$ 88,587.42

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.6 Permits **Firm:** **BEM**

TECHNICAL STAFF				
STAFF PERSON/ ASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Project Manager / Coordinator	-	$ 59.42	$ -
	Principal Engineer/Scientist	-	$ 57.94	$ -
	Project Engineer/Scientist	-	$ 49.11	$ -
	Senior Engineer / Scientist	-	$ 37.83	$ -
	GIS Specialist / CADD Technician	-	$ 25.75	$ -
	Clerical Staff	-	$ 28.43	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.00% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
mail	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (BEM)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.6 Permits **Firm:** **GTS**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal in charge	0	$ 63.00	$ -
	Project Manager	0	$ 57.50	$ -
	Project Surveyor	0	$ 57.50	$ -
	Party Chief	0	$ 27.00	$ -
	Instrument person	0	$ 17.00	$ -
	Supv. Technician	0	$ 30.00	$ -
	Principal Technician	0	$ 27.00	$ -
	Project Engineer	0	$ 57.50	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
TOTAL ESTIMATED HOURS		0		

TOTAL DIRECT SALARY			$ -
OVERHEAD@ 151.00% OF DIRECT SALARY COST			$ -
SUBTOTAL: SALARY + OVERHEAD			$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ -
DIRECT EXPENSES (itemized)		$	
	travel		
	reproduction		
	communications		
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (GTS)			$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.6 Permits **Firm:** **SSA**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal Architect	200	$ 75.00	$ 15,000.00
	Quality Assurance Director	-	$ 60.00	$ -
	Project Task Leader Shops & Yards	200	$ 40.00	$ 8,000.00
	Project Task Leader Stations & Restoration	-	$ 35.00	$ -
	Architect III	-	$ 25.00	$ -
	Architect II	-	$ 23.00	$ -
0	Architect I	200	$ 20.00	$ 4,000.00
0	Scheduler	-	$ 77.30	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		600		

TOTAL DIRECT SALARY			$ 27,000.00
OVERHEAD@ 135.20% OF DIRECT SALARY COST			$ 36,504.00
SUBTOTAL: SALARY + OVERHEAD			$ 63,504.00
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 6,350.40
DIRECT EXPENSES (itemized)		$	
	travel	$ 280.00	
	reproduction	$ 120.00	
	SHPO	$ 15,000.00	
	graphics	$ 10,000.00	
		$ -	
TOTAL DIRECT EXPENSES			$ 25,400.00
TOTAL THIS TASK (SSA)			$ 95,254.40

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.6 Permits **Firm:** **Amy Greene**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal	-	$ 85.00	$ -
	Project Manager	-	$ 51.25	$ -
	Sr. Environmental Scientist	-	$ 38.76	$ -
	Environmental Scientist	-	$ 25.25	$ -
	Environmental Tech.	-	$ 25.13	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.30% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Amy Greene)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.6 Permits **Firm:** **Matrix**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Geotechnical Project Manager	-	$ 55.15	$ -
	Senior Geotechnical Engineer	-	$ 43.78	$ -
	Geotechnical Engineer	-	$ 31.20	$ -
	Senior CADD Operator	-	$ 31.85	$ -
	Project Assistant	-	$ 27.28	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 149.95% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.6 Permits **Firm:** **IH Engineers**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
P VII	Project Manager	40	$ 77.25	$ 3,090.00
P V	Project Engineer	40	$ 53.25	$ 2,130.00
P IV	Senior Engineer	160	$ 46.00	$ 7,360.00
P III	Engineer	-	$ 41.75	$ -
ET 3	Senior Technician	160	$ 38.50	$ 6,160.00
		-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		400		

TOTAL DIRECT SALARY		$ 18,740.00
OVERHEAD@ 120.00% OF DIRECT SALARY COST		$ 22,488.00
SUBTOTAL: SALARY + OVERHEAD		$ 41,228.00
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 4,122.80
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ 45,350.80

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.7 Preliminary Design/Engineering (0% - 30% Submission) **Firm:** **Jacobs**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal In Charge	0	$ -	$ -
	Project Manager	240	$ 104.81	$ 25,154.40
	Deputy Project Manager	120	$ 109.03	$ 13,083.60
	Chief Engineer	40	$ 114.06	$ 4,562.40
	Principal Engineer	8	$ 90.46	$ 723.68
	Principal Engineer	8	$ 107.95	$ 863.60
	Technical Specialist	8	$ 114.62	$ 916.96
	Senior Engineer	0	$ 59.36	$ -
	Principal Engineer	24	$ 110.52	$ 2,652.48
	Principal Engineer	24	$ 76.92	$ 1,846.08
	Tech Spec VIII	80	$ 112.12	$ 8,969.60
	Tech Spec VII	120	$ 81.79	$ 9,814.80
	Princ Engr VII	160	$ 73.15	$ 11,704.00
	Senior Engineer	220	$ 65.00	$ 14,300.00
	CADD Designer V	120	$ 40.00	$ 4,800.00
	Track QA/QC	8	$ 114.88	$ 919.04
	Technical Specialist	600	$ 76.90	$ 46,140.00
	Technical Specialist	4	$ 90.87	$ 363.48
	Senior Engineer	600	$ 70.71	$ 42,426.00
	Rail Operations/Staging	16	$ 125.00	$ 2,000.00
	Senior Engineer	800	$ 60.00	$ 48,000.00
	Engineer	600	$ 35.00	$ 21,000.00
	CADD	1600	$ 27.00	$ 43,200.00
	Tech. Specialist	8	$ 65.38	$ 523.04
	Tech. Specialist	8	$ 83.43	$ 667.44
	Tech. Specialist	8	$ 88.28	$ 706.24
	Rail Systems Lead	8	$ 113.58	$ 908.64
	Comm. Task Manager	4	$ 89.95	$ 359.80
	Comm. Engineer	40	$ 73.01	$ 2,920.40
	Senior Civil Engineer	200	$ 71.96	$ 14,392.00
	Civil Engineer	600	$ 41.30	$ 24,780.00
	Geot Group Manager	88	$ 77.62	$ 6,830.56
	Principal Engineer	140	$ 62.39	$ 8,734.60
	Engineer	120	$ 30.29	$ 3,634.80
	Project Manager	4	$ 95.49	$ 381.96
	Design Leader	40	$ 65.48	$ 2,619.20
	Project Engineer	90	$ 52.03	$ 4,682.70

	Technical Specialist	0	$ 84.17	$ -
	Principal Engineer	0	$ 49.02	$ -
	Senior Engineer	0	$ 60.00	$ -
	CADD	0	$ 27.00	$ -
	Principal Engineer	140	$ 69.25	$ 9,695.00
	CADD	100	$ 27.00	$ 2,700.00
	Landscape Architect	16	$ 50.40	$ 806.40
	Principal Designer	24	$ 64.11	$ 1,538.64
	Senior Designer	24	$ 113.56	$ 2,725.44
	Project Manager	25.5	$ 94.75	$ 2,416.13
	Design Leader	55.8	$ 74.56	$ 4,160.45
	Engineer/Planner	900	$ 35.00	$ 31,500.00
	Designer Cadd	900	$ 30.00	$ 27,000.00
	Env. Lead	80	$ 98.10	$ 7,848.00
	Outreach Task Lead	0	$ 75.21	$ -
	Sr. Environmental Scientist	0	$ 46.81	$ -
	Environmental Scientist	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Value Engineering Lead	0	$ 116.31	$ -
	Engineering Specialist	0	$ 75.00	$ -
	Admin/Typing	0	$ 25.00	$ -
	Principal Engineer	80	$ 75.00	$ 6,000.00
	Senior Engineer	80	$ 59.97	$ 4,797.60
	Senior Designer	80	$ 55.15	$ 4,412.00
	Senior Designer	80	$ 42.48	$ 3,398.40
	Electrical Engineer	40	$ 28.86	$ 1,154.40
	Electrical Engineer	40	$ 26.92	$ 1,076.80
	Electrical Engineer	0	$ 37.14	$ -
TOTAL ESTIMATED HOURS		9423		

TOTAL DIRECT SALARY			$ 486,810.75
OVERHEAD@ 118.00% OF DIRECT SALARY COST			$ 574,436.69
SUBTOTAL: SALARY + OVERHEAD			$ 1,061,247.44
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 106,124.74
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	mail	$ 10,000.00	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 10,000.00
TOTAL THIS TASK (Jacobs)			$ 1,177,372.19

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.7 Preliminary Design/Engineering (0% - 30% Submission) **Firm:** **Parsons Brinckerhoff, Inc.**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Sr. Eng. Manager	100	$ 97.23	$ 9,723.00
	Signal QA/QC	120	$ 84.41	$ 10,129.20
	Signal PM	120	$ 55.00	$ 6,600.00
	Signal Designer	200	$ 45.00	$ 9,000.00
	Signal Programmer	-	$ 45.00	$ -
	Signal CADD	240	$ 40.00	$ 9,600.00
	Foundation Eng.	-	$ 60.00	$ -
	Sr. Spvg. Eng.	6	$ 90.40	$ 542.40
	Sr. Supvg. Eng.	100	$ 74.77	$ 7,477.00
	Sr. Eng.	200	$ 42.28	$ 8,456.00
	Engineer	230	$ 28.71	$ 6,603.30
	CADD	160	$ 41.14	$ 6,582.40
	Spvg. Eng.	200	$ 67.05	$ 13,410.00
	Structural Eng.	300	$ 34.54	$ 10,362.00
	Assoc. Eng.	181	$ 25.00	$ 4,525.00
	Senior CADD Oper.	88	$ 43.88	$ 3,861.44
	CADD Operator	88	$ 19.20	$ 1,689.60
	Sr. Eng. Manager	24	$ 84.09	$ 2,018.16
	Sr. Supvg. Eng.	56	$ 74.70	$ 4,183.20
	Sr. Eng.	120	$ 42.49	$ 5,098.80
	Sr. Eng.	56	$ 45.18	$ 2,530.08
	CADD	-	$ 37.84	$ -
	Prn. Rail Ops Anal.	100	$ 58.13	$ 5,813.00
	Sr. Prn. Rail Ops Plnr.	40	$ 71.44	$ 2,857.60
	Sr. Spvg. Traffic Lead	88	$ 75.44	$ 6,638.72
	Spvg. Engineer	320	$ 61.20	$ 19,585.28
	Lead Engineer	32	$ 49.16	$ 1,573.12
	Lead Engineer	840	$ 44.71	$ 37,556.40
	Asst. Eng.	1,520	$ 30.15	$ 45,828.00
	Sr. CADD Tech	800	$ 39.14	$ 31,312.00
	Spvg. Engineer	80	$ 53.31	$ 4,264.80
	Spvg. Engineer	24	$ 60.29	$ 1,446.96
	Spvg. Eng.	68	$ 55.60	$ 3,780.80
	Sr. Eng.	104	$ 51.32	$ 5,337.28
	CADD	340	$ 33.92	$ 11,532.80

	Eng. Mngr.	36	$ 91.21	$ 3,283.56
	Spvg. Eng.	300	$ 78.36	$ 23,508.00
	Engineer	64	$ 32.35	$ 2,070.40
	Sr. Spvg. Eng.	80	$ 91.73	$ 7,338.40
	Engineer I	160	$ 32.66	$ 5,225.60
	Sr. Spvg. Eng.	80	$ 71.65	$ 5,732.00
	Sr. Spvg. Eng.	80	$ 79.14	$ 6,331.20
	Sr. Spvg. Eng.	80	$ 75.35	$ 6,028.00
	Engineer II	150	$ 33.99	$ 5,098.50
	Asst. Eng.	150	$ 25.74	$ 3,861.00
	Engineer I	200	$ 28.96	$ 5,792.00
	Engineer II	50	$ 40.42	$ 2,021.00
	Sr. Eng. Mgr.	20	$ 95.56	$ 1,911.20
	Sr. Eng. Mgr.	20	$ 75.66	$ 1,513.20
	Sr. Eng. Mngr.	160	$ 96.86	$ 15,497.60
	Sr. Prin Tech. Specialist	120	$ 68.08	$ 8,169.60
	Technical Manager	120	$ 75.66	$ 9,079.20
	Sr. Eng. Mngr.	120	$ 103.99	$ 12,478.80
	Engineering Manager	160	$ 84.76	$ 13,561.60
	Sr. Eng. Mngr.	4	$ 110.18	$ 440.72
	Sr. Eng. Mngr.	4	$ 124.05	$ 496.20
	Sr. Spvg. Eng.	4	$ 87.27	$ 349.08
	Sr. Spvg. Control Spcst.	-	$ 86.59	$ -
	Sr. Eng. Mngr.	16	$ 93.55	$ 1,496.80
	Sr. Eng. Manager	80	$ 108.16	$ 8,652.80
	Sr. Spvg. Estimator	120	$ 95.32	$ 11,438.40
				$ -
TOTAL ESTIMATED HOURS		9,323		

TOTAL DIRECT SALARY			$ 461,293.20
OVERHEAD@ 149.95% OF DIRECT SALARY COST			$ 732,533.60
SUBTOTAL: SALARY + OVERHEAD			$ 1,193,826.80
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 119,382.68
DIRECT EXPENSES (itemized)		$	
	Travel	$ 1,000.00	
	Mail	$ 500.00	
	Communications	$ 500.00	
	auto traffic reorders	$ 4,000.00	
		$ -	
TOTAL DIRECT EXPENSES			$ 6,000.00
TOTAL THIS TASK (PB)			$ 1,319,209.48

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.7 Preliminary Design/Engineering (0% - 30% Submission) **Firm:** **BEM**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Project Manager / Coordinator	60	$ 59.42	$ 3,565.20
	Principal Engineer/Scientist	30	$ 57.94	$ 1,738.20
	Project Engineer/Scientist	80	$ 49.11	$ 3,928.80
	Senior Engineer / Scientist	160	$ 37.83	$ 6,052.80
	GIS Specialist / CADD Technician	-	$ 25.75	$ -
	Clerical Staff	8	$ 28.43	$ 227.44
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		338		

TOTAL DIRECT SALARY			$ 15,512.44
OVERHEAD@ 169.00% OF DIRECT SALARY COST			$ 26,216.02
SUBTOTAL: SALARY + OVERHEAD			$ 41,728.46
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 4,172.85
DIRECT EXPENSES (itemized)		$	
	travel	$ 600.00	
	reproduction	$ 250.00	
	mail	$ 40.00	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 890.00
TOTAL THIS TASK (BEM)			$ 46,791.31

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.7 Preliminary Design/Engineering (0% - 30% Submission) **Firm:** **GTS**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal in charge	0	$ 63.00	$ -
	Project Manager	0	$ 57.50	$ -
	Project Surveyor	0	$ 57.50	$ -
	Party Chief	0	$ 27.00	$ -
	Instrument person	0	$ 17.00	$ -
	Supv. Technician	0	$ 30.00	$ -
	Principal Technician	0	$ 27.00	$ -
	Project Engineer	160	$ 57.50	$ 9,200.00
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
TOTAL ESTIMATED HOURS		160		

TOTAL DIRECT SALARY		$ 9,200.00
OVERHEAD@ 151.00% OF DIRECT SALARY COST		$ 13,892.00
SUBTOTAL: SALARY + OVERHEAD		$ 23,092.00
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 2,309.20
DIRECT EXPENSES (itemized)	$	
travel		
reproduction		
communications		
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (GTS)		$ 25,401.20

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.7 Preliminary Design/Engineering (0% - 30% Submission) **Firm:** **SSA**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal Architect	300	$ 75.00	$ 22,500.00
	Quality Assurance Director	162	$ 60.00	$ 9,720.00
	Project Task Leader Shops & Yards	500	$ 40.00	$ 20,000.00
	Project Task Leader Stations & Restoration	300	$ 35.00	$ 10,500.00
0	Architect III	-	$ 25.00	$ -
0	Architect II	320	$ 23.00	$ 7,360.00
0	Architect I	400	$ 20.00	$ 8,000.00
0	Scheduler	-	$ 77.30	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		1,982		

TOTAL DIRECT SALARY			$ 78,080.00
OVERHEAD@ 135.20% OF DIRECT SALARY COST			$ 105,564.16
SUBTOTAL: SALARY + OVERHEAD			$ 183,644.16
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 18,364.42
DIRECT EXPENSES (itemized)		$	
	travel	$ 2,640.00	
	reproduction	$ 910.00	
	boards/display	$ 900.00	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 4,450.00
TOTAL THIS TASK (SSA)			$ 206,458.58

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.7 Preliminary Design/Engineering (0% - 30% Submission) **Firm:** **Amy Greene**

TECHNICAL STAFF				
STAFF PERSON/ ATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal	-	$ 85.00	$ -
	Project Manager	-	$ 51.25	$ -
	Sr. Environmental Scientist	-	$ 38.76	$ -
	Environmental Scientist	-	$ 25.25	$ -
	Environmental Tech.	-	$ 25.13	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.30% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Amy Greene)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.7 Preliminary Design/Engineering (0% - 30% Submission) **Firm:** **Matrix**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Geotechnical Project Manager	-	$ 55.15	$ -
	Senior Geotechnical Engineer	-	$ 43.78	$ -
	Geotechnical Engineer	-	$ 31.20	$ -
	Senior CADD Operator	-	$ 31.85	$ -
	Project Assistant	-	$ 27.28	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 149.95% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.7 Preliminary Design/Engineering (0% - 30% Submission) **Firm:** **IH Engineers**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
P VII	Project Manager	160	$ 77.25	$ 12,360.00
P V	Project Engineer	160	$ 53.25	$ 8,520.00
P IV	Senior Engineer	240	$ 46.00	$ 11,040.00
P III	Engineer	200	$ 41.75	$ 8,350.00
ET 3	Senior Technician	240	$ 38.50	$ 9,240.00
		-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		1,000		

TOTAL DIRECT SALARY			$ 49,510.00
OVERHEAD@ 120.00% OF DIRECT SALARY COST			$ 59,412.00
SUBTOTAL: SALARY + OVERHEAD			$ 108,922.00
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 10,892.20
DIRECT EXPENSES (itemized)		$	
	travel	$ 500.00	
	reproduction	$ -	
	communications	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ 500.00
TOTAL THIS TASK (Matrix)			$ 120,314.20

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.8 Interagency Coordination **Firm:** **Jacobs**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal In Charge	0	$ -	$ -
	Project Manager	0	$ 104.81	$ -
	Deputy Project Manager	0	$ 109.03	$ -
	Chief Engineer	0	$ 114.06	$ -
	Principal Engineer	0	$ 90.46	$ -
	Principal Engineer	0	$ 107.95	$ -
	Technical Specialist	0	$ 114.62	$ -
	Senior Engineer	0	$ 59.36	$ -
	Principal Engineer	0	$ 110.52	$ -
	Principal Engineer	0	$ 76.92	$ -
	Tech Spec VIII	0	$ 112.12	$ -
	Tech Spec VII	0	$ 81.79	$ -
	Princ Engr VII	0	$ 73.15	$ -
	Senior Engineer	0	$ 65.00	$ -
	CADD Designer V	0	$ 40.00	$ -
	Track QA/QC	0	$ 114.88	$ -
	Technical Specialist	0	$ 76.90	$ -
	Technical Specialist	0	$ 90.87	$ -
	Senior Engineer	0	$ 70.71	$ -
	Rail Operations/Staging	0	$ 125.00	$ -
	Senior Engineer	0	$ 60.00	$ -
	Engineer	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Tech. Specialist	0	$ 65.38	$ -
	Tech. Specialist	0	$ 83.43	$ -
	Tech. Specialist	0	$ 88.28	$ -
	Rail Systems Lead	0	$ 113.58	$ -
	Comm. Task Manager	0	$ 89.95	$ -
	Comm. Engineer	0	$ 73.01	$ -
	Senior Civil Engineer	0	$ 71.96	$ -
	Civil Engineer	0	$ 41.30	$ -
	Geot Group Manager	0	$ 77.62	$ -
	Principal Engineer	0	$ 62.39	$ -
	Engineer	0	$ 30.29	$ -
	Project Manager	0	$ 95.49	$ -
	Design Leader	0	$ 65.48	$ -
	Project Engineer	0	$ 52.03	$ -
	Technical Specialist	0	$ 84.17	$ -
	Principal Engineer	0	$ 49.02	$ -
	Senior Engineer	0	$ 60.00	$ -

