



**AGREEMENT BETWEEN BROWARD COUNTY AND SALTZ MICHELSON ARCHITECTS, INC.
FOR CONSULTANT SERVICES FOR MAIN JAIL EXTERIOR GLAZING SYSTEMS REMEDIATION
(RFP # GEN2116591P1)**

This Agreement ("Agreement") is made and entered by and between Broward County, a political subdivision of the State of Florida ("County"), and Saltz Michelson Architects, Inc., a Florida corporation ("Consultant") (collectively referred to as the "Parties").

RECITALS

A. County has met the requirements of Section 287.055, Florida Statutes, the Consultants' Competitive Negotiation Act, and has selected Consultant to perform the services hereunder.

Now, therefore, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE 1. DEFINITIONS

1.1 **Board** means the Board of County Commissioners of Broward County, Florida, which is the governing body of the Broward County government created by the Broward County Charter.

1.2 **Contract Administrator** means the Director of Construction Management Division, the Assistant Director of Construction Management Division, or such other person designated by same in writing. The Contract Administrator is the representative of County concerning the Project.

1.3 **Contractor** shall mean the person, firm, corporation, or other entity who enters into an agreement with County to perform the construction work for the Project.

1.4 **County Business Enterprise** or **CBE** means a small business certified as meeting the requirements of the Section 1-81, Broward County Code of Ordinances.

1.5 **Notice to Proceed** means a written authorization to proceed with the Project, phase, or task, issued by the Contract Administrator.

1.6 **Project** means Main Jail Exterior Glazing Systems Remediation

1.7 **Purchasing Director** means County's Director of Purchasing as appointed by the Broward County Administrator.

1.8 **Services** consists of the work and phases set forth in Exhibit A, Scope of Services, and shall include civil, structural, mechanical, and electrical engineering, architectural services, and other professional design services, as applicable for the Project.

1.9 **Subconsultant** means an entity or individual providing services to County through Consultant for all or any portion of the work under this Agreement. The term “Subconsultant” shall include all subcontractors.

ARTICLE 2. EXHIBITS

The following exhibits are attached hereto and incorporated into this Agreement:

Exhibit A	Scope of Services
Exhibit B	Maximum Billing Rates
Exhibit B-1	Schedule of Testing Unit