	CADD	0	$ 27.00	$ -
	Principal Engineer	0	$ 69.25	$ -
	CADD	0	$ 27.00	$ -
	Landscape Architect	0	$ 50.40	$ -
	Principal Designer	0	$ 64.11	$ -
	Senior Designer	0	$ 113.56	$ -
	Project Manager	0	$ 94.75	$ -
	Design Leader	0	$ 74.56	$ -
	Engineer/Planner	0	$ 35.00	$ -
	Designer Cadd	0	$ 30.00	$ -
	Env. Lead	0	$ 98.10	$ -
	Outreach Task Lead	0	$ 75.21	$ -
	Sr. Environmental Scientist	0	$ 46.81	$ -
	Environmental Scientist	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Value Engineering Lead	0	$ 116.31	$ -
	Engineering Specialist	0	$ 75.00	$ -
	Admin/Typing	0	$ 25.00	$ -
	Principal Engineer	0	$ 75.00	$ -
	Senior Engineer	0	$ 59.97	$ -
	Senior Designer	0	$ 55.15	$ -
	Senior Designer	0	$ 42.48	$ -
	Electrical Engineer	0	$ 28.86	$ -
	Electrical Engineer	0	$ 26.92	$ -
	Electrical Engineer	0	$ 37.14	$ -
		300	$ 55.00	$ 16,500.00
TOTAL ESTIMATED HOURS		300		

TOTAL DIRECT SALARY			$ 16,500.00
OVERHEAD@ 118.00% OF DIRECT SALARY COST			$ 19,470.00
SUBTOTAL: SALARY + OVERHEAD			$ 35,970.00
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 3,597.00
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	mail	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (Jacobs)			$ 39,567.00

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.8 Interagency Coordination **Firm:** **Parsons Brinckerhoff, Inc.**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Sr. Eng. Manager	-	$ 97.23	$ -
	Signal QA/QC	-	$ 84.41	$ -
	Signal PM	-	$ 55.00	$ -
	Signal Designer	-	$ 45.00	$ -
	Signal Programmer	-	$ 45.00	$ -
	Signal CADD	-	$ 40.00	$ -
	Foundation Eng.	-	$ 60.00	$ -
	Sr. Spvg. Eng.	-	$ 90.40	$ -
	Sr. Supvg. Eng.	-	$ 74.77	$ -
	Sr. Eng.	-	$ 42.28	$ -
	Engineer	-	$ 28.71	$ -
	CADD	-	$ 41.14	$ -
	Spvg. Eng.	-	$ 67.05	$ -
	Structural Eng.	-	$ 34.54	$ -
	Assoc. Eng.	-	$ 25.00	$ -
	Senior CADD Oper.	-	$ 43.88	$ -
	CADD Operator	-	$ 19.20	$ -
	Sr. Eng. Manager	-	$ 84.09	$ -
	Sr. Supvg. Eng.	-	$ 74.70	$ -
	Sr. Eng.	-	$ 42.49	$ -
	Sr. Eng.	-	$ 45.18	$ -
	CADD	-	$ 37.84	$ -
	Prn. Rail Ops Anal.	-	$ 58.13	$ -
	Sr. Prn. Rail Ops Plnr.	-	$ 71.44	$ -
	Sr. Spvg. Traffic Lead	-	$ 75.44	$ -
	Spvg. Engineer	-	$ 61.20	$ -
	Lead Engineer	-	$ 49.16	$ -
	Lead Engineer	-	$ 44.71	$ -
	Asst. Eng.	-	$ 30.15	$ -
	Sr. CADD Tech	-	$ 39.14	$ -
	Spvg. Engineer	-	$ 53.31	$ -
	Spvg. Engineer	-	$ 60.29	$ -
	Spvg. Eng.	-	$ 55.60	$ -
	Sr. Eng.	-	$ 51.32	$ -
	CADD	-	$ 33.92	$ -

	Eng. Mngr.	-	$ 91.21	$ -
	Spvg. Eng.	-	$ 78.36	$ -
	Engineer	-	$ 32.35	$ -
	Sr. Spvg. Eng.	-	$ 91.73	$ -
	Engineer I	-	$ 32.66	$ -
	Sr. Spvg. Eng.	-	$ 71.65	$ -
	Sr. Spvg. Eng.	-	$ 79.14	$ -
	Sr. Spvg. Eng.	-	$ 75.35	$ -
	Engineer II	-	$ 33.99	$ -
	Asst. Eng.	-	$ 25.74	$ -
	Engineer I	-	$ 28.96	$ -
	Engineer II	-	$ 40.42	$ -
	Sr. Eng. Mgr.	-	$ 95.56	$ -
	Sr. Eng. Mgr.	-	$ 75.66	$ -
	Sr. Eng. Mngr.	-	$ 96.86	$ -
	Sr. Prin Tech. Specialist	-	$ 68.08	$ -
	Technical Manager	-	$ 75.66	$ -
	Sr. Eng. Mngr.	-	$ 103.99	$ -
	Engineering Manager	-	$ 84.76	$ -
	Sr. Eng. Mngr.	-	$ 110.18	$ -
	Sr. Eng. Mngr.	-	$ 124.05	$ -
	Sr. Spvg. Eng.	-	$ 87.27	$ -
	Sr. Spvg. Control Spcst.	-	$ 86.59	$ -
	Sr. Eng. Mngr.	-	$ 93.55	$ -
	Sr. Eng. Manager	-	$ 108.16	$ -
	Sr. Spvg. Estimator	-	$ 95.32	$ -
		100	$ 55.00	$ 5,500.00
TOTAL ESTIMATED HOURS		100		

TOTAL DIRECT SALARY		$ 5,500.00
OVERHEAD@ 149.95% OF DIRECT SALARY COST		$ 8,734.00
SUBTOTAL: SALARY + OVERHEAD		$ 14,234.00
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 1,423.40
DIRECT EXPENSES (itemized)	$	
Travel	$ -	
Mail	$ -	
Communications	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (PB)		$ 15,657.40

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.8 Interagency Coordination **Firm:** **BEM**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Project Manager / Coordinator	-	$ 59.42	$ -
	Principal Engineer/Scientist	-	$ 57.94	$ -
	Project Engineer/Scientist	-	$ 49.11	$ -
	Senior Engineer / Scientist	-	$ 37.83	$ -
	GIS Specialist / CADD Technician	-	$ 25.75	$ -
	Clerical Staff	-	$ 28.43	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.00% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
mail	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (BEM)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.8 Interagency Coordination **Firm:** **GTS**

TECHNICAL STAFF				
STAFF PERSON/ N	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal in charge	0	$ 63.00	$ -
	Project Manager	0	$ 57.50	$ -
	Project Surveyor	0	$ 57.50	$ -
	Party Chief	0	$ 27.00	$ -
	Instrument person	0	$ 17.00	$ -
	Supv. Technician	0	$ 30.00	$ -
	Principal Technician	0	$ 27.00	$ -
	Project Engineer	0	$ 57.50	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
TOTAL ESTIMATED HOURS		0		

TOTAL DIRECT SALARY			$ -
OVERHEAD@ 151.00% OF DIRECT SALARY COST			$ -
SUBTOTAL: SALARY + OVERHEAD			$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ -
DIRECT EXPENSES (itemized)		$	
	travel		
	reproduction		
	communications		
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (GTS)			$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.8 Interagency Coordination **Firm:** **SSA**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal Architect	-	$ 75.00	$ -
	Quality Assurance Director	-	$ 60.00	$ -
	Project Task Leader Shops & Yards	-	$ 40.00	$ -
	Project Task Leader Stations & Restoration	-	$ 35.00	$ -
	Architect III	-	$ 25.00	$ -
	Architect II	-	$ 23.00	$ -
0	Architect I	-	$ 20.00	$ -
0	Scheduler	-	$ 77.30	$ -
As Directed		100	$ 55.00	$ 5,500.00
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		100		

TOTAL DIRECT SALARY			$ 5,500.00
OVERHEAD@ 135.20% OF DIRECT SALARY COST			$ 7,436.00
SUBTOTAL: SALARY + OVERHEAD			$ 12,936.00
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 1,293.60
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	boards/display	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (SSA)			$ 14,229.60

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.8 Interagency Coordination **Firm:** **Amy Greene**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal	-	$ 85.00	$ -
	Project Manager	-	$ 51.25	$ -
	Sr. Environmental Scientist	-	$ 38.76	$ -
	Environmental Scientist	-	$ 25.25	$ -
	Environmental Tech.	-	$ 25.13	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.30% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Amy Greene)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **Matrix**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Geotechnical Project Manager	-	$ 55.15	$ -
	Senior Geotechnical Engineer	-	$ 43.78	$ -
	Geotechnical Engineer	-	$ 31.20	$ -
	Senior CADD Operator	-	$ 31.85	$ -
	Project Assistant	-	$ 27.28	$ -
	Clerical	-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 149.95% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.1 Project Definition/Concept Planning **Firm:** **IH Engineers**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
P VII	Project Manager	-	$ 77.25	$ -
P V	Project Engineer	-	$ 53.25	$ -
P IV	Senior Engineer	-	$ 46.00	$ -
P III	Engineer	-	$ 41.75	$ -
ET 3	Senior Technician	-	$ 38.50	$ -
		-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 120.00% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.9 As-Directed Assignments **Firm:** **Jacobs**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal In Charge	0	$ -	$ -
	Project Manager	0	$ 104.81	$ -
	Deputy Project Manager	0	$ 109.03	$ -
	Chief Engineer	0	$ 114.06	$ -
	Principal Engineer	0	$ 90.46	$ -
	Principal Engineer	0	$ 107.95	$ -
	Technical Specialist	0	$ 114.62	$ -
	Senior Engineer	0	$ 59.36	$ -
	Principal Engineer	0	$ 110.52	$ -
	Principal Engineer	0	$ 76.92	$ -
	Tech Spec VIII	0	$ 112.12	$ -
	Tech Spec VII	0	$ 81.79	$ -
	Princ Engr VII	0	$ 73.15	$ -
	Senior Engineer	0	$ 65.00	$ -
	CADD Designer V	0	$ 40.00	$ -
	Track QA/QC	0	$ 114.88	$ -
	Technical Specialist	0	$ 76.90	$ -
	Technical Specialist	0	$ 90.87	$ -
	Senior Engineer	0	$ 70.71	$ -
	Rail Operations/Staging	0	$ 125.00	$ -
	Senior Engineer	0	$ 60.00	$ -
	Engineer	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Tech. Specialist	0	$ 65.38	$ -
	Tech. Specialist	0	$ 83.43	$ -
	Tech. Specialist	0	$ 88.28	$ -
	Rail Systems Lead	0	$ 113.58	$ -
	Comm. Task Manager	0	$ 89.95	$ -
	Comm. Engineer	0	$ 73.01	$ -
	Senior Civil Engineer	0	$ 71.96	$ -
	Civil Engineer	0	$ 41.30	$ -
	Geot Group Manager	0	$ 77.62	$ -
	Principal Engineer	0	$ 62.39	$ -
	Engineer	0	$ 30.29	$ -
	Project Manager	0	$ 95.49	$ -
	Design Leader	0	$ 65.48	$ -
	Project Engineer	0	$ 52.03	$ -

	Technical Specialist	0	$ 84.17	$ -
	Principal Engineer	0	$ 49.02	$ -
	Senior Engineer	0	$ 60.00	$ -
	CADD	0	$ 27.00	$ -
	Principal Engineer	0	$ 69.25	$ -
	CADD	0	$ 27.00	$ -
	Landscape Architect	0	$ 50.40	$ -
	Principal Designer	0	$ 64.11	$ -
	Senior Designer	0	$ 113.56	$ -
	Project Manager	0	$ 94.75	$ -
	Design Leader	0	$ 74.56	$ -
	Engineer/Planner	0	$ 35.00	$ -
	Designer Cadd	0	$ 30.00	$ -
	Env. Lead	0	$ 98.10	$ -
	Outreach Task Lead	0	$ 75.21	$ -
	Sr. Environmental Scientist	0	$ 46.81	$ -
	Environmental Scientist	0	$ 35.00	$ -
	CADD	0	$ 27.00	$ -
	Value Engineering Lead	0	$ 116.31	$ -
	Engineering Specialist	0	$ 75.00	$ -
	Admin/Typing	0	$ 25.00	$ -
	Principal Engineer	0	$ 75.00	$ -
	Senior Engineer	0	$ 59.97	$ -
	Senior Designer	0	$ 55.15	$ -
	Senior Designer	0	$ 42.48	$ -
	Electrical Engineer	0	$ 28.86	$ -
	Electrical Engineer	0	$ 26.92	$ -
	Electrical Engineer	0	$ 37.14	$ -
As Directed		500	$ 55.00	$ 27,500.00
TOTAL ESTIMATED HOURS		500		

TOTAL DIRECT SALARY			$ 27,500.00
OVERHEAD@ 118.00% OF DIRECT SALARY COST			$ 32,450.00
SUBTOTAL: SALARY + OVERHEAD			$ 59,950.00
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 5,995.00
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	mail	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (Jacobs)			$ 65,945.00

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.9 As-Directed Assignments **Firm:** **Parsons Brinckerhoff, Inc.**

TECHNICAL STAFF				
STAFF PERSON/ ATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Sr. Eng. Manager	-	$ 97.23	$ -
	Signal QA/QC	-	$ 84.41	$ -
	Signal PM	-	$ 55.00	$ -
	Signal Designer	-	$ 45.00	$ -
	Signal Programmer	-	$ 45.00	$ -
	Signal CADD	-	$ 40.00	$ -
	Foundation Eng.	-	$ 60.00	$ -
	Sr. Spvg. Eng.	-	$ 90.40	$ -
	Sr. Supvg. Eng.	-	$ 74.77	$ -
	Sr. Eng.	-	$ 42.28	$ -
	Engineer	-	$ 28.71	$ -
	CADD	-	$ 41.14	$ -
	Spvg. Eng.	-	$ 67.05	$ -
	Structural Eng.	-	$ 34.54	$ -
	Assoc. Eng.	-	$ 25.00	$ -
	Senior CADD Oper.	-	$ 43.88	$ -
	CADD Operator	-	$ 19.20	$ -
	Sr. Eng. Manager	-	$ 84.09	$ -
	Sr. Supvg. Eng.	-	$ 74.70	$ -
	Sr. Eng.	-	$ 42.49	$ -
	Sr. Eng.	-	$ 45.18	$ -
	CADD	-	$ 37.84	$ -
	Prn. Rail Ops Anal.	-	$ 58.13	$ -
	Sr. Prn. Rail Ops Plnr.	-	$ 71.44	$ -
	Sr. Spvg. Traffic Lead	-	$ 75.44	$ -
	Spvg. Engineer	-	$ 61.20	$ -
	Lead Engineer	-	$ 49.16	$ -
	Lead Engineer	-	$ 44.71	$ -

	Asst. Eng.	-	$ 30.15	$ -
	Sr. CADD Tech	-	$ 39.14	$ -
	Spvg. Engineer	-	$ 53.31	$ -
	Spvg. Engineer	-	$ 60.29	$ -
	Spvg. Eng.	-	$ 55.60	$ -
	Sr. Eng.	-	$ 51.32	$ -
	CADD	-	$ 33.92	$ -
	Eng. Mngr.	-	$ 91.21	$ -
	Spvg. Eng.	-	$ 78.36	$ -
	Engineer	-	$ 32.35	$ -
	Sr. Spvg. Eng.	-	$ 91.73	$ -
	Engineer I	-	$ 32.66	$ -
	Sr. Spvg. Eng.	-	$ 71.65	$ -
	Sr. Spvg. Eng.	-	$ 79.14	$ -
	Sr. Spvg. Eng.	-	$ 75.35	$ -
	Engineer II	-	$ 33.99	$ -
	Asst. Eng.	-	$ 25.74	$ -
	Engineer I	-	$ 28.96	$ -
	Engineer II	-	$ 40.42	$ -
	Sr. Eng. Mgr.	-	$ 95.56	$ -
	Sr. Eng. Mgr.	-	$ 75.66	$ -
	Sr. Eng. Mngr.	-	$ 96.86	$ -
	Sr. Prin Tech. Specialist	-	$ 68.08	$ -
	Technical Manager	-	$ 75.66	$ -
	Sr. Eng. Mngr.	-	$ 103.99	$ -
	Engineering Manager	-	$ 84.76	$ -
	Sr. Eng. Mngr.	-	$ 110.18	$ -
	Sr. Eng. Mngr.	-	$ 124.05	$ -
	Sr. Spvg. Eng.	-	$ 87.27	$ -
	Sr. Spvg. Control Spcst.	-	$ 86.59	$ -
	Sr. Eng. Mngr.	-	$ 93.55	$ -
	Sr. Eng. Manager	-	$ 108.16	$ -
	Sr. Spvg. Estimator	-	$ 95.32	$ -
		400	$ 55.00	$ 22,000.00
TOTAL ESTIMATED HOURS		400		

TOTAL DIRECT SALARY			$ 22,000.00
OVERHEAD@ 149.95% OF DIRECT SALARY COST			$ 34,936.00
SUBTOTAL: SALARY + OVERHEAD			$ 56,936.00
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 5,693.60
DIRECT EXPENSES (itemized)		$	
	Travel	$ -	
	Mail	$ -	
	Communications	$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (PB)			$ 62,629.60

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.9 As-Directed Assignments **Firm:** **BEM**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Project Manager / Coordinator	-	$ 59.42	$ -
	Principal Engineer/Scientist	-	$ 57.94	$ -
	Project Engineer/Scientist	-	$ 49.11	$ -
	Senior Engineer / Scientist	-	$ 37.83	$ -
	GIS Specialist / CADD Technician	-	$ 25.75	$ -
	Clerical Staff	-	$ 28.43	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 169.00% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
mail	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (BEM)		$ -

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.9 As-Directed Assignments **Firm:** **GTS**

TECHNICAL STAFF				
STAFF PERSON/	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal in charge	0	$ 63.00	$ -
	Project Manager	0	$ 57.50	$ -
	Project Surveyor	0	$ 57.50	$ -
	Party Chief	0	$ 27.00	$ -
	Instrument person	0	$ 17.00	$ -
	Supv. Technician	0	$ 30.00	$ -
	Principal Technician	0	$ 27.00	$ -
	Project Engineer	0	$ 57.50	$ -
As Directed		250	$ 55.00	$ 13,750.00
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
		0	$ -	$ -
TOTAL ESTIMATED HOURS		250		

TOTAL DIRECT SALARY		$ 13,750.00
OVERHEAD@ 151.00% OF DIRECT SALARY COST		$ 20,762.50
SUBTOTAL: SALARY + OVERHEAD		$ 34,512.50
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 3,451.25
DIRECT EXPENSES (itemized)	$	
travel		
reproduction		
communications		
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (GTS)		$ 37,963.75

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.9 As-Directed Assignments **Firm:** **SSA**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal Architect	-	$ 75.00	$ -
	Quality Assurance Director	-	$ 60.00	$ -
	Project Task Leader Shops & Yards	-	$ 40.00	$ -
	Project Task Leader Stations & Restoration	-	$ 35.00	$ -
	Architect III	-	$ 25.00	$ -
0	Architect II	-	$ 23.00	$ -
0	Architect I	-	$ 20.00	$ -
0	Scheduler	-	$ 77.30	$ -
As Directed		200	$ 55.00	$ 11,000.00
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		200		

TOTAL DIRECT SALARY			$ 11,000.00
OVERHEAD@ 135.20% OF DIRECT SALARY COST			$ 14,872.00
SUBTOTAL: SALARY + OVERHEAD			$ 25,872.00
FIXED FEE @ 10% OF SALARY + OVERHEAD			$ 2,587.20
DIRECT EXPENSES (itemized)		$	
	travel	$ -	
	reproduction	$ -	
	boards/display	$ -	
		$ -	
		$ -	
TOTAL DIRECT EXPENSES			$ -
TOTAL THIS TASK (SSA)			$ 28,459.20

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.9 As-Directed Assignments **Firm:** **Amy Greene**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Principal	-	$ 85.00	$ -
	Project Manager	-	$ 51.25	$ -
	Sr. Environmental Scientist	-	$ 38.76	$ -
	Environmental Scientist	-	$ 25.25	$ -
	Environmental Tech.	-	$ 25.13	$ -
	Clerical	-	$ 26.50	$ -
As Directed		50	$ 55.00	$ 2,750.00
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		50		

TOTAL DIRECT SALARY		$ 2,750.00
OVERHEAD@ 169.30% OF DIRECT SALARY COST		$ 4,655.75
SUBTOTAL: SALARY + OVERHEAD		$ 7,405.75
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 740.58
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Amy Greene)		$ 8,146.33

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.9 As-Directed Assignments **Firm:** **Matrix**

TECHNICAL STAFF				
STAFF PERSON/ ATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
	Geotechnical Project Manager	-	$ 55.15	$ -
	Senior Geotechnical Engineer	-	$ 43.78	$ -
	Geotechnical Engineer	-	$ 31.20	$ -
	Senior CADD Operator	-	$ 31.85	$ -
	Project Assistant	-	$ 27.28	$ -
	Clerical	-	$ 26.50	$ -
As Directed		100	$ 55.00	$ 5,500.00
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		100		

TOTAL DIRECT SALARY		$ 5,500.00
OVERHEAD@ 149.95% OF DIRECT SALARY COST		$ 8,247.25
SUBTOTAL: SALARY + OVERHEAD		$ 13,747.25
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ 1,374.73
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ 15,121.98

NJ TRANSIT Contract No. 13-041
Architectural and Engineering Design Services
County Yard Improvements

Task 1.9 As-Directed Assignments **Firm:** **IH Engineers**

TECHNICAL STAFF				
STAFF PERSON/ CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
P VII	Project Manager	-	$ 77.25	$ -
P V	Project Engineer	-	$ 53.25	$ -
P IV	Senior Engineer	-	$ 46.00	$ -
P III	Engineer	-	$ 41.75	$ -
ET 3	Senior Technician		$ 38.50	$ -
		-	$ 26.50	$ -
			$ -	$ -
			$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
		-	$ -	$ -
TOTAL ESTIMATED HOURS		-		

TOTAL DIRECT SALARY		$ -
OVERHEAD@ 120.00% OF DIRECT SALARY COST		$ -
SUBTOTAL: SALARY + OVERHEAD		$ -
FIXED FEE @ 10% OF SALARY + OVERHEAD		$ -
DIRECT EXPENSES (itemized)	$	
travel	$ -	
reproduction	$ -	
communications	$ -	
	$ -	
	$ -	
TOTAL DIRECT EXPENSES		$ -
TOTAL THIS TASK (Matrix)		$ -

NJ TRANSIT Contract No. 13-041
County Yard Improvements
Phase I: Preliminary and Engineering
Design Services 0% - 30%

Exhibit C

NJ TRANSIT Travel and Reimbursement Guidelines

(See page 2)

Per Diem (Major Cities)*
Effective January 1, 2011

*** $46 Standard Meal Rate applies to all destinations not specifically listed**
Average Per Diem Rates are listed below
A full listing of domestic Per Diem Rates can be found online at www.gsa.gov
Current foreign Per Diem Rates can be found at http://aoprals.state.gov

NJ TRANSIT

TRAVEL & BUSINESS REIMBURSEMENT GUIDELINES

FOR CONTRACTORS AND VENDORS

GENERAL:

All overnight travel must be authorized in writing by the Project Manager. Overnight lodging expenses for New York City are prohibited.

These guidelines are subject to periodic review and adjustment by NJ TRANSIT.

1. Meals: NJ TRANSIT has adopted the IRS-established "Major Cities" method for meal and incidental travel expenses within the continental United States.

   The following table shows the average per diem rates for meals and incidental expenses while on travel. The M&IE rates differ by travel location. View the per diem rates for your destination to determine which M&IE rates apply.

M&IE Total	**$46.00**	**$51.00**	**$56.00**	**$61.00**	**$66.00**	**$71.00**
Breakfast	$7.00	$8.00	$9.00	$10.00	$11.00	$12.00
Lunch	$11.00	$12.00	$13.00	$15.00	$16.00	$18.00
Dinner	$23.00	$26.00	$29.00	$31.00	$34.00	$36.00
Incidentals	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00

   "Incidentals" as defined by the IRS include "fees and tips given to porters, baggage carries, bellhops, hotel maids, stewards and stewardesses and others on ships and hotel servants".

2. Conveyances: Travel expenses will be reimbursed subject to their reasonableness and subject to the following maximums (receipts required):

   1. Air-Fare: When authorized in writing and only at the prevailing coach rates. First class travel costs are not reimbursable.
   2. Rail or Bus: Only regular coach fares are reimbursable.
   3. Automobile: Mileage will be reimbursed at a rate of $0.51 per mile. Mileage claims in excess of 30 miles one-way must be supported with documentation from a reputable online service (e.g. Map Quest). Gas, tolls and parking fees will be reimbursed only when validated by receipt.

3. Lodging: Reimbursed for single occupancy rates at reasonable, actual costs for the location. Lodging costs exceeding $140.00 per night require prior approval of the Project Manager.

NJ TRANSIT Contract No. 13-041
County Yard Improvements
Phase I: Preliminary and Engineering Design Services 0% - 30%

Exhibit D

NJ TRANSIT's DBE Requirements

NEW JERSEY TRANSIT CORPORATION

DBE REQUIREMENTS FOR

RACE-CONSCIOUS

FEDERAL PROCUREMENT ACTIVITIES

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NEW JERSEY TRANSIT CORPORATION

DBE REQUIREMENTS FOR

RACE-CONSCIOUS

FEDERAL PROCUREMENT ACTIVITIES

The following pages provide Bidders/Proposers/Primes on federal contracts with New Jersey Transit (NJT), information about NJT's Disadvantaged Business Enterprise (DBE) Program, administered by the Office of Business Development (OBD). Prospective Bidders/Proposers/Primes will have an opportunity to ask questions regarding the directives contained in the DBE specifications at the pre-bid/pre-proposal conference(s). Further clarification of the DBE specifications, along with assistance in completing the forms, can be obtained by calling (973) 491-7593.

A list of certified DBE firms may be found in the NJ Unified Certification Program (NJUCP) Directory at www.njucp.net. **Note: Use of this list does not relieve the Bidder/Proposer/Prime contractor/consultant of responsibility to seek DBE participation from other sources. The list is updated daily and must be checked periodically, as firms are certified and decertified daily.**

These DBE specifications are a part of the Contract and shall be binding upon the successful Bidder/Proposer and Prime in the pre and post-award stages of NJT professional services, construction, and goods and services contracts. These specifications shall be binding upon sub-recipients and imposed on their contractors.

1.1 POLICY

As defined in the U.S. Department of Transportation (USDOT) Regulation 49 CFR Part 26, it is the policy of NJT that Disadvantaged Business Enterprises shall have the opportunity to compete for and participate in the performance of contracts financed in whole or in part with federal funds. Each subcontract a Prime signs with a subcontractor/subconsultant must include the following assurance referenced in **article 1.2.**

1.2 ASSURANCE

1.2.1 The Prime contractor/consultant, or subcontractor/subconsultant shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Prime contractor/consultant shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor/consultant to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate (49 CFR 26.13).

1.2.2 **This language is included to comply with relevant Federal law and to ensure that all persons who enter**

into any direct or indirect form of contractual agreement with NJT are aware of their responsibilities and the commitment of NJT to see that NJT's DBE Policy is carried out in all instances.

1.3 DBE GOAL FOR THIS PROJECT

As an aid in meeting the commitment of its DBE Program, NJT is setting a *race conscious* goal of awarding _____ percent of the gross sum bid/proposal to certified NJUCP DBE firms. Should the actual contract amount increase or decrease, through approved change order(s), the assigned goal may remain. The OBD will determine if the change orders and/or contract phases will result in an adjustment to the DBE participation goal.

1.4 GUIDANCE TO BIDDER/PROPOSERS/PRIMES

1.4.1 Failure by a Bidder/Proposer/Prime to comply with any of the requirements contained herein shall result in breach of contract and it shall be subject to the appropriate penalties, remedies, or liquidated damage(s). **Refer to articles 5.6-5.7**

1.4.2 All required forms, including the supplemental section (**see articles 2.3-2.4**) must be submitted in accordance with the requirements. **Firms must be certified under the NJUCP at the time of contract award in order to obtain DBE credit toward the goal.**

1.4.3 Price alone is not an acceptable basis for rejecting a DBE subcontractor/subconsultant's bid.

1.4.4 The Bidder/Proposer/Prime shall, at a minimum, seek DBEs in the same geographic area in which it generally seeks subcontractors/subconsultants. However, the Bidder/Proposer/Prime may be required to expand its search under specific circumstances as determined by OBD. **Refer to article 2.0**

1.4.5 Agreements between a Bidder/Proposer/Prime and a DBE in which the DBE promises not to provide subcontracting quotations to other Bidder/Proposers are prohibited.

1.4.6 The desire of a Bidder/Proposer/Prime to self-perform the work of a contract with its own organization is not an acceptable basis to not meet the goal or demonstrate a good faith effort to do so.

1.4.7 The Bidder/Proposer/Prime is responsible for verifying that the DBE is certified under the appropriate NAICS code for the scope of work identified. DBE credit shall be given only for work performed in the NAICS code(s) under which the DBE is certified.

1.4.8 A DBE firm listed on the First-Tier DBE Utilization Form (Form A) shall constitute a binding representation to NJT, by the Bidder/Proposer/Prime, that the DBE firm is qualified, available, and certified under the appropriate and required NAICS code to perform the scope of work identified. **Refer to article 2.5a**

1.5 TRANSIT VEHICLE MANUFACTURERS (TVM)

1.5.1 As a transit vehicle manufacturer, you must establish and submit for FTA's approval an annual overall DBE percentage goal. A TVM must certify that it submitted the annual DBE goal required by 49 CFR 26.49 and FTA has approved it or not disapproved it.

(a) As a condition of being authorized to bid or propose on FTA assisted transit vehicle procurements, the Bidder/Proposer must complete and submit the TVM Certification form with the bid/proposal certifying that it has complied with the requirements of 49 CFR 26.49.

1.5.2 NJT may, with FTA approval, establish project-specific goals for DBE participation in the procurement of transit vehicles in lieu of complying with the procedures of this section.

1.6 RESPONSIBLE BID/PROPOSAL CRITERIA

1.6.1 As a matter of responsibility, the two lowest Bidders or two highest ranked Proposers must submit the required forms, including the supplemental section (if applicable), with the bid/proposal or within seven (7) days after the bid opening or proposal due date. *NJT may grant a formal written request to extend this 7-day requirement at its sole discretion on a case-by-case basis.*

1.6.2 Failure to satisfactorily complete or submit all required forms when due may result in determination by NJT that the Bidder/Proposer is non-responsible and may cause rejection of the bid or proposal.

1.6.3 If the two lowest Bidders/highest ranked Proposers submit the DBE forms, but fail to meet the DBE goal, the OBD will consider the efforts made to determine if a Bidder/Proposer/Prime has in fact, demonstrated a good faith effort. **See article 2.0**

1.6.4 If it is determined that efforts were made to include DBE participation on the contract, however these efforts did not result in meeting the goal, NJT may request that additional efforts be made within 10 business days of the request. If at this time the Bidder/Proposer fails to demonstrate a good faith effort to achieve the goal, NJT shall consider awarding the contract to the next lowest bidder or highest ranked proposer who offers a reasonable price and meets the DBE goal or demonstrates a good faith effort and other bid requirements or requirements of 49 CFR Part 26.

2. GUIDANCE ON A GOOD FAITH EFFORT

2.1 To demonstrate a good faith effort to meet the DBE goal, a Bidder/Proposer/Prime shall provide written documentation in addition to Form D (article 2.3e), of the steps it has taken, prior to the bid opening/proposal due date, or during the life of the contract to obtain DBE participation. **The Bidder/Proposer/Prime can meet this requirement in either of two ways:**

(1) The Bidder/ Proposer/Prime can meet the goal.

(2) The Bidder/Proposer/Prime shall exhaust the available options referenced in **article 2.2** in making a continuous good faith effort to meet the assigned contract goal for the life of the contract.

(a) The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

(b) In determining a good faith effort, the OBD will consider the **quality**, **quantity**, and **intensity** of the different kinds of efforts that the Bidder/Proposer/Prime has made. Mere *pro forma* efforts will not be considered as demonstration of good faith effort to meet the DBE contract requirements.

(c) The Bidder/Proposer/Prime shall use good business judgment and consider a number of factors in negotiating with subcontractors/subconsultants, including DBE subcontractors/ subconsultants, and should take a firm's price and capabilities as well as contract goals into consideration. **The fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a Bidder's/Proposer's failure to meet the contract DBE goal, as long as such costs are reasonable as determined by NJT. Primes are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.**

(d) The Bidder/Proposer/Prime's ability or desire to perform the work of a contract with its own organization (self-performance) does not relieve the Bidder/Proposer/Prime of the responsibility to meet the goal or demonstrate a good faith effort.

(e) The Bidder/Proposer/Prime shall not reject DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Bidder/Proposer/Prime's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Bidder/Proposer/Prime's efforts to meet the assigned project goal.

(f) The OBD will support the Bidder/Proposer/Prime in indentifying ways to meet the assigned contract goal.

2.2 A GOOD FAITH EFFORT

The following is a list of actions that NJT will consider as evidence of a Bidder/Proposer/Prime's good faith effort to obtain DBE participation. While exhausting the available options in this list may count as a good faith effort, this list is not intended to be a mandatory checklist, nor is this list intended to be exclusive or exhaustive of all the efforts a Bidder/Proposer/Prime might make to achieve the assigned DBE goal. NJT may require a Bidder/Proposer/Prime to take action above and beyond those listed below to meet the assigned DBE goal.

(a) The Bidder/Proposer/Prime shall solicit through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capacity to perform the work of the contract.

(1) The Bidder/Proposer/Prime must solicit this interest within sufficient time to allow the DBE to respond to the solicitation.

(2) The Bidder/Proposer/Prime must take appropriate steps to follow up on initial solicitations in order to determine with certainty if the DBE firms are interested.

(b) The Bidder/Proposer/Prime shall select portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Prime might otherwise prefer to perform these work items with its own forces.

(c) The Bidder/Proposer/Prime shall provide interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a

solicitation.

(d) The Bidder/Proposer/Prime shall negotiate with a DBE(s) with the intent to enter into a contract. It is the Bidder/Proposer's responsibility to make a portion of the work available to DBE subcontractors/subconsultants and suppliers and to select those portions of the work or material needs consistent with the available DBE Primes and suppliers, so as to facilitate DBE participation.

(1) Evidence of such negotiation includes: the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

(e) The Bidder/Proposer/Prime shall make efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by NJT or the Prime contractor.

(f) The Bidder/Proposer/Prime shall make efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

(g) The Bidder/Proposer/Prime shall effectively use the services of available minority/women community organizations; minority/women Prime contractors groups; local, State and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

2.3 REQUIRED FORMS

(a) Form A - First Tier DBE Utilization: Lists all First Tier DBE firms scheduled to participate on this contract.

(b) Form A1 - Bidder/Proposer Solicitation and Contractor Information: Lists all DBE and Non-DBE sub contractor/subconsultants, including suppliers, solicited for, and participating on this contract.

(c) Form A2- Non-DBE Sub Utilization: Lists all DBE and Non-DBE subcontractors/ subconsultants, including suppliers, participating on this contract.

(d) Form B - Intent to Perform as a DBE Sub: Identifies the work the 1st Tier DBE intends to perform including scope of work, subcontract dollar value, etc.

(e) DBE Good Faith Effort Form (if applicable): Identifies any DBE subcontractor invited to quote, but declined to do so for any reason.

(f) Trucking Commitment Agreement (if applicable): Identifies all trucking firms (DBE and Non-DBE) participating on this contract, at any tier.

(g) NJ UCP DBE Certification & NAICS Code Verification: Confirms the DBE status and NAICS code(s) of each First Tier DBE subcontractor/subconsultant.

(h) *Form E - Contractor's Monthly DBE Payment Report & Payment Certification Voucher (Post-Award): Records monthly payments issued to each DBE subcontractor/subconsultant/supplier and monthly payments issued by NJ TRANSIT to the Prime. Certifies that DBE subs have been paid for previous

month's invoices.

(i) Form E2 – DBE's Monthly Payment Report (Post-Award): Records monthly invoices submitted by the DBE, payments owed to the DBE on past due invoices and payments received from the prime by each DBE subcontractor/subconsultant.

(j) Form E1- DBE Prime's Monthly Payment Report *(For DBE Prime Only):* Records monthly payments issued to each DBE Prime by NJ TRANSIT to.

This form is due from the Prime in each month following the notice to proceed issued by NJ TRANSIT. **Refer to article 5.2.4*

2.4 SUPPLEMENTAL REQUIRED FORMS (IF APPLICABLE)

(a) Form AA – Second Tier DBE Utilization: Lists all Second Tier DBE firms scheduled to participate on the DBE sub-Prime's contract.

(b) Form AA1 – Second Tier Bidder/Proposer Solicitation and Contractor Information: Lists all Second Tier DBE firms participating on this contract as indicated on Form AA and Form AA2.

(c) Form AA2- Second Tier Non-DBE Sub Utilization: Lists all **DBE and Non-DBE firms** including suppliers participating on the DBE sub-Prime's contract.

(d) Form BB - Intent to Perform as a Second Tier DBE Sub: Identifies the work the 2nd Tier DBE intends to perform including scope of work, subcontract dollar value, etc.

(e) NJ UCP DBE Certification & NAICS Code Verification: Confirms the DBE status and NAICS code(s) of each Second Tier DBE subcontractor/subconsultant.

2.5 INSTRUCTIONS FOR COMPLETING REQUIRED FORMS (see glossary for definition of terms)

(a) Form A - First Tier DBE Utilization:

Form A is a formal agreement between the Bidder/Proposer and the DBE(s). Replacement/removal of DBE subcontractors/subconsultants/supplier identified on Form A is prohibited after the bid or proposal is submitted to NJT. **Refer to article 4.3.** A DBE Bidder/Proposer, which lists itself on Form A, is committed to performing the work indicated with its own personnel.

DBEs performing as second tier sub(s) to a **non-DBE sub Prime** should be listed with the name of the non-DBE sub Prime's firm name in parenthesis next to the DBE sub's name. {*Ex: DBE Electric Co. (Prime Contractor, Inc.)*}

(1) A first Tier DBE is required to perform at least 51% of its subcontract value with its own forces. Bidders/Proposers/Primes will not receive any credit for DBEs performing less than 51% and therefore must not be listed on this form.

(2) For DBE suppliers, identify all manufacturers, regular dealers, and brokers. If a DBE supplier is a ***manufacturer***, indicate the full value of its subcontract. If a DBE supplier is a ***regular dealer***,

show its total contract value multiplied by 60% (Ex. $100K x 60% = $60K). If a DBE supplier is ***neither a manufacturer nor a dealer***, indicate the fee/commission only, *not the cost of materials or supplies*. See **article 3.0** for direction on determining credit toward the goal.

(3) **A detailed scope of work must be provided; one-word descriptions are not acceptable**. ***(Ex. Haul and dispose of approximately 192,000 tons of contaminated soil to a clean earth facility at $34.00 a ton).***

(b) Form A1 - Bidder/Proposer/Prime Solicitation and Contractor Information:

The Bidder/Proposer must complete and submit **page one** (1). The DBE and non-DBE subcontractors/subconsultants, including suppliers, solicited for, participating on, or expressed interest in this contract must complete **page two** (2).

(c) Form A2- Non-DBE Sub Utilization:

Bidders/Proposers are required to report and submit all dollars committed to non-DBE subcontractors/subconsultants/suppliers. The non-DBE portion of work is not counted toward the assigned DBE goal. **See article 3.0**

A detailed scope of work must be provided; one-word descriptions are not acceptable.

(Ex. Haul and dispose of approximately 192,000 tons of contaminated soil to a clean earth facility at $34.00 a ton).

(d) Form B - Intent to Perform as a First Tier DBE Sub:

Each DBE subcontractor/subconsultant/supplier listed on Form A must complete and sign Form B. **Note: The Bidder/Proposer/Prime is prohibited from completing any portion of the form and from directing DBE(s) to sign a blank form.**

(1) The Bidder/Proposer/Prime must provide interested DBEs with a copy of appropriate plans, specifications, and requirements of the contract in a timely manner to allow the DBE to prepare an appropriate price quote and submit on time.

(2) First Tier DBEs must perform at least 51% of the total dollar value of its subcontract, with its own forces. The firm must indicate the percentage of the total portion of work to be subcontracted to DBE and non-DBE firms. The non-DBE percentage of work is not counted toward the assigned goal.

(3) The OBD encourages DBE-to-DBE subcontracting in order to preserve DBE participation credit. **See article 3.0**

(4) The DBE must provide a detailed scope of work; one-word descriptions are not acceptable. Descriptions should include: *type of services provided, total number of units, price per unit, total cost, etc.*

(e) DBE Good Faith Effort: (If Applicable)

Form D applies to any Bidder/Proposer/Prime who failed to meet the assigned DBE goal. This form will assist the Bidder/Proposer/Prime in demonstrating a good faith effort.

If the DBE(s) solicited declines to sign this form, the completed form should be submitted with the Bidder/Proposer's signature only and the OBD will verify the information provided with the firm. **Refer to articles 2.0-2.2** for guidance.

(f) Trucking Commitment Agreement: (If Applicable)

DBEs must provide information for all DBE and non-DBE trucking firms it will lease from or subcontract to. Subcontracting to a non-DBE trucker means that the non-DBE will perform a portion of the DBE firm's subcontract. **Refer to article 3.4**

The following documents must be attached for all trucks owned: copy of title(s)/finance agreement(s), registration card(s), insurance card(s), apportioned cab card(s) and/or hazardous material license(s) if applicable. A copy of the title or finance agreement is the only acceptable proof of ownership.

The following documents must be attached for all trucks leased: copy of lease agreement(s) established between both firms, title(s), registration card(s), insurance card(s), lease agreement(s), apportioned cab card(s) and/or hazardous material license(s) if applicable.

(g) **NJ UCP DBE Certification and NAICS Code Verification:**

All DBEs listed on Form A must be certified at the time of contract award. It is the Bidder/ Proposer's responsibility to ensure that DBEs are certified and that their NAICS code(s) match the scope of work to be performed on this contract. Credit will not be given for any work to be performed without the appropriate NAICS code. Status can be verified through www.njucp.net and www.census.gov/eos/www/naics/.

(h) Form E - Contractor's Monthly DBE Payment Report & Payment Certification Voucher:

Beginning the month following the contract's notice to proceed, the Prime must report monthly payment activity for each DBE subcontractor/subconsultant/supplier; certifies each DBE sub has been paid any amounts due from previous or current progress payments paid to the Prime. **(article 5.2.4)**

All invoices 30 days past due from NJT must be listed in the appropriate field.

This report is due even if there is no payment activity. This form must be completed and submitted to the OBD **by the 7th of each month** to the attention of the OBD's Manager of Contract Compliance.

(i) Form E1- DBE Prime's Monthly Payment Report *(For DBE Prime Only)*

Beginning the subsequent month following the contract's execution date, the DBE Prime must report its monthly payments received by NJT. **Refer to article 5.2.5.**

All invoices 30 days past due from NJT must be listed in the appropriate field.

This report is due even if there is no payment activity. This form must be completed and submitted to the OBD **by the 7th of each month** to the attention of the OBD's Manager of Contract Compliance.

(j) Form E2 – DBE's Monthly Payment Report:

The Prime must provide a copy of the Form E2 to each DBE subcontractor/subconsultant/ supplier(s). Beginning the subsequent month following the DBE's execution date, the DBE firm must report its monthly payment activity.

This report is due even if there is no payment activity. This form must be completed and submitted by the DBE only to the OBD **by the 7th of each month** to the attention of the OBD's Manager of Contract Compliance.

All invoices 30 days past due must be listed in the appropriate field. Identify concerns or issues in the comments section to be addressed by the OBD. **(Refer to article 5.2.6)**

2.6 INSTRUCTIONS FOR COMPLETING SUPPLEMENTAL REQUIRED FORMS:

(a) Form AA – Second Tier DBE Utilization: The Second Tier DBE **must perform 100%** of its subcontract with its own forces. A formal request to waive this requirement may be granted, solely at the discretion of the OBD; however, approval is required.

A detailed scope of work must be provided; one-word descriptions are not acceptable.

(Ex. Haul and dispose of approximately 192,000 tons of contaminated soil to a clean earth facility at $34.00 a ton).

(b) Form AA1 – Second Tier Bidder/Proposer Solicitation and Contractor Information:

The DBE sub-Prime must submit and complete **page one** (1). Second Tier DBE(s) solicited for and participating on this contract must complete **page two** (2).

(c) Form AA2- Second Tier Non-DBE Subcontractor Utilization:

DBE sub-Primes are required to report and submit all dollars committed to non-DBEs. The non-DBE portion of work is not counted toward DBE participation credit. **Refer to article 3.0**

A detailed scope of work must be provided; one-word descriptions are not acceptable.

(Ex. Haul and dispose of approximately 192,000 tons of contaminated soil to a clean earth facility at $34.00 a ton).

(d) Form BB - Intent to Perform as a Second Tier DBE Subcontractor:

Each DBE firm listed on Form AA, must complete, and sign. **Only Second Tier DBE(s) must complete and sign this form.**

The Second Tier DBE must provide a detailed scope of work; one-word descriptions are not acceptable.

Descriptions should include: type of services provided, total number of units, price per unit, total cost, etc

(e) NJ UCP DBE Certification & NAICS Code Verification:

All DBEs listed on Form AA must be certified at the time of contract award. It is the Bidder/Proposer/Prime's responsibility to ensure that DBEs are certified and that their NAICS code(s) match the scope of work to be performed on this contract. Credit will not be given for any work to be performed without the appropriate NAICS code. Status can be verified through www.njcup.net and www.census.gov/eos/www/naics/.

3.0 GUIDANCE ON COUNTING DBE PARTICIPATION

3.1 If a firm is not currently certified as a DBE in accordance with 49 CFR part 26 at the time of the execution of the contract, the firm's participation will not count toward the DBE goal.

3.1.1 A DBE performing less than 51% of its subcontract will not count toward the assigned goal and should not be listed on any forms.

3.1.2 When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBEs subcontractor/subconsultant is a DBE.

(a) Work that a DBE subcontracts to a non-DBE firm does not count toward the DBE contract goal.

(b) When a DBE performs as a participant in a **joint venture with a Non-DBE**, count the portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces toward DBE goals.

(c) A DBE performs a *commercially useful function* when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing and supervising the work involved.

A DBE does not perform a *commercially useful function* if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.

3.2 COUNTING DBE PARTICIPATION

3.2.1 When a DBE participates in a contract, only the value of the work actually performed by the DBE is counted toward DBE goals.

(a) The entire amount of that portion of a contract that is performed by the DBE's own forces is counted. This includes the cost of supplies and materials obtained by the DBE for the work of the contract, as well as supplies purchased or equipment leased by the DBE (*except supplies and equipment the DBE subcontractor/subconsultant purchases or leases from the Prime contractor or its affiliate*).

3.2.2 The entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a contract, is counted toward DBE goals, provided the fee is reasonable and not excessive as compared with fees customarily allowed for similar services by a DBE.

3.3 DBE PRIME CONTRACTOR GUIDANCE

3.3.1 If a DBE Prime, expenditures are counted toward DBE goals only if the DBE is performing a commercially useful function on that contract.

3.3.2 A DBE Prime must perform or be responsible at least 30% of the total cost of its contract with its own workforce.

3.3.3 If a DBE Prime does not perform or exercise responsibility for at least 30% of the total cost of its contract with its own workforce or subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, NJT will consider that it is not performing a commercially useful function and the DBE Prime shall be in breach of the contract and subject to the appropriate remedies and penalties. **Refer to Articles 5.6-5.7**

3.4 DBE TRUCKING FIRMS GUIDANCE

3.4.1 A DBE trucking firm is performing a commercially useful function if:

(a) The DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there is not a contrived arrangement for the purpose of meeting DBE goals.

(b) The DBE itself owns and operates at least one fully licensed, insured, and operational truck to be used on the contract.

3.4.2 The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.

3.5 LEASING TRUCKS

3.5.1 Leased trucks must display the name and identification number of the DBE.

3.5.2 The DBE may lease trucks from another DBE firm, including an owner-operator that is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

3.5.3 The DBE may also lease trucks from a non-DBE firm, including an owner-operator.

(a) **The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement.**

3.5.4 For the purposes of this section (Leasing), a lease must indicate that the DBE has exclusive use of and control over the truck.

(a) This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck.

3.6 COUNTING MATERIALS AND SUPPLIES

3.6.1 Expenditures with DBEs for materials or supplies are counted toward DBE goals as provided in the following:

(a) If the materials or supplies are obtained from a **DBE manufacturer**, 100% of the cost of the materials or supplies are counted toward DBE goals.

(1) For purposes of this paragraph 3.6.1(a), a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the material, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

(b) If the materials or supplies are purchased from a **DBE regular dealer**, sixty percent (60%) of the cost of the materials or supplies is counted toward DBE goals.

(1) For purposes of this paragraph 3.6.1(b), a regular dealer is a firm that owns, operates, maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

(2) The firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

(3) A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided above if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.

(4) Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph 3.6.1(b).

(c) With respect to materials or supplies purchased from a **DBE, which is neither a manufacturer nor a regular dealer**, only the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, is counted toward DBE goals, provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar service. **However, any portion of the cost of the materials and supplies themselves do not count toward DBE goals.**

4.0 TERMINATION OF DBE(s)

4.1 The Bidder/Proposer/Prime may not terminate for convenience, or any other reason, and then perform the work of the terminated subcontractor/subconsultant with its own forces or those of an affiliate without NJT's prior written consent. **Refer to Article 4.3.**

Submission of all REQUIRED FORMS is mandatory for the following Articles 4.2 through 4.5

4.2 ADDITION OF DBE(s)

4.2.1 Should the Bidder/Proposer/Prime wish to add a DBE not listed on Form A, a written request for the addition of a DBE(s) must be submitted by the Bidder/Proposer/Prime.

4.2.2 The Bidder/Proposer/Prime must receive written approval of the OBD prior to the addition of the DBE subcontractor/subconsultant in order for the addition to be credited toward the goal.

4.3 REPLACEMENT OR REMOVAL OF DBE(s)

4.3.1 When a Prime is considering replacing or removing a DBE due to performance issues, the OBD must be contacted as soon as possible.

4.3.2 Request for DBE replacement or removal may be made under the following conditions:

1) The DBE materially fails to successfully perform the contract tasks.

2) Under unusual situations referenced in article 4.3.8.

4.3.3 A written request for replacement or removal of a DBE(s) listed on Form A, must be submitted by the Bidder/Proposer/Prime to the OBD with complete justification for the request. The process to follow such requests is as follows:

(a) Written communications (over a period) from the Prime and/or NJT's PM/CM team to the DBE, notifying the DBE of its poor performance must be provided to the OBD.

(b) **The OBD will arrange a meeting with the DBE, the Prime, and a representative from Procurement and project management to discuss the specifics of the performance issue.**

(c) The DBE must provide a written plan identifying the efforts it will make to correct the deficiencies.

(d) The Prime must provide the DBE with a minimum of 30 calendar days from acceptance of its plan to improve its performance. Throughout the 30-day window, the Prime and/or NJT PM/CM team must provide written communication to the DBE of any additional/continued performance issues, with a copy to the OBD.

4.3.4 The Bidder/Proposer/Prime must receive written approval of the OBD prior to replacement or removal of the DBE subcontractor/subconsultant can be made, regardless of the reason for the replacement or removal.

4.3.5 If the OBD issues written approval for the removal of a DBE(s), NJT will require a Bidder/Proposer/Prime to continue to demonstrate a good faith effort to replace the removed DBE to the extent needed to meet the contract goal established by NJT for the procurement.

These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the removed DBE.

4.3.6 Failure to obtain approval from the OBD **prior to** replacing or removing a DBE shall result in the Bidder/Proposer/Prime being found in breach of the contract and subject to the appropriate remedies, audits and penalties. **Articles 5.6-5.7**

4.3.7 If NJT finds that the Bidder/Proposer/Prime upon submission of its bid/proposal committed itself to the goal in good faith, the Bidder/Proposer/Prime may, in "unusual situations", be permitted to substitute a DBE subcontractor(s)/subconsultant(s).

4.3.8 The term "*unusual situations*", includes, but is not limited to, the following circumstances:

(a) Failure to qualify as a DBE, or maintain DBE certification status.

(b) Death or physical disability of a key individual.

(c) Dissolution, if a corporation or partnership.

(d) Bankruptcy of the subcontractor/subconsultant, subject to applicable bankruptcy law, and only in instances where the bankruptcy affects the subcontractor/subconsultant's ability to perform.

(e) Inability to obtain, or loss of, a license necessary for the performance of the particular category of work.

(f) Failure or inability to comply with a requirement of law applicable to Primes or, subcontractors/subconsultants.

4.4 WITHDRAWN DBE(s)

4.4.1 When a DBE is unable to complete a subcontract (withdraws), for any reason, NJT will require a Bidder/Proposer/Prime to make a good faith effort to replace a withdrawn DBE at least to the extent needed to ensure that the Prime contractor is able to meet the contract goal established by NJT for the procurement. **These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the removed DBE.**

4.4.2 The Bidder/Proposer/Prime is required to make a good faith effort to seek other DBE subcontractors/subconsultants in substitution of the original DBE. The good faith efforts described in article 2 are required in finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract goal established for the procurement.

4.5 DECERTIFIED DBE(S)

4.5.1 If the Prime has reason to doubt that a proposed DBE is still eligible due to change in ownership, management, or size, the Prime shall, within 10 days of learning this information, notify NJT of that fact in writing.

4.5.2 If the subcontract has not been executed before the DBE's ineligibility occurs, the Prime will not receive credit toward the contract goal for the ineligible DBE. The Prime may continue to use the ineligible DBE, however, DBE participation credit will not be granted.

(a) To the extent necessary to meet the assigned contract goal, the Prime will make a good faith effort to replace the ineligible DBE within 10 days after notification by the OBD. The OBD will support the Prime in its efforts to replace with an eligible DBE firm in order to meet the contract goal.

4.5.3 If the contract has been executed before the firm has been notified of its ineligibility, the Prime may continue to use the firm on the contract and receive credit toward its DBE goal for the duration of that particular phase of or option in the contract. This may not apply to future phases or options, which will be handled on a case-by-case basis at the sole discretion of the OBD.

4.5.4 ***Exception***: If the DBEs ineligibility is caused solely by its having exceeded the size standard during the performance of the contract the Prime may continue to count its participation on that contract only toward

the contract goals. This may not apply to future phases or options and will be subject to determination by the OBD.

5.0 AWARD OBLIGATIONS

5.1 The Prime must designate **a DBE Liaison Officer.** The liaison officer will be responsible to NJT regarding DBE subcontract matters.

5.1.1 If at any point during the contract's life, the Prime's DBE participation falls below the assigned goal, the Prime must identify additional work or new work items for which it will subcontract to DBEs to the extent necessary to meet the assigned goal. Any new scope of work issued to the Prime shall still be subject to the assigned goal.

5.1.2 The OBD will support the Prime in identifying current/future opportunities in the contract to meet the assigned contract goal.

5.1.3 Should the Prime seek a change that addresses the DBE's performance, or affects the work scope and/or compensation, the OBD must be notified, prior to implementation, for its review and approval of the changes as soon as possible. No change will be allowed without prior review and approval by the OBD. Failure to notify the office and obtain approval prior to a change shall result in breach of the contract and may be subject to the appropriate remedies, audits, and penalties.

5.1.4 Whenever NJT issues project change orders the goal may still apply; the OBD will determine if increased DBE participation will be required.

5.1.5 To ensure that all obligations under subcontracts awarded to DBEs are met NJT shall review the Prime's DBE involvement efforts during the performance of the contract.

5.2 POST AWARD DELIVERABLES

5.2.1 After the execution of a contract with NJT, **signed copies** of subcontractor/subconsultant agreements between the Prime and DBE subcontractors must be submitted to the OBD no later than 10 business days after the Prime's contract execution date. The agreement between the Prime and DBE subcontractor shall remain firm for the duration of the contract.

5.2.2 The Prime shall provide a list of the anticipated job start date for all DBE subcontractors/subconsultants **no later than two days** after the initial pre-construction meeting.

5.2.3 **Certification of DBE(s) Payments** – submit monthly with the Form E to the Manager of the OBD and with its monthly invoice submittal to NJT project manager of this project. **Refer to article 5.3.2**

(a) The Prime will certify, prior to the issuance of each progress payment by NJT, that all DBE subs have been paid any amounts due on past due invoices from previous or current progress payments.

5.2.4 **Form E (Contractor's Monthly DBE Payment Report & DBE Payment Certification Voucher)** - submit monthly to the Manager of the OBD. **Refer to articles 2.5h and 5.3.2.**

Failure to submit this report on a monthly basis may result in breach of the contract and be subject to the appropriate remedies, penalties or liquidated damages as indicated in articles 5.6-5.7.

5.2.5 **Form E1 (DBE Prime's Monthly Payment Report)** *(For DBE Prime Only)* - **submit** monthly to the Manager of the OBD.

5.2.6 **Form E2 (DBE's Monthly Payment Report) – Refer to article 2.5j**

(a) Forms E/E1 and E2 will be reviewed monthly to determine compliance with the assigned DBE goal, the subcontractor prompt payment regulation, and the DBE Program.

(b) Attainment of goals will be monitored and based upon actual payments received by the DBE.
Failure to submit Form E/E1 may result in suspension of payments or such other remedies as provided in **article 5.6.** *If at any time, NJT has reason to believe that any person or firm has willfully and knowingly provided incorrect information or made false statements, it shall refer the matter to the USDOT for inquiry.*

5.3 PROMPT PAYMENT OF INVOICES TO SUBCONTRACTORS

5.3.1 The Prime must pay each subcontractor under this contract for satisfactory performance of its work **no later than ten (10) days** from the receipt of each payment the Prime receives from NJT for the subcontractor's work. Failure to comply with this requirement shall result in breach of the contract and shall be subject to the appropriate remedies as determined by OBD.

5.3.2 In accordance with 49 CFR 26.29, the Prime shall certify, prior to the issuance of a progress payment by NJT that all subcontractors have been paid any amounts due on past due invoices (greater than 30 days) from previous or current progress payments. **The Prime must submit the Certification of DBE(s) Payments with its monthly invoice submittals to NJT project manager, and with its Form E to the OBD.**

5.3.3 The Prime will not be reimbursed for work performed by subcontractors/subconsultants unless and until the Prime ensures that the subs are promptly paid for the work performed. Alternatively, the Prime shall certify that a valid basis exists under the terms of the subcontractor's/subconsultant's or supplier's contract to withhold payment from the subcontractor/subconsultant and therefore payment is withheld.

5.3.4 If the Prime withholds payment from the subcontractor/subconsultant, the Prime shall provide to the subcontractor/subconsultant or supplier written notice thereof. The notice shall detail the reason for withholding payment and state the amount of the payment withheld. If a performance/payment bond has been provided under this contract, the Prime shall send a copy of the notice to the surety providing the bond for the Prime. A copy of the notice shall also be submitted to NJT with the certification that payments are being withheld.

5.3.5 If withholding payment is due to the Prime's failure to promptly pay the DBE in accordance with the prompt payment of invoices and/or retainage clauses, the OBD may request proof of payment to DBE(s) for delinquent invoices and/or retainage in order to issue release of payment to Prime.

5.3.6 Failure to comply with the above shall result in breach of the contract and may be subject to the appropriate penalties. **See article 5.6**

5.4 SUBCONTRACTOR PAYMENT DISPUTE RESOLUTION

5.4.1 The Prime is required to notify the OBD of its intention to withhold payment from a DBE as soon as possible and in advance of taking action. Should the Prime provide notice and proceed to withhold payment from any subcontractor/subconsultant or supplier due to a performance issue or unapproved work performed, an OBD representative shall make an effort to resolve the dispute.

(a) OBD's efforts shall be limited to meeting with the Prime and the subcontractor/ subconsultant, and reviewing the relevant facts with both parties.

(b) OBD will not act as a decider of fact nor will OBD direct a settlement to the dispute.

(c) Any OBD effort is solely intended to assist the parties in understanding their respective positions and to encourage a reasonable resolution of the dispute. The Prime is required to send written notification of the above to the OBD immediately.

5.4.2 Should payments be withheld that are not related to the previous items mentioned, and/or a determination can be made that the withholding of payments violates the prompt payment clause, NJT may execute the appropriate remedies in accordance with article 5.6.

5.5 PROMPT PAYMENT OF SUBCONTRACTOR RETAINAGE (FOR CONSTRUCTION CONTRACTS ONLY)

5.5.1 **The Prime must include a contract clause in the subcontractor agreement obligating the Prime to pay all retainage owed to the subcontractor/subconsultant for satisfactory completion of the accepted scope of work no later than 15 days after the DBE subcontractor's/subconsultant's work is satisfactorily completed.**

5.5.2 Only subcontractors/subconsultants whose work has been 100% completed, including all punch list work or remaining work, and who have supplied closeout documents shall be eligible for release of retainage. *Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of NJT*.

5.5.3 NJT may agree to release an equivalent amount of Prime retainage provided that:

(a) There is no offsetting claims from NJT (including, but not limited to, liquidated damages), other subcontractors/subconsultants, material men, or workers;

(b) None of the other reasons to withhold payments specified under the Prime contract exists.

5.5.4 Prior to release of the Prime's retainage, the Prime shall provide to NJT executed copies of the following subcontractor closeout documents, (shown in Appendix A of the contract) as appropriate:

(a) Consent of Surety to Final Payment to the Subcontractor

(b) Certificate of Amounts Due and Owing to Subcontractor Employees

(c) Subcontractor Release of Claims

(d) Subcontractor Release of Liens and a Certificate of Final Acceptance of Subcontractor Work

5.5.5 Notwithstanding NJT's release or partial release of retainage, nothing in this clause shall be deemed to constitute NJT's partial or final acceptance of the work, or any portion thereof, unless either a Certificate of Partial Acceptance or a Certificate of Final Acceptance has been executed by NJT, in the form(s).

5.6 REMEDIES AND PENALTIES

5.6.1 Where a Prime is found to be in breach of the requirements of the DBE Program during the performance of the contract, and does not promptly take corrective action, the following sanctions may be instituted (singularly, in any combination, and in addition to any other contractual remedies or otherwise provided by law):

(a) The Prime may be ordered to stop work without penalty to NJT.

(b) The contract may be terminated for breach.

(c) Suspension or debarment proceedings may be commenced in accordance with New Jersey law.

(d) The relevant performance bond may be enforced.

(e) NJT may withhold payment of specific invoices.

5.7 LIQUIDATED DAMAGES

5.7.1 Liquidated damages (LD) may be assessed when the Prime fails to meet the established DBE goal on the contract.

5.7.2 If the DBE goal is not met, and the Prime has not demonstrated a good faith effort to do so, NJT may elect to subtract from the Prime's payment, as liquidated damages and not a penalty, the following:
The amount equal to the difference (in dollars) between the total contract value multiplied by the assigned DBE goal percentage, (originally established or as subsequently modified) and the actual DBE participation percentage (total dollars paid to DBEs divided by total dollars paid to the Prime).

5.7.3 This may be withheld from a series of payments or from the Prime's final payment, depending on the size of the liquidated damage.

5.7.4 If the Prime's final payment is not sufficient to satisfy the LD in full, the balance shall be due and owing from the Prime and subject to repayment terms as determined by NJT. NJT shall waive liquidated damages where good cause is shown for the deficiency in DBE participation upon determination by the OBD.

APPENDIX I

GLOSSARY

A Good Faith Effort-the efforts employed by the bidder, which should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

Certification - means the process by which a business is determined to be a bona fide DBE. Any business applying for DBE certification must complete the appropriate NJ Unified Certification Program Application. Certification Applications are available at the OBD.

Disadvantaged Business Enterprise or DBE - means a small business concern:

Which is at least 51 percent owned by one or more socially and economically disadvantaged individuals, or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more socially and economically disadvantaged individuals; and where one or more of the socially and economically disadvantaged owners controls management and daily business operations. A DBE shall not include a small business concern where that concern or a group of concerns controlled by the same socially and economically disadvantaged individual or individuals has annual average gross receipts in excess of $22,410,000 over the previous three fiscal years or is not otherwise eligible as a small business as defined by the Small Business Administration in 13 CFR Part 121.

DBE Goal - means numerically expressed objectives for DBE participation on federal contracts Prime contractors are required to make a good faith effort to achieve to the extent necessary to meet the assigned DBE goal.

DBE Sub-Prime - means any 1st Tier DBE subcontractor/subconsultant listed on the Form A that will subcontract any portion of its subcontract/scope of work to a DBE(s) and/or non-DBE(s) firm(s).

DBE Ineligibility – means a firm's DBE status changes or ceases due to change in ownership, management, or size, etc.

DBE Prime – means the successful Bidder is a DBE firm and has a direct contract with NJT.

DBE Trucking Firm – owns and operates at least one fully licensed, insured, and operational truck used on the contract. Is responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract.

First Tier DBE - refers to any DBE listed on the Bidder/Proposer/Prime's Form A and having a direct contract with the Prime.

Joint Venture–means an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

Prime - means any contractor or consultant, including a DBE contractor/consultant, who enters into a direct contractual relationship with NJT.

Race-conscious Measure or Program - is one that is focused specifically on assisting only DBEs, including women-

owned DBEs.

Race-neutral Measure or Program- is one that is focused specifically on assisting all small businesses equally, including DBEs. Such activities include bonding, insurance, and technical assistance. For the purposes of this part, race-neutral includes gender-neutrality.

Reasonable Bid Price - means a price that shall be considered reasonable if the Bidder/Proposer/Prime would have been awarded the contract had the firm submitted the only bid.

Regular Dealer - means a firm that owns, operates, or maintains an establishment in which the materials or supplies required for the performance of a contract are bought, kept in stock and regularly sold to the public in the usual course of business.

The firm must engage in, as its principal business, and in its own name, the purchase and sale of products in question. Bulk items such as steel, cement and petroleum products need not be stocked, if the dealer owns or operates distribution equipment.

Note: Brokers and packagers are not regarded as regular dealers.

Second Tier DBE - refers to any DBE listed on the DBE Sub-Prime's Form AA.

Subcontractor/ Subconsultant - means any contractor/consultant, including suppliers, who enters into a contract issued by a Prime contractor.

Transit Vehicle Manufacturer (TVM) - is a manufacturer of vehicles used by NJT for the primary program purpose of public mass transportation (e.g., buses, railcars, vans). The term does not apply to firms, which rehabilitate old vehicles, or to manufacturers of locomotives or ferryboats. The term refers to distributors of or dealers in transit vehicles with respect to the requirements of 49 CFR Section 26.49.

U.S. DOT – means the U.S. Department of Transportation, including the Office of the Secretary, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Federal Railroad Administration (FRA).

Withdrawn DBE – a DBE withdraws, or drops out of its contract, or fails to complete its work on the contract for any reason.

Bidders Checklist
(for federal contracts)

Upon completion of the Required and/or Supplemental Forms packet(s), please be sure that the completed checklist and the forms listed below are included for each DBE subcontractor listed on the Form A and submitted to the Office of Business Development (OBD) for review.

Note: Failure to complete and submit the forms below will delay the OBD from issuing approval to move forward in the contract award process.

Required Forms

- ☐ Form A - First Tier DBE Utilization
- ☐ Form A1 - Bidder/Proposer Solicitation and Contractor Information
- ☐ Form A2 - Non-DBE Sub Utilization
- ☐ Form B - Intent to Perform as a DBE Sub
- ☐ Form D - DBE Good Faith Effort Form
- ☐ Trucking Commitment Agreement (if applicable)

Supplemental Forms (if applicable)

- ☐ Form AA - Second Tier DBE Utilization
- ☐ Form AA1 - Second Tier Bidder/Proposer Solicitation and Contractor Information
- ☐ Form AA2 - Second Tier Non-DBE Sub Utilization
- ☐ Form BB - Intent to Perform as a Second Tier DBE Sub
- ☐ Trucking Commitment Agreement (if applicable)

REQUIRED FORMS

ENCLOSED FOR COMPLETION (MANDATORY):

- Form A; A1; A2; B; D & Trucking Commitment Schedule

TO BE OBTAINED AND SUBMITTED (MANDATORY):

- Copy of a valid NJUCP DBE Certificate (Provided by 1st Tier DBEs.)

Consult DBE Program Requirements for further guidance.

First Tier DBE UTILIZATION - FORM A

Project Name: _____ NJT Contract No: _____

Assigned DBE Goal %: _____ NJT Procurement Specialist: _____ Contract Value ($): _____

First Tier DBE must perform at least 51% of its subcontract value if subcontracting to a Second -Tier DBE or Non-DBE. Do not count Non-DBE portion toward the goal.

Name, Address and Telephone # of DBE Subcontractor/Subconsultant	Provide Detailed Scope of Work to be Performed (Identify all suppliers)	Dollar Value of Subcontract/Sub-consultant Work ($) Awarded	Percentage of Subcontract Work (%)
			%
			%
			%
			%
			%
For DBE suppliers, show original subcontract value multiplied by 60% ($2,000*60%=$1200). For DBE portion of work, subtract Non-DBE portion of work from original subcontract value.	TOTALS	$	%

The undersigned will enter into a formal agreement with the DBE(s) listed in this schedule conditioned upon execution of a contract with NJ TRANSIT for the above referenced project. The undersigned understands that removal/replacement of the DBE(s) listed is NOT PERMISSIBLE for any reason (pre or post-award), without submitting a written request to the Office of Business Development and receiving WRITTEN APPROVAL from the Office of Business Development. Failure to obtain written approval shall result in the breach of contract and subject to corrective action to be determined by NJ TRANSIT.

Company Name: _____ Authorized Signature: _____

Company Address: _____ Print Name: _____

_____ Title: _____

Federal Tax ID #: _____ Prime Contractor's DBE Liaison Officer: _____

Company Tel #: _____ Date Signed: _____

To Add Subs Use Additional Forms

BIDDER SOLICITATION & CONTRACTOR INFORMATION - FORM A1

NJT Contract No: _____ Project Title: _____

Prime Contractor: _____ Telephone #: _____

Date: _____

Complete the information below for Bidder/Proposer/Prime(s) working on the project. Use Page 2 for all subcontractors/subconsultants participating on or solicited for this project.

	Bidder/Proposer/Prime	Bidder/Proposer/Prime	Bidder/Proposer/Prime
Company's Full Name			
Address			
City			
Zip			
County			
Phone			
Fax			
E-mail			
Owner			
Date Established			
Date Certified			
Ethnicity			
Gender			
Certification Status: **DBE or Non-DBE**			
Federal Tax ID # / SSN #			
Annual Gross Receipts: A – Less than $500K B - $500K to $1M C - $1M to $2M D - $2M to $5M E - $5M and over **indicate the letter that applies**			
Primary NAICS Code:			

To Add Subs Use Additional Forms

BIDDER SOLICITATION & CONTRACTOR INFORMATION - FORM A1

NJT Contract No: _____ Project Title: _____

Prime Contractor: _____ Telephone #: _____

Date: _____

Complete the information below for "all" subcontractors/subconsultants solicited for or participating on this project.

	Subcontractor/Subconsultant	Subcontractor/Subconsultant	Subcontractor/Subconsultant
Company's Full Name			
Address			
City			
Zip			
County			
Phone			
Fax			
E-mail			
Owner			
Date Established			
Date Certified			
Ethnicity			
Gender			
Certification Status: **DBE or Non-DBE**			
Federal Tax ID # / SSN #			
Annual Gross Receipts: A – Less than $500K B - $500K to $1M C - $1M to $2M D - $2M to $5M E - $5M and over **indicate the letter that applies**			
Primary NAICS Code:			

To Add Subs Use Additional Forms

NON-DBE SUBCONTRACTOR UTILIZATION - FORM A2

Directions: To be completed by any Bidder/Proposer/Prime for "all" subs including suppliers participating on this contract.

NJ Transit Contract No: _____ Date: _____ Prime Contract Value: _____

Bidder/Proposer Prime Name: _____ Project Title: _____

Name, Address and Telephone # of all Subcontractor/Subconsultants	FEIN #	Provide Detailed Scope of Work to be Performed	Dollar Amount of Subcontractor/Sub-consultant Work ($) Awarded	Percentage of Subcontract or Work (%)
			$	%
			$	%
			$	%
			$	%
			$	%
Must provide a detailed scope of work; one-word descriptions are not acceptable.		TOTALS	$	%

To Add Subs Use Additional Forms

INTENT TO PERFORM AS A 1ST TIER DBE - FORM B

The Bidder/Proposer/Prime is prohibited from completing any portion of this form and directing the DBE to sign a blank form.

DIRECTIONS: DBE(s) listed on the Form A must complete all information on this form.

_____ Name of Bidder/Proposer/Prime:

_____ Name of DBE Firm:

Project/Contract Name: _____

IFB/RFP Contract Number: _____

Does the undersigned DBE (Answer Accordingly):

Intend to perform subcontract work in connection with the above–mentioned project as a Joint Venture? Circle one. (Yes or No)

Intend to subcontract any portion of its scope of work to a DBE(s)? Circle one. (Yes or No)
If yes, DBE Sub-Primes must complete and submit Form AA. At what percent? _____%

Intend to subcontract any portion of its scope of work to a Non-DBE(s)? Circle one. (Yes or No)
If yes, must complete and submit Form AA2. At what percent? _____%

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

_____

_____

Dollar Value of DBE Subcontract: $_____

Total Quantity/Units (if applicable): _____ **Per Unit Cost (if applicable): $**_____

The undersigned based the above scope of work and subcontract value on detailed project specs received from the Bidder contractor named above. Circle one. (Yes or No)

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: _____ DBE Contract Completion Date _____

The undersigned DBE will enter into a formal agreement for the above work with the Prime Contractor conditioned upon execution of a contract with NJ TRANSIT. As a DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform at least 51% of my subcontract with my own workforce for the referenced project.

_____ Signature of 1st Tier DBE Date

_____ Title

_____ Print Name

_____ Telephone #:

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties to be determined by NJ TRANSIT.

FORM D INSTRUCTION SHEET

PRE AND POST AWARD GOOD FAITH EFFORT (IF APPLICABLE)

Required for all DBE subcontractors who decline to provide a quote.
Applies in pre and post-award.

Important

Bidder/proposer/prime compliance with contract goals and good faith efforts are handled as a matter of responsibility. If the bidder/proposer/prime did not meet the goal, they must document that they made Good Faith Efforts to do so. This requirement is an important and serious one. NJ Transit's Office of Business Diversity will make a fair and reasonable judgment as to whether the bidder made adequate Good Faith Efforts.

Bidders/proposers/primes are required to read the DBE Program Requirements and the guidelines/ instructions of all forms; and required to submit all forms in the Addendum (mandatory) and Supplemental Section (if applicable) with the bid/proposal or within seven (7) days after bid/proposal submission.

Guidelines to Bidder/Proposer/Prime:

- FORM D outlines actions that may be considered good faith efforts though it is not a mandatory checklist, nor is it intended to be exclusive or exhaustive. Please read DBE Program Requirements for further guidance.
- Bidder/Proposer/Prime must complete FORM D if and when it fails to meet the DBE goal.
- FORM D must be completed in this instance for any DBE firms which were solicited but declined to quote for the project.
- DBE firm must sign Page 2 of FORM D. If DBE declines to do so, submit completed form with bidder/proposer/prime signature only and the Office of Business Diversity will verify information with DBE.
- If/when the contract goal is not met, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
    - In short, unless the price difference is excessive or unreasonable, incurring additional costs in using and finding a DBE is not sufficient reason to reject the DBE quote or not to meet the contract goal.

Instructions:

- On Page 1 of FORM D, indicate with a check mark the various types of detailed good faith efforts made and attach documentation of such efforts. Types of acceptable documentation are listed on Page 2.
- Document any other type of good faith efforts not listed on Page 1.
- Complete this form entirely.

Bidders/proposers/primes are to provide the required forms and instruction sheet, including the Supplemental section to their 1st Tier DBE subs. DBE sub-primes must provide required forms under Supplemental section to their 2nd Tier DBE/Non-DBE subs, if applicable. Please contact the compliance officer identified for this contract at the pre-bid/proposal conference for guidance on completing any of these forms.

DBE GOOD FAITH EFFORT– FORM D

IFB/RFP Number: _____

Project Title: _____

Bidder/Proposer/Prime Name: _____

Address: _____

_____

Phone: _____ Email: _____

Date Signed: _____

The following is a list of the types of actions that may be considered good faith efforts. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases, however please check all that apply in this instance. Please provide documentation for ALL instances selected.

- ☐ Selected portions of work to be performed by DBEs and, where appropriate, broke down contracts into economically feasible units to facilitate DBE participation.
- ☐ Provided interested DBE with adequate information about plans, specifications, and requirements of the contract.
- ☐ Negotiated in good faith with interested DBE, not rejecting DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities.
- ☐ Made efforts to assist interested DBE in obtaining bonding, lines of credit, or insurance required by NJ Transit or Bidder.
- ☐ Made efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- ☐ Advertised subcontracting opportunities in appropriate media.
- ☐ Used the services of minority organizations, minority contractors' groups, local state and federal minority business assistance offices and other organizations that provide assistance identifying subcontractors.
- ☐ Provided written notice to DBEs in sufficient time to allow the DBE to respond. (Provide copy of documentation with Page 2.)
- ☐ Followed up initial solicitation of interest by contacting DBE to determine interest. (Provide proof of follow up with Page 2.)

Describe any other efforts not covered above that may indicate Good Faith Efforts to obtain DBE participation on this project and provide documentation.

SUPPLEMENTAL SECTION
REQUIRED FORMS

ENCLOSED FOR COMPLETION (IF APPLICABLE):

- Form AA; AA1; AA2; BB; & Trucking Commitment Schedule

TO BE OBTAINED AND SUBMITTED (IF APPLICABLE):

- Copy of a valid NJUCP DBE Certificate (Provided by 2nd Tier DBEs.)

Consult DBE Program Requirements for further guidance.

SECOND TIER DBE UTILIZATION– FORM AA

Project Name: _____ NJT Contract No: _____

DBE Sub-Prime (First Tier) Subcontractor Contract Value ($): _____

I plan to subcontract _____% of my subcontract to Second Tier DBE subcontractor(s)/subconsultant(s) listed on the chart below to perform/supply the following:

Second Tier DBE subs must perform 100% of their scope of work.

Name, Address and Telephone # of Second Tier DBE Subcontractor/Subconsultant	Provide Detailed Scope of Work to be Performed	Dollar Value of Subcontractor/Sub-consultant Work ($) Awarded	Percentage of Subcontractor Work (%)
			%
			%
			%
Any First-Tier DBE firm listed on the Form A must identify any DBE firm it will use to perform its scope of work.	TOTALS	$	%

The undersigned understands its approval to perform on the above contract is based upon its identified DBE team listed above and its Non-DBE team listed on the Form AA2. The DBE Sub-Prime must receive written approval from the Office of Business Development for any changes to its DBE and/or Non-DBE subcontractors, their dollar values or scope of work identified on the Form AA and/or AA2 before making any changes. It attests that the identified firms will perform all work. Failure to adhere to, or falsification of any information contained herein shall result in breach of contract and subject to corrective action to be determined by NJ TRANSIT.

DBE Sub-Prime Firm: _____ Authorized Signature: _____

Company Address: _____ Print Name: _____

_____ Title: _____

Federal Tax ID #: _____ Sub-Prime's DBE Liaison Officer: _____

Company Tel #: _____ Date Signed: _____

To Add Subs Use Additional Forms

BIDDER SOLICITATION & CONTRACTOR INFORMATION - FORM AA1

NJT Contract No: _____ Project Title: _____

DBE Sub-Prime: _____ Telephone #: _____

Date: _____

Complete the information below for Second Tier contractor(s) participating on the project.

	Subcontractor/Subconsultant	Subcontractor/Subconsultant	Subcontractor/Subconsultant
Company's Full Name			
Address			
City			
Zip			
County			
Phone			
Fax			
E-mail			
Owner			
Date Established			
Date Certified			
Ethnicity			
Gender			
Certification Status: **DBE or Non-DBE**			
Federal Tax ID # / SSN #			
Annual Gross Receipts: A – Less than $500K B - $500K to $1M C - $1M to $2M D - $2M to $5M E - $5M and over **indicate the letter that applies**			
Primary NAICS Code:			

To Add Subs Use Additional Forms

NON-DBE SECOND TIER SUBCONTRACTOR UTILIZATION - FORM AA2

Directions: To be completed by any DBE Sub-Prime Contractor for "all" subs including suppliers participating on this contract.

NJ Transit Contract No: _____ Date: _____ DBE Sub-Prime Contract Value: $_____

DBE Sub-Prime Contractor Name: _____ Project Title: _____

Name, Address and Telephone # of all Second Tier Subcontractor(s)/Subconsultant(s)	FEIN #	Provide Detailed Scope of Work to be Performed	Dollar Amount of Subcontractor/Subconsultant Work ($) Awarded	Percentage of Subcontractor Work (%)
			$	%
			$	%
			$	%
			$	%
			$	%
Must provide a detailed scope of work; one-word descriptions are not acceptable.		TOTALS	$	%

To Add Subs Use Additional Forms

INTENT TO PERFORM AS A SECOND TIER DBE - FORM BB

The Bidder is prohibited from completing any portion of this form and directing the DBE to sign a blank form.
DIRECTIONS: DBE(s) listed on the Form AA must complete all information on this form and must complete Form AA2 for any Non-DBE subcontractor performing a portion of its subcontract.

Name of First Tier DBE/Sub-Prime: _____ Name of Second Tier DBE Firm: _____

Project/Contract Name: _____ IFB/RFP Contract Number: _____

Does the undersigned intend to perform subcontract work in connection with the above–mentioned project as a Joint Venture? Circle one. (Yes or No)

Will you subcontract any portion of your scope of work to a DBE(s)? Circle one. (Yes or No)

Will you subcontract any portion of your scope of work to a Non-DBE(s)? Circle one. (Yes or No)

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

_____

_____

Dollar Value of DBE Subcontract: $_____

Total Quantity/Units (if applicable): _____ Per Unit Cost (if applicable): $_____

The undersigned based the above scope of work and subcontract value on detailed project specs received from the DBE Sub-Prime named above. Circle one. (Yes or No)

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: _____ DBE Contract Completion Date _____

The undersigned DBE will enter into a formal agreement for the above work with the DBE Sub-Prime conditioned upon execution of a contract with the Prime on the project. As a Second Tier DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform 100% of my subcontract with my own workforce for the referenced project.

Signature of Second Tier DBE _____ Date _____ Title _____

Print Name _____ Telephone #: _____

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties as determined by NJ TRANSIT.

DBE TRUCKING COMMITMENT

AGREEMENT

The DBE Trucking Firm Commitment Agreement sheet attached must be signed and completed entirely. Make duplicate copies for additional subcontractors as needed. Please read DBE Requirement Language for details.

- DBEs must provide information for all DBE/Non-DBE trucking firms it will lease from or subcontract to.
  - *Subcontracting to a Non-DBE trucker means that the Non-DBE will perform a portion of the DBE firm's subcontract.*
  - *2nd Tier DBE trucking firms must perform 100% of their total subcontract value.*
- For Non-DBE leased trucks, credit will only be given for the fee/commission that is received for arranging the transportation services.
  - *All DBE-leased trucks are required to reflect the DBE firm's company name-and identification number.*

Copies of the following items must be attached for ALL trucks owned by the DBE:

- Proof of ownership: title(s) or finance agreement(s) ONLY
- registration card(s)
- insurance card(s)
- hazardous waste license(s), if applicable
- apportioned cab card(s), if applicable

Copies of the following items must be attached for ALL DBE/non-DBE trucks leased by the DBE:

- lease agreement(s)
- title(s)
- registration card(s)
- insurance card(s)
- hazardous waste license(s), if applicable
- apportioned cab card(s), if applicable

MANDATORY FORM

DBE TRUCKING FIRM COMMITMENT AGREEMENT

This commitment is subject to the award and receipt of a signed contract from NJ TRANSIT for the subject project. Note that copies of all supporting documents must be attached.

The DBE trucking firm will perform the following described work on the project: *(Specific work details should include: Type of material to be handled, quantities to be hauled, dollar amount per unit, location the material will be transported).*

_____

_____.

Dollar Value of DBE Subcontract: $_____

Total Quantity/Units (if applicable: _____ Per Unit Cost (if applicable): $_____

Total Number of fully operational DBE-owned trucks to be used on contract? _____.
Total Number of fully operational trucks to be leased from a DBE? _____.
(Provide a copy of lease agreement(s) for each trucking firm).
Total Number of fully operational trucks to be leased from a non-DBE? _____.
*(Provide a copy of lease agreement(s) for each trucking firm. *Note that subcontracting is different from leasing as it relates to trucking).*

Specify ALL Vehicle Information on Page 1 and 2, if applicable

1st Tier DBE Trucking Firm		*(T= Title, F=Finance Agreement, I=Insurance Card, R=Registration, A=Apportioned Cab Card, L= Lease Agreement)			
# Of Trucks Owned					
VIN #	MAKE	YEAR	MODEL	(Indicate Yes/No/NA) HAZ WASTE DOC	*(Indicate T/F/I/R/A/L) OWNERSHIP DOCS

MANDATORY FORM

Non-DBE Trucking Firm					
# Of Trucks Leased From non-DBE Trucking Firm					
VIN #	MAKE	YEAR	MODEL	(Indicate Yes/No/NA) HAZ WASTE DOC	(Indicate T/F/ I/R/A/L) OWNERSHIP DOCS
DBE Trucking Firm					
# Of Trucks Leased From DBE Trucking Firm					
VIN #	MAKE	YEAR	MODEL	(Indicate Yes/No/NA) HAZ WASTE DOC	(Indicate T/F/I/R/A/L) OWNERSHIP DOCS

I hereby certify that the information present above is correct. I agree to inform the Office of Business Diversity in writing within 10 days, if anything changes.

1st Tier DBE Signature: _____ Date: _____

Print Name: _____

PRIME CONTRACTOR Monthly DBE Payment Report - Form E

Name of Project: _____

NJT Contract #: _____

Prime Original Contract Value: _____

Report for the Month of: _____

Change Orders (Overall Inc/Dec.): _____

Notice to Proceed Date: _____

Total Contract Amount to Date: _____

NJT Project Mgr Name: _____

Total Payments Received from NJT Date: _____

Assigned DBE Goal %: _____

Name of DBE Subcontractor	Work Task Performed	Original Contract Amount $	Change Order Amount $ (+/-)	Amount of Invoice Received this Month ($)	Date of Invoice Received in this Month	Payment(s) Made to DBE in this Month in $$ (Itemize)	Date(s) Payment Made This Month	Total DBE Payments made to Date in ($)	% Overall Work Finished	Final Pmt (Y/N)
	Total(s)→	$	$	$	Total(s)	$	Total(s)	$		

Itemize payments/invoices and dates if paid/received more than one payment/invoice between the 1st and 31st of THIS Month.

Prime Contractor Information:

Prime Firm Name: _____

Project Director Name: _____

Address: _____

Project Director Signature: _____

Telephone #: _____ Date: _____

Federal TIN #: _____

Prime's Past Due Invoice Information: List any invoice more than 40 days past due from the date **submitted** to NJT at the time you complete this form.

Invoice #	Invoice Date	Invoice Amount ($)	Number of Days Past Due	Comments:

This form is not to be altered in any way. For assistance completing this form, call 973-491-7539, 8058, 8768, 8575, 8069, 8941

Form E - Prime Contractor's DBE Payment Certification

1. Have **all** DBE subcontractors with executed subcontracts been paid amounts due from previous progress payments?

☐ **If yes, skip the next section and go to number 3.**

☐ **If no**, please complete fields in box below: (Use additional paper, if needed)

DBE SubContractor Name	Amount Withheld From Invoice ($)	Total of Invoice Amount ($)	Invoice Number	Invoice Date	Specific Reason for Withholding

2. Have you notified the DBE subcontractor(s) that you are withholding payment and the reason(s) why?

☐ **If yes**, provide a copy of written notification to the DBE subcontractor with this form, indicating the date of notification.

☐ **If no**, lack of prior written notification to the DBE(s) that you are withholding payment violates the prompt payment clause guidelines. **Please contact the DBE immediately, and provide a copy of written notification to the subcontractor with this form.**

3. By signing this form, I certify that all of the above represent true and accurate information.

Note: CFO or equivalent Sr. Manager must complete and sign off on this form.

PROJECT DIRECTOR NAME (PRINT) _____ PROJECT DIRECTOR (SIGNATURE) _____ ____/____/____ DATE

Additional Reasons/Comments for Withholding Payment:

DO NOT WRITE BELOW. DEPARTMENTAL USE ONLY.

☐ Approved

☐ Denied

THIS FORM IS DUE ON THE 7TH OF EACH MONTH Please forward to:
Office of Civil Rights and Diversity Programs
Business Development
NJ TRANSIT
One Penn Plaza East, 6th Fl
Newark, New Jersey 07105-2246

This form is not to be altered in any way. For assistance completing this form, call 973-491-7539, 8058, 8768, 8575, 8069, 8941

DBE PRIME CONTRACTOR'S MONTHLY PAYMENTS FROM NJ TRANSIT

INFORMATION ON CONTRACT

DATE CONTRACT EXECUTED: _____ CONTRACT NUMBER: _____ REPORT FOR THE MONTH OF: _____ YEAR_____

ORIGINAL CONTRACT AMOUNT: _____ FED TAX ID #: _____

CHANGE ORDERS (OVERALL INC/DEC.): _____ PURCHASE ORDER #: _____

TOTAL CONTRACT AMOUNT TO DATE: _____ NAME OF PROJECT: _____

Original Contract Value	Change Order Amount +/-	Date of Change Order	New Contract Value	Payments Received This Month	Total Payments Received to Date	% Work Completed To Date	Final Pmt Y/N
TOTALS:							

PRIME INVOICE 30 DAYS PAST DUE FROM NJT:

Invoice Date Reference # No. Days Past Due Amount

_____

_____

NJ TRANSIT

Project Manager (Name): _____

Telephone #: _____

PRIME CONTRACTOR INFORMATION

Firm Name: _____

Compliance Officer (Name): _____

Date: _____ Telephone #: _____

FORM IS DUE ON THE 7TH OF EACH MONTH.

PLEASE FORWARD TO:

NJ TRANSIT

Manager, Contract Compliance

Office of Business Diversity – 6TH FL

One Penn Plaza East

Newark, New Jersey 07105-2246

THIS FORM IS NOT TO BE ALTERED OR CHANGED IN ANY WAY.

MANDATORY FORM. COMPLETE & SUBMIT BY DBE ONLY.

DBE SUBCONTRACTOR Monthly Payment Report - Form E2

Name of DBE Firm: _____

DBE's FEIN#: _____

DBE Address: _____

DBE Telephone #: _____

Report for the Month of: _____

Contract Number: _____

Contract Name: _____

DBE Contract Start Date: _____

Prime Contractor's Information:

Name of Prime: _____ Address: _____ Telephone #: _____

DBE PAYMENT INFO: *Itemize payments/invoices and dates if received/submitted more than one payment/invoice between the 1st and 31st of THIS Month.*

Work Task Performed	Original Subcontract Amount $	Change Order Amount (+/-)	Invoice #(s) Submitted in this month	Dollar Amount of Each Invoice Submitted in this Month	Date of Invoice(s) Submitted this Month	Total Payments Received by DBE In this Month * ($)	Date Payment(s) Received in this Month	Total Payments Received by DBE To Date ($)	Total % Work To Date	Final Payment? Y or N
TOTALS →	$	$	TOTALS→	$	TOTALS→	$	TOTALS→	$		

Is retainage held on your subcontract? **Yes** *or* **No** (circle one) If yes, how much? $_____. Did your final payment include retainage? **Yes** or **No** (circle one)

Past Due Invoice(s) Information: List any invoice more than 40 days past due from date submitted to prime at the time you complete this form.

Invoice #	Invoice Date	Invoice Amount ($)	Number of Days Past Due	Comments: use additional paper if necessary

Note: CFO or equivalent Sr. Manager must complete and sign off on this form.

Name: _____ Signature: _____ Title: _____ Date: _____

THIS FORM IS DUE ON THE 7TH OF EACH MONTH IMMEDIATELY FOLLOWING DBE's SUBCONTRACT START DATE, EVEN IF PAYMENT NOT RECEIVED.

Please mail this form to:
NJ TRANSIT, Office of Business Development, One Penn Plaza East, 6th Fl, Newark, New Jersey 07105-2246

Do not alter this form in any way.

If you need assistance completing this form please call 973-491-7539, 8058, 8768, 8069, or 8941.

Procurement Staff Checklist
(for federal contracts)

Upon completion of the Required and/or Supplemental Forms packet(s), please be sure that the completed checklist and the forms listed below are included for each DBE subcontractor listed on the Form A and submitted to the Office of Business Development (OBD) for review.

Note: Failure to complete and submit the forms below will delay the OBD from issuing approval to move forward in the contract award process.

Required Forms

☐ Form A - First Tier DBE Utilization

☐ Form A1 - Bidder/Proposer Solicitation and Contractor Information

☐ Form A2 - Non-DBE Sub Utilization

☐ Form B - Intent to Perform as a DBE Sub

☐ Form D - DBE Good Faith Effort Form

☐ Trucking Commitment Agreement (if applicable)

Supplemental Forms (if applicable)

☐ Form AA - Second Tier DBE Utilization

☐ Form AA1 - Second Tier Bidder/Proposer Solicitation and Contractor Information

☐ Form AA2 - Second Tier Non-DBE Sub Utilization

☐ Form BB - Intent to Perform as a Second Tier DBE Sub

☐ Trucking Commitment Agreement (if applicable)

First Tier DBE UTILIZATION - FORM A

Project Name: Preliminary Services for County Yard Improvements- Phase 1 NJT Contract No.: 13-041

Assigned DBE Goal %: 21% NJT Procurement Specialist: Renzo Sosa Contract Value ($): $7,641,757.77

First Tier DBE must perform at least 51% of its subcontract value if subcontracting to a Second – Tier DBE or Non-DBE. Do not count Non-DBE portion toward the goal.

Name, Address and Telephone # of DBE Subcontractor / Subconsultants	Provide Detailed Scope of Work to be Performed (Identify all suppliers)	Dollar Amount of Subcontractor/ Sub-consultant Work ($) Awarded	Percentage of Subcontract or Work (%)
Sowinski-Sullivan Architects 25 Mohawk Avenue Sparta, NJ 07871 973-726-3260	Architecture, ADA, Sustainable Design	$ 886,376.80	12%
Amy S. Greene Environmental Consultants, Inc. 4 Walter E. Foran Boulevard, Suite 209 Flemington, NJ 08822 908-788-9676	Riparian Zone Impact Assessment and Wetlands	$ 66,229.64	1%
GTS Consultants 2 Monmouth Ave., UNIT A1 Freehold, NJ 07728 732-409-0900	Surveying, GPR, Property	$ 702,860.89	9%
IH Engineers, P.C. 103 College Road East, 1st floor Princeton, NJ 08540	Structural design support and civil engineering support services	$ 206,570.10	3%
Matrix New World Engineering Inc. 26 Columbia Turnpike Florham Park, NJ 07932 973-240-1800	Building Demolition, Geotechnical investigations and report	$ 675,393.71	9%
For DBE suppliers, show original subcontract value multiplied by 60% ($2,000*60%=$1200). For DBE portion of work, subtract Non-DBE portion of work from original subcontract value.	TOTALS	$ 2,537,431.14	33%

To add Subs Use Additional Forms

MANDATORY FORM FOR BIDDER/PROPOSER/PRIME: COMPLETE ENTIRELY

FORM A (Fed)

The undersigned will enter into a formal agreement with the DBE(s) listed in this schedule conditioned upon execution of a contract with NJ TRANSIT for the above referenced project. The undersigned understands that removal/replacement of the DBE(s) listed is NOT PERMISSIBLE for any reason (pre or post-award), without submitting a written request to the Office of Business Development and receiving WRITTEN APPROVAL from the Office of Business Development. Failure to obtain written approval shall result in the breach of contract and subject to corrective action to be determined by NJ TRANSIT.

Company Name: Jacobs Engineering Group Inc.

Company Address: 299 Madison Avenue, PO Box 1936

Morristown, NJ 07962-1936

Federal Tax ID #

Company Tel #: 973-267-0555

Authorized Signature:

Print Name: Stanley J. Rosenblum

Title: Vice President

Prime Contractor's DBE Liaison Officer: Darryl Wachob

Date Signed:

To add Subs Use Additional Forms

NON-DBE SUBCONTRACTOR UTILIZATION - FORM A2

Directions: To be completed by any Bidder/Proposer/Prime for "all" subs including suppliers participating on this contract.

NJ Transit Contract No.: 13-041 Date: November 25, 2013 Prime Contract Value: $7,641,757.77

Bidder/Proposer Prime Name: Jacobs Engineering Group Inc. Project Title: Preliminary Services for County Yard Improvements

Name, Address and Telephone # of all Subcontractor / Subconsultants	FEIN #	Provide Detailed Scope of Work to be Performed	Dollar Amount of Subcontractor/ Sub-consultant Work ($) Awarded	Percentage of Subcontractor Work (%)
Parsons Brinckerhoff, Inc. Two Gateway Center, 18th Floor Newark, NJ 07102 Tel: 973-353-9100	11-1531569	support design engineering efforts; Railroad Systems/Track; Facility Design; Integration/Interface, and Technical Support for all components of this project: yard, service and inspection facility, Delco Lead, and the station.	$ 1,973,736.51	26%
BEM Systems, Inc. 100 Passaic Avenue Chatham, NJ 07052 Tel: 908-598-2600	22-3057315	Remedial Construction Design (Materials Management Plan), lead & asbestos containing material investigation, environmental construction staging support, environmental plans, specs & estimates, Right-of-Way Research & Property Acquisition Preparation, environmental bid support, construction oversight for environmental compliance	$ 140,864.94	2%
Must provide a detailed scope of work; one-word descriptions are not acceptable		TOTALS	$ 7,641,757.77	28%

To add Subs Use Additional Forms

INTENT TO PERFORM AS A 1ST TIER DBE - FORM B

The Bidder/Proposer/Prime is prohibited from completing any portion of this form and directing the DBE to sign a blank form.

DIRECTIONS: DBE(s) listed on the Form A must complete all information on this form.

Jacobs Engineering Group, Inc.
Name of Bidder/Proposer/Prime:

Amy S. Greene Environmental Consultants, Inc.
Name of DBE Firm:

Project/Contract Name: County Yard Improvements

IFB/RFP Contract Number: 13-041

Does the undersigned DBE (Answer Accordingly):

Intend to perform subcontract work in connection with the above–mentioned project as a Joint Venture? Circle one. (**Yes or No**)

Intend to subcontract any portion of its scope of work to a DBE(s)? Circle one. (**Yes or No**)
If yes, DBE Sub-Primes must complete and submit Form AA. **At what percent? _____%**

Intend to subcontract any portion of its scope of work to a **Non-DBE(s)**? Circle one. (**Yes or No**)
If yes, must complete and submit Form AA2. **At what percent? _____%**

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

Environmental Consulting Services - Riparian Zone Impact Assessment and Permitting

Dollar Value of DBE Subcontract: $ 66,229.64

Total Quantity/Units (if applicable): _____ **Per Unit Cost (if applicable): $**_____

The undersigned based the above scope of work and subcontract value on detailed project specs received from the Bidder contractor named above. Circle one. (**Yes or No**)

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: 02/15/2014 DBE Contract Completion Date 11/15/2014

The undersigned DBE will enter into a formal agreement for the above work with the Prime Contractor conditioned upon execution of a contract with NJ TRANSIT. As a DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform at least 51% of my subcontract with my own workforce for the referenced project.

Signature of 1st Tier DBE — **Date** 11/25/2013

Title President

Print Name Amy S. Greene

Telephone #: (908) 788-9676

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties to be determined by NJ TRANSIT.

INTENT TO PERFORM AS A 1st TIER DBE – FORM B

The Bidder / Proposer / Prime is prohibited from completing any portion of this form and directing the DBE to sign a blank form.

DIRECTIONS: DBE(s) listed on the Form A must complete all information on this form.

Jacobs Engineering/PB
Name of Bidder / Proposer / Prime

GTS Consultants, Inc.
Name of DBE Firm:

Project/Contract Name: County Yard Improvements

IFB / RFP Contract Number: 13-041

Does the undersigned DBE (Answer Accordingly):

Intend to perform subcontract work in connection with the above-mentioned project as a Joint Venture? Circle one. (Yes or No):

Intend to subcontract any portion of its scope of work to a DBE(s)? Circle one. (Yes or No)
If yes, DBE Sub-Primes must complete and submit Form AA. **At what percent?** 10.6 %

Intend to subcontract any portion of its scope of work to a Non-DBE(s)? Circle one. (Yes or No)
If yes, must complete and submit Form AA2. **At what percent?** ___ %

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

Preparation of topographic mapping (aerial/conventional methods) and development of subsurface features.
Preparation of existing Right-of-Way and development of Right-of-Way acquisition parcels.

Dollar Value of DBE Subcontract: $ 702,860.89

Total Quantity /Units (if applicable): N/A **Per Unit Cost: (if Applicable):** N/A

The undersigned based the above scope of work and subcontract value on detailed project specs received from the Bidder contractor named above. Circle one. (Yes or No)

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: 11/2013 DBE Contract Completion Date: 07/2016

The undersigned DBE will enter into a formal agreement for the above work with the Prime Contractor conditioned upon execution of a contract with NJ TRANSIT. As a DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform at least 51% of my subcontract with my own workforce for the referenced project.

Signature of 1st Tier DBE **Date** 11-25-2013 President **Title**

John Gaona
Print Name

732-409-0900
Telephone #:

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties to be determined by NJ TRANSIT.

SECOND TIER DBE UTILIZATION– FORM AA

Project Name: County Yard, New Brunswick, NJ

NJT Contract No: RFP 13-041

DBE Sub-Prime (First Tier) Subcontractor Contract Value ($): 702,860.89

I plan to subcontract 10.6 % of my subcontract to Second Tier DBE subcontractor(s)/subconsultant(s) listed on the chart below to perform/supply the following:

Second Tier DBE subs must perform 100% of their scope of work.

Name, Address and Telephone # of Second Tier DBE Subcontractor/Subconsultant	Provide Detailed Scope of Work to be Performed	Dollar Value of Subcontractor/Sub-consultant Work ($) Awarded	Percentage of Subcontractor Work (%)
Robinson Aerial Surveys 1 Edgeview Drive, Hackettstown, NJ 07840 908-813-9300	Aerial Mapping Development	$75,000.00	10.6 %
			%
			%
Any First-Tier DBE firm listed on the Form A must identify any DBE firm it will use to perform its scope of work.	**TOTALS**	$ $75,000.00	10.6 %

The undersigned understands its approval to perform on the above contract is based upon its identified DBE team listed above and its Non-DBE team listed on the Form AA2. The DBE Sub-Prime must receive written approval from the Office of Business Development for any changes to its DBE and/or Non-DBE subcontractors, their dollar values or scope of work identified on the Form AA and/or AA2 before making any changes. It attests that the identified firms will perform all work. Failure to adhere to, or falsification of any information contained herein shall result in breach of contract and subject to corrective action to be determined by NJ TRANSIT.

DBE Sub-Prime Firm: GTS Consultants, Inc.

Authorized Signature:

Company Address: 2 Monmouth Ave., Unit A1

Print Name: John Gaona

Freehold, NJ 07728

Title: President

Federal Tax ID #:

Sub-Prime's DBE Liaison Officer: Joseph Messina

Company Tel #: 732-409-0900

Date Signed: November 25, 2013

To Add Subs Use Additional Forms

INTENT TO PERFORM AS A SECOND TIER DBE - FORM BB

The Bidder is prohibited from completing any portion of this form and directing the DBE to sign a blank form.
DIRECTIONS: DBE(s) listed on the Form AA must complete all information on this form and must complete Form AA2 for any Non-DBE subcontractor performing a portion of its subcontract.

GTS Consultants, Inc.
Name of First Tier DBE/Sub-Prime:

Robinson Aerial Surveys, Inc.
Name of Second Tier DBE Firm:

Project/Contract Name: County Yard Improvements

IFB/RFP Contract Number: 13-041

Does the undersigned intend to perform subcontract work in connection with the above–mentioned project as a Joint Venture? Circle one. **(Yes or No)**

Will you subcontract any portion of your scope of work to a DBE(s)? Circle one. **(Yes or No)**

Will you subcontract any portion of your scope of work to a Non-DBE(s)? Circle one. **(Yes or No)**

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

30-Scale Topographic Mapping with One-foot Contours of the Project Area

Dollar Value of DBE Subcontract: $ 75,000.00

Total Quantity/Units (if applicable): N/A **Per Unit Cost (if applicable): $** N/A

The undersigned based the above scope of work and subcontract value on detailed project specs received from the DBE Sub-Prime named above. Circle one. **(Yes or No)**

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: 11/2013 DBE Contract Completion Date 07/2016

The undersigned DBE will enter into a formal agreement for the above work with the DBE Sub-Prime conditioned upon execution of a contract with the Prime on the project. As a Second Tier DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform 100% of my subcontract with my own workforce for the referenced project.

Signature of Second Tier DBE **Date** 11/26/13

President
Title

Carlos A. Medina
Print Name

908-813-3900
Telephone #:

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties as determined by NJ TRANSIT.

INTENT TO PERFORM AS A 1st TIER DBE – FORM B

The Bidder / Proposer / Prime is prohibited from completing any portion of this form and directing the DBE to sign a blank form.

DIRECTIONS: DBE(s) listed on the Form A must complete all information on this form.

Jacobs Engineering
Name of Bidder / Proposer / Prime

IH Engineers, P.C.
Name of DBE Firm:

Project/Contract Name: County Yard Improvements

IFB / RFP Contract Number: 13-041

Does the undersigned DBE (Answer Accordingly):

Intend to perform subcontract work in connection with the above-mentioned project as a Joint Venture? Circle one. (Yes or No)

Intend to subcontract any portion of its scope of work to a DBE(s)? Circle one. (Yes or No)
If yes, DBE Sub-Primes must complete and submit Form AA. **At what percent?____%**

Intend to subcontract any portion of its scope of work to a Non-DBE(s)? Circle one. (Yes or No)
If yes, must complete and submit Form AA2. **At what percent?____%**

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

Engineering design services.

Dollar Value of DBE Subcontract: $ 206,570.10

Total Quantity /Units (if applicable): n/a **Per Unit Cost: (if Applicable):** n/a

The undersigned based the above scope of work and subcontract value on detailed project specs received from the Bidder contractor named above. Circle one. (Yes or No)

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: 11/2013 DBE Contract Completion Date: 07/2016

The undersigned DBE will enter into a formal agreement for the above work with the Prime Contractor conditioned upon execution of a contract with NJ TRANSIT. As a DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform at least 51% of my subcontract with my own workforce for the referenced project.

Signature of 1st Tier DBE 11/25/2013 **Date**

Manager, Business Development & Communication
Title

David C. Battaglia, PE, CME, CFM
Print Name

609-734-8400 ext.6441
Telephone #:

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties to be determined by NJ TRANSIT.

INTENT TO PERFORM AS A 1ST TIER DBE - FORM B

The Bidder/Proposer/Prime is prohibited from completing any portion of this form and directing the DBE to sign a blank form.

DIRECTIONS: DBE(s) listed on the Form A must complete all information on this form.

Jacobs
Name of Bidder/Proposer/Prime:

Sowinski Sullivan Architects, PC
Name of DBE Firm:

Project/Contract Name: County Yard Improvements

IFB/RFP Contract Number: 13-041

Does the undersigned DBE (Answer Accordingly):

Intend to perform subcontract work in connection with the above–mentioned project as a Joint Venture? Circle one. (**Yes or No**)

Intend to subcontract any portion of its scope of work to a DBE(s)? Circle one. (**Yes or No**)
If yes, DBE Sub-Primes must complete and submit Form AA. **At what percent? _____%**

Intend to subcontract any portion of its scope of work to a **Non-DBE(s)**? Circle one. (**Yes or No**)
If yes, must complete and submit Form AA2. **At what percent? _____%**

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

Architectural Services

Dollar Value of DBE Subcontract: $ 886,376.80

Total Quantity/Units (if applicable): TBD **Per Unit Cost (if applicable): $** TBD

The undersigned based the above scope of work and subcontract value on detailed project specs received from the Bidder contractor named above. Circle one. (**Yes or No**)

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: TBD DBE Contract Completion Date TBD

The undersigned DBE will enter into a formal agreement for the above work with the Prime Contractor conditioned upon execution of a contract with NJ TRANSIT. As a DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform at least 51% of my subcontract with my own workforce for the referenced project.

Signature of 1st Tier DBE 11/25/13 **Date**

President
Title

Suzanne Sowinski
Print Name

973.726.3260
Telephone #:

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties to be determined by NJ TRANSIT.

INTENT TO PERFORM AS A 1st TIER DBE – FORM B

The Bidder / Proposer / Prime is prohibited from completing any portion of this form and directing the DBE to sign a blank form.

DIRECTIONS: DBE(s) listed on the Form A must complete all information on this form.

Jacobs
Name of Bidder / Proposer / Prime

Matrix New World Engineering, Inc.
Name of DBE Firm:

Project/Contract Name: County Yard Improvements

IFB / RFP Contract Number: 13-041

Does the undersigned DBE (Answer Accordingly):

Intend to perform subcontract work in connection with the above-mentioned project as a Joint Venture? Circle one. (Yes or No): (No)

Intend to subcontract any portion of its scope of work to a DBE(s)? Circle one. (Yes or No)
If yes, DBE Sub-Primes must complete and submit Form AA. **At what percent? 67 %**

Intend to subcontract any portion of its scope of work to a Non-DBE(s)? Circle one. (Yes or No)
If yes, must complete and submit Form AA2. **At what percent? 4 %**

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

Geotechnical Engineering

Dollar Value of DBE Subcontract: $ $675,393.71

Total Quantity /Units (if applicable): TBD **Per Unit Cost: (if Applicable):** TBD

The undersigned based the above scope of work and subcontract value on detailed project specs received from the Bidder contractor named above. Circle one. (Yes or No)

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: 11/2013 DBE Contract Completion Date: 07/2016

The undersigned DBE will enter into a formal agreement for the above work with the Prime Contractor conditioned upon execution of a contract with NJ TRANSIT. As a DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform at least 51% of my subcontract with my own workforce for the referenced project.

Signature of 1st Tier DBE 11/25/13 **Date** President **Title**

Jayne Warne, PE
Print Name

973-240-1800
Telephone #:

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties to be determined by NJ TRANSIT.

SECOND TIER DBE UTILIZATION– FORM AA

Project Name: NJ Transit Preliminary and Final Design, Engineering, and Construction Assistance Services for County Yard Improvements

NJT Contract No: 13-041

DBE Sub-Prime (First Tier) Subcontractor Contract Value ($): TBD

I plan to subcontract 67 % of my subcontract to Second Tier DBE subcontractor(s)/subconsultant(s) listed on the chart below to perform/supply the following:

Second Tier DBE subs must perform 100% of their scope of work.

Name, Address and Telephone # of Second Tier DBE Subcontractor/Subconsultant	Provide Detailed Scope of Work to be Performed	Dollar Value of Subcontractor/Sub-consultant Work ($) Awarded	Percentage of Subcontractor Work (%)
Jersey Boring & Drilling Co., Inc. 150 Wright Street Newark, NJ 07114	Drilling	450,000	67 %
			%
			%
Any First-Tier DBE firm listed on the Form A must identify any DBE firm it will use to perform its scope of work.	TOTALS	$	%

The undersigned understands its approval to perform on the above contract is based upon its identified DBE team listed above and its Non-DBE team listed on the Form AA2. The DBE Sub-Prime must receive written approval from the Office of Business Development for any changes to its DBE and/or Non-DBE subcontractors, their dollar values or scope of work identified on the Form AA and/or AA2 before making any changes. It attests that the identified firms will perform all work. Failure to adhere to, or falsification of any information contained herein shall result in breach of contract and subject to corrective action to be determined by NJ TRANSIT.

DBE Sub-Prime Firm: Matrix New World Engineering, Inc.

Authorized Signature:

Company Address: 20 Columbia Turnpike, Florham Park, NJ 07932

Print Name: Jayne Warne, PE

Title: President

Federal Tax ID #: [redacted]

Sub-Prime's DBE Liaison Officer: Clare Sullivan, CHMM, CSP

Company Tel #: 973-240-1800

Date Signed: 11/25/2013

To Add Subs Use Additional Forms

NON-DBE SUBCONTRACTOR UTILIZATION - FORM A2

Directions: To be completed by any Bidder/Proposer/Prime for "all" subs including suppliers participating on this contract.

NJ Transit Contract No: 13-041

Date: 11/25/2013 Prime Contract Value:

Bidder/Proposer Prime Name: Matrix New World Engineering, Inc.

Project Title: NJ Transit Preliminary and Final Design, Engineering, and Construction Assistance for County Yard Improvements

Name, Address and Telephone # of all Subcontractor/Subconsultants	FEIN #	Provide Detailed Scope of Work to be Performed	Dollar Amount of Subcontractor/Sub-consultant Work ($) Awarded	Percentage of Subcontractor Work (%)
TerraSense, LLC 45H Commerce Way Totowa, NJ 07512 973-812-1818	27-0310311	Geotechnical Laboratory	$ 30,000	4 %
			$	%
			$	%
			$	%
			$	%
Must provide a detailed scope of work; one-word descriptions are not acceptable.		TOTALS	$ 30,000	4 %

To Add Subs Use Additional Forms

INTENT TO PERFORM AS A SECOND TIER DBE - FORM BB

The Bidder is prohibited from completing any portion of this form and directing the DBE to sign a blank form.
DIRECTIONS: DBE(s) listed on the Form AA must complete all information on this form and must complete Form AA2 for any Non-DBE subcontractor performing a portion of its subcontract.

Matrix New World Engineering, Inc.
Name of First Tier DBE/Sub-Prime:

Jersey Boring & Drilling Co., Inc.
Name of Second Tier DBE Firm:

Project/Contract Name: County Yard Improvements

IFB/RFP Contract Number: 13-041

Does the undersigned intend to perform subcontract work in connection with the above-mentioned project as a Joint Venture? Circle one. (Yes or No)

Will you subcontract any portion of your scope of work to a DBE(s)? Circle one. (Yes or No)

Will you subcontract any portion of your scope of work to a Non-DBE(s)? Circle one. (Yes or No)

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

Drilling

Dollar Value of DBE Subcontract: $ 450,000

Total Quantity/Units (if applicable): _____ **Per Unit Cost (if applicable): $**_____

The undersigned based the above scope of work and subcontract value on detailed project specs received from the DBE Sub-Prime named above. Circle one. (Yes or No)

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: 11/2013 DBE Contract Completion Date 07/2016

The undersigned DBE will enter into a formal agreement for the above work with the DBE Sub-Prime conditioned upon execution of a contract with the Prime on the project. As a Second Tier DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform 100% of my subcontract with my own workforce for the referenced project.

Shelley Lach — 11/26/2013
Signature of Second Tier DBE — **Date**

President
Title

Shelley Lach
Print Name

973-242-3800
Telephone #:

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties as determined by NJ TRANSIT.

INTENT TO PERFORM AS A SECOND TIER DBE - FORM BB

The Bidder is prohibited from completing any portion of this form and directing the DBE to sign a blank form.
DIRECTIONS: DBE(s) listed on the Form AA must complete all information on this form and must complete Form AA2 for any Non-DBE subcontractor performing a portion of its subcontract.

Matrix New World Engineering, Inc.
Name of First Tier DBE/Sub-Prime:

Jersey Boring & Drilling Co., Inc.
Name of Second Tier DBE Firm:

Project/Contract Name: County Yard Improvements

IFB/RFP Contract Number: 13-041

Does the undersigned intend to perform subcontract work in connection with the above–mentioned project as a Joint Venture? Circle one. **(Yes or No)**

Will you subcontract any portion of your scope of work to a DBE(s)? Circle one. **(Yes or No)**

Will you subcontract any portion of your scope of work to a Non-DBE(s)? Circle one. **(Yes or No)**

The undersigned will perform the following described work on the above-referenced project: (*Provide a detailed description of the type of work you will perform on your subcontract. Attach a copy of quote approved and signed by Bidder (optional)).*

Drilling

Dollar Value of DBE Subcontract: $ 450,000

Total Quantity/Units (if applicable): _____ **Per Unit Cost (if applicable): $**_____

The undersigned based the above scope of work and subcontract value on detailed project specs received from the DBE Sub-Prime named above. Circle one. **(Yes or No)**

The Prime Contractor *projected* the following commencement and completion date for such work as follows:

DBE Contract Start Date: 11/2013 DBE Contract Completion Date 07/2016

The undersigned DBE will enter into a formal agreement for the above work with the DBE Sub-Prime conditioned upon execution of a contract with the Prime on the project. As a Second Tier DBE subcontractor, I will cooperate with the certification, compliance and monitoring process set forth by NJ TRANSIT. I attest that I will perform 100% of my subcontract with my own workforce for the referenced project.

Shelley Lach 11/26/2013 President
Signature of Second Tier DBE **Date** **Title**

Shelley Lach 973-242-3800
Print Name **Telephone #:**

Failure to adhere to these instructions or the falsification of any information on this form shall result in breach of contract and subject to the appropriate penalties as determined by NJ TRANSIT.

NJ TRANSIT Contract No. 13-041
County Yard Improvements
Phase I: Preliminary and Engineering Design Services 0% - 30%

Exhibit E

Amtrak Insurance Requirements

EXHIBIT E

CONTRACT 13-041

INSURANCE REQUIREMENTS

For New Jersey Transit and its Contractors

(For the Design Phase of the County Yard Project)

NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK)

Revised as of October 22, 2012

DEFINITIONS:

In these Insurance Requirements "Railroad" or "Amtrak" shall mean National Railroad Passenger Corporation. "Contractor" shall mean New Jersey Transit Corporation, as well as its officers, employees, agents, servants, contractors, subcontractors, or any other person acting for or by permission of Contractor. "Operations" shall mean activities of or work performed by Contractor in connection with the County Yard. “Agreement” shall mean the Agreement Between National Railroad Passenger Corporation and New Jersey Transit Corporation for the Design Phase of the County Yard Project.

INSURANCE-GENERAL:

Contractor shall procure and maintain, at its sole cost and expense, the types of insurance specified below. Contractor shall evidence such coverage by submitting to Amtrak the original Railroad Protective Liability Policy and certificates of insurance evidencing the other required insurance, prior to commencement of Operations. In addition, Contractor agrees to provide certified copies of the insurance policies for the other required insurance within 30 days of Amtrak’s written request. All insurance shall be procured from insurers authorized to do business in the jurisdiction(s) where the Operations are to be performed. Contractor shall require all subcontractors to carry the insurance required herein, or Contractor may, at its option, provide the coverage for any or all subcontractors, provided the evidence of insurance submitted by Contractor to Amtrak so stipulates. The insurance shall provide for thirty (30) days prior written notice to Amtrak in the event coverage is substantially changed, canceled or non-renewed. All insurance shall remain in force until all Operations are satisfactorily completed (unless otherwise noted below) and all Contractor personnel and equipment have been removed from Railroad property. The Contractor may provide for the insurance coverages with such deductibles or retained amounts as Amtrak may approve from time to time. The Contractor shall, at its sole expense, pay for all claims and damages which

fall within any deductible or retained amounts on the same basis as if there were full commercial insurance in force in compliance with these requirements and no portion of any deductible or retained amounts is the responsibility of Amtrak. Contractor's failure to comply with the insurance requirements set forth herein shall constitute a violation of the Agreement.

NON-MARINE INSURANCE:

1. **Workers' Compensation Insurance** complying with the requirements of the statutes of the jurisdiction(s) in which the Operations will be performed including U.S. Longshoremen and Harbor Workers' Compensation Act and Outer Continental Shelf Lands Act Amendments endorsements, covering all employees of Contractor.

Employer's Liability insurance coverage with limits of not less than **$1 million** each accident or illness shall be included.

In the event that Contractor is considered a railroad, Employers Liability coverage shall be extended to cover FELA with a limit of not less than $10 million each accident, illness, or occurrence.

2. **Commercial General Liability Insurance** covering liability of Contractor with respect to all operations to be performed and all obligations assumed by Contractor under the terms of the Agreement. Products-completed operations, independent contractors and contractual liability coverages are to be included, with the contractual exclusion related to construction/demolition activity within fifty (50) feet of the railroad and any Explosion/Collapse/Underground (X-C-U) exclusions deleted. The policy shall name National Railroad Passenger Corporation, all commuter agencies and railroads that operate over the property or tracks at issue, and New Jersey Transit Corporation as additional insureds with respect to the operations to be performed. In addition the policy shall include an ISO endorsement form CG 24 17 10 01 or its equivalent providing contractual liability coverage for the railroads listed as additional insureds. Coverage for such additional insureds shall be primary and non-contributory as respects any other insurance the additional insureds carry. Coverage under this policy shall have limits of liability of not less than **$10 million** each occurrence, combined single limit, for bodily injury (including disease or death), personal injury and property damage (including loss of use) liability. This requirement may be satisfied by a combination of a primary CGL policy and following-form Excess or Umbrella liability insurance policy (ies) which equal the total limits required.

3. **<u>Automobile Liability Insurance</u>** covering the liability of Contractor arising out of the use of any vehicles which bear, or are required to bear, license plates according to the laws of the jurisdiction in which they are to be operated, and which are not covered under Contractor's Commercial General Liability insurance. The policy shall name National Railroad Passenger Corporation, all commuter agencies and railroads that operate over the property or tracks at issue, and New Jersey Transit as additional insureds with respect to the operations to be performed. Coverage under this policy shall have limits of liability of not less than **$5 million** each occurrence, combined single limit, for bodily injury and property damage (including loss of use) liability.

In the event Contractor will be transporting and/or disposing of any hazardous material or waste off of the jobsite, a MCS-90 Endorsement is to be added to this policy with limits of **$5 million** each occurrence.

4. **<u>Railroad Protective Liability (RRP) Insurance</u>** covering the Operations performed by Contractor or any subcontractor within fifty (50) feet vertically or horizontally of railroad tracks. The current ISO Occurrence Form (claims-made forms are unacceptable) in the name of the National Railroad Passenger Corporation and all commuter agencies and railroads that operate over the property or tracks at issue) shall have limits of liability of not less than **$10 million** each occurrence, combined single limit, and not less than **$20 million** aggregate for Coverages A and B, for losses arising out of injury to or death of all persons, and for physical loss or damage to or destruction of property, including the loss of use thereof. Further, "Physical Damage to Property" as defined in the policy is to be deleted and replaced by the following endorsement:

"It is agreed that ‘Physical Damage to Property’ means direct and accidental loss of or damage to all property owned by any named insured and all property in any named insured’s care, custody and control.”

The original RRP Liability Insurance Policy must be submitted to Amtrak prior to commencement of Operations.

5. **<u>All Risk Property Insurance</u>** will be maintained to cover all remaining personal property of the Contractor used during Operations including, but not limited to, tools, equipment, construction trailers and their contents and temporary scaffolding at the Project site, whether owned, leased, rented or borrowed for the full replacement cost value. Contractor’s insurance policies covering tools, equipment and other personal property will include a waiver of subrogation and any other rights of recovery in favor of Amtrak and New Jersey Transit Corporation.

6. **Contractor's Pollution Liability Insurance** covering the liability of Contractor arising out of any sudden and/or non-sudden pollution or impairment of the environment, including clean-up costs and defense, that arise from the Operations of Contractor with National Railroad Passenger Corporation and New Jersey Transit Corporation as additional insureds. Coverage under this policy shall have limits of liability of not less than **$5 million** each occurrence. The coverage shall be maintained during the term of the project, and for at least two (2) years following completion of all Operations to be performed.

7. **Pollution Legal Liability Insurance** is required if any hazardous material or waste is to be transported or disposed of off of the jobsite. Contractor, its subcontractor or transporter, as well as the disposal site operator, shall maintain this insurance. Contractor shall designate the disposal site, and must provide a certificate of insurance from the disposal facility to Amtrak. The policy shall name National Railroad Passenger Corporation and New Jersey Transit Corporation as additional insureds, with limits of liability of not less than **$5 million** per claim.

_Further, any additional insurance coverages, permits, licenses and other forms of documentation required by the United States Department of Transportation, the Environmental Protection Agency and/or related state and local laws, rules and regulations shall be obtained by Contractor.

8. **Professional Liability Insurance** covering the liability of Contractor providing design and/or engineering services for any and all errors or omissions committed by Contractor in the performance of the Operations, regardless of the type of damages. The Contractor providing design and engineering services for the Design Phase of the Project will each maintain professional liability insurance with limits of liability of not less than ten million dollars **($10,000,000**) per claim, covering any and all errors or omissions committed by such entity, its agents or employees, in the performance of the Project work, regardless of the type of damages. The deductible on each such policy shall not exceed two hundred and fifty thousand dollars ($250,000); however, Amtrak will reasonably consider modifications to the deductible on a case-by-case basis. This coverage shall be maintained during the term of this Agreement and for at least three years following completion of all operations to be performed. Such policy shall provide: (a) a policy retroactive date that coincides with or precedes the contractor's start of work (including subsequent policies purchased as renewals or replacements); (b) that if the insurance is terminated for any reason, contractor agrees to purchase an extended reporting provision of at least three years to report claims arising from work that is being performed; and (c) for reporting of circumstances or incidents that might give rise to future claims. In the event that the Design Phase of the Project is not completed within three years of the date of this

Agreement or the project scope is expanded significantly, then Amtrak has the right to impose additional insurance requirements.

CLAIMS-MADE INSURANCE: If any liability insurance specified above shall be provided on a claims-made basis, then in addition to coverage requirements above, such policy shall provide that:

1. The retroactive date shall coincide with or precede Contractor's start of Operations (including subsequent policies purchased as renewals or replacements);

2. The policy shall allow for the reporting of circumstances or incidents that might give rise to future claims;

3. If the Contractor elects to satisfy the requirement to purchase and maintain any of the insurance policies above (e.g., Commercial General Liability) with its corporate insurance polices, it must maintain these policies for at least three (3) years following completion of the Operations; or in the alternative

4. If the Contractor elects to satisfy the requirements to purchase and maintain any of the insurance polices above (e.g. Commercial General Liability) with a project specific policy or if any claims-made insurance is terminated for any reason prior to three years following the completion of Operations, Contractor will purchase an extended reporting provision of at least six (6) years to report claims, including those arising from premises/operations and products/completed operations.

EVIDENCE OF INSURANCE:

Contractor shall furnish evidence of insurance as specified above at least ten (10) days prior to commencing Operations. THESE DOCUMENTS SHALL INCLUDE A DESCRIPTION OF THE PROJECT AND THE LOCATION ALONG THE RAILROAD RIGHT-OF-WAY (typically given by milepost designation) IN ORDER TO FACILITATE PROCESSING. The fifteen (15) day advance notice of coverage may be waived by Amtrak in situations where such waiver will benefit Amtrak, but under no circumstances will Contractor begin Operations without providing satisfactory evidence of insurance as approved by Amtrak. Such evidence of insurance coverage shall be sent to:

Director Project Initiation & Development

National Railroad Passenger Corporation

30th Street Station, Mail Box 64

Philadelphia, PA 19104-2817

NJ TRANSIT Contract No. 13-041
County Yard Improvements
Phase I: Preliminary and Engineering Design Services 0% - 30%

Exhibit F

Conrail Insurance Requirements

EXHIBIT F
NJ TRANSIT Contract No. 13-041

CONSOLIDATED RAIL CORPORATION
TEMPORARY LICENSE PERMITTING ENTRY ON PROPERTY

THIS AGREEMENT, dated March __, 2013, between _____, here in after called "Licensee" and CONSOLIDATED RAIL CORPORATION, a corporation of the Commonwealth of Pennsylvania, hereinafter called "CONRAIL".

WHEREAS, Licensee has requested permission to enter upon the property of CONRAIL; and

WHEREAS, CONRAIL is willing to grant a temporary License for such entry; subject to the terms and conditions hereinafter set forth.

NOW THEREFORE, CONRAIL and Licensee, intending to be legally bound, agree as follows:

1. PERMISSION, LOCATION AND ACCESS

CONRAIL hereby grants to Licensee, insofar as it has the legal right and its present title permits, a temporary License to enter upon the property of CONRAIL for the purpose _____, as described in the application package dated _____, 2013, located on or near CONRAIL's _____ Track, Line Code _____, at Mile Post _____ , 0.38+/-, in the City of _____, County of _____, State of _____.

2. LIABILITY

Licensee hereby releases and will protect, defend, indemnify and save harmless CONRAIL and its subsidiaries, and their officers, agents and employees, against all claims, liabilities, demands, actions at law and equity, judgments, settlements, losses, damages and expenses of every character whatsoever (hereinafter collectively referred to as "Claims") for injury (including death) sustained by the officers, agents and employees of CONRAIL and its subsidiaries, Licensee and any officers, agents and employees of Licensee, and all other persons whomsoever, and for damage to or loss or destruction of property of any kind by whomsoever owned, caused by, resulting from, arising out of, or occurring in connection with the entry or presence of Licensee and its officers, agents and employees on CONRAIL property or incidental to or appertaining thereto, and whether or not such injury (including death) and such damage to or loss or destruction of property are due to or chargeable to, in whole or part, any alleged active or passive negligence or participation in the wrong or upon any alleged breach of any statutory duty or obligation by CONRAIL or any subsidiary, including their officers, agents and employees. As a result of any such Claims, Licensee will assume at its own expense, on behalf of CONRAIL and its subsidiaries, and their officers, agents and employees, the defense of any such Claims which may be brought against said parties and pay on behalf of said parties the amount of any settlement agreed upon, judgment that may be entered, and any other amounts assessed in connection therewith, plus all costs and expenses involved as aforementioned.

3. CONSIDERATION

Licensee will pay to **CONRAIL,** the sum of One Thousand Five Hundred Dollars *($1,500.00)* as a compensation for the preparation of this License and Railroad Protection Insurance.

4. ENTRY UPON PROPERTY

Licensee shall notify CONRAIL's Chief Engineer, or his designee, at least fourteen (14) working days in advance before entering upon or starting any work upon CONRAIL property. No entry or use of CONRAIL property will be permitted until this License is signed, charges hereunder paid, evidence of any insurance coverage required under paragraph 10 hereof has been received and accepted by CONRAIL, and permission received from the designee of the Chief Engineer who will be William K. Kaeser-Director Design & Construction, 1000 Howard Boulevard, Room 470, Mt Laurel, NJ 08054.

5. CONRAIL OPERATIONS

All operations of Licensee shall be carried on in such a manner so as not to interfere with CONRAIL property and operations or the use of any CONRAIL facilities. If in the opinion of the Chief Engineer or his designee, conditions warrant at any time, CONRAIL will provide flag protection, signal/communication line protection and engineering inspection at the expense of Licensee and Licensee will pay to CONRAIL the full cost and expense therefor. All work done by Licensee will be in accordance with CONRAIL's CE-6 Specifications.

6. CROSSING OR FOULING TRACK

In no event shall equipment or material be transported across CONRAIL's track or tracks without special permission and with advance notice of at least seven (7) days so that CONRAIL may arrange for the necessary flag protection at the expense of Licensee and Licensee will pay to CONRAIL the full cost and expense therefor. Such permission shall be obtained from CONRAIL's Chief Engineer or his designee. Licensee agrees not to enter upon or foul track until given signal to do so by a flagman.

7. CLEARANCES

All equipment working on or material in use upon the property of CONRAIL shall be kept at all times not less than twelve feet (12') from the nearest rail of any track, or as subsequently modified in writing by CONRAIL's Chief Engineer or his designee. Licensee shall conduct its operations so that no part of its equipment shall foul an operating track, transmission, signal or communication line, or any other structure of CONRAIL.

8. RESTORATION OF PREMISES

Upon completion of the work, CONRAIL's property shall be left in a condition satisfactory to CONRAIL's Chief Engineer or his designee. This includes, without limitation, immediate restoration of any fences removed.

9. TERM OF LICENSE

CONRAIL reserves the right to revoke this License at any time. Unless modified or terminated, this license shall extend until _____, 2013 at which time it shall expire automatically. Licensee will notify CONRAIL's Chief Engineer or his designee when use of the property or work is completed. Under no circumstances shall this License be construed as granting Licensee any right, title or interest of any kind or character in or about the land or premises of CONRAIL.

10. INSURANCE

In addition to any other forms of insurance or bonds required under this License and except to the extent that any of the requirements of this section are expressly waived or revised in writing by Conrail, Licensee, prior to the commencement of any work pursuant to this License and throughout the term of this License, shall, at its own cost and expense, maintain insurance of the following kinds and amounts and deliver to Conrail's Manager-Insurance and Conrail's Director-Design and Construction satisfactory evidence of such insurance as indicated herein.

(a) Public Liability insurance, including contractual liability insurance, with a limit of not less than $5,000,000 combined single limit for bodily injury and/or property damage for damages arising out of bodily injuries to or death of all persons in any one occurrence and for damage to or destruction of property, including the loss of use thereof, in any one occurrence. Conrail shall be named as an additional insured under this insurance.

(b) Workers' Compensation insurance in Statutory Amounts. Employers' Liability and Occupational Disease Insurance with limits of $1,000,000 each accident, $1,000,000 policy limit and $1,000,000 each employee. Such policy shall include a waiver of subrogation in favor of Conrail.

(c) Automobile Liability insurance with a limit of not less than $5,000,000 combined single limit for bodily injury and/or property damage per occurrence. Conrail shall be named as an additional insured under this insurance.

(d) The insurance specified above shall be carried until the Project is satisfactorily completed and formally accepted by Conrail. Failure to procure and maintain such insurance shall constitute a Breach of this License.

(e) The above indicated insurance coverages shall be effected under standard form policies issued by insurers of financial responsibility that are rated "A" or better by Best's Insurance Reports, "AA" or better by Standard & Poor's Insurance Rating Service and "Aa" or better by Moody's Investors Service. Conrail reserves the right to reject as inadequate any insurance coverage provided by an insurance company that is rated less than the ratings above by any of the aforementioned rating services.

(f) The above indicated insurance coverages shall be enforceable by any legitimate claimant after the termination or cancellation of this License or any attachment hereto, whether by expiration of time, by operation of law or otherwise, so long as the basis of the claim against the insurance company

occurred during the period of time when the License was in effect and the insurance was if force.

(g) Licensee shall furnish Conrail with certificates of insurance evidencing the insurance coverages required in subsections (a), (b), (c), etc., above, at least thirty (30) days prior to the commencement of this License. Conrail shall be named as an additional insured under the insurance coverages outlined in subsections (a), (b), (c) etc. above. Certificates of insurance and/or policies should be sent to Consolidated Rail Corporation, Director Design and Construction, 1000 Howard Boulevard – 4th Floor, Mount Laurel, NJ 08054-2355.

(h) All insurance policies shall be endorsed to provide that the insurance company shall give thirty (30) days prior written notice to Consolidated Rail Corporation, Director Design and Construction, 1000 Howard Boulevard – 4th Floor, Mount Laurel, NJ 08054-2355, if the policies are to be terminated or if any changes are to be made which will in any way affect the insurance requirements of this License.

IN WITNESS WHEREOF, the parties hereto have caused this License to be executed as of the date first above written.

WITNESS: _____

_____ **BY:** _____

WITNESS: **CONSOLIDATED RAIL CORPORATION**

_____ **BY:** _____
William Kaeser
Director-Engineering & Construction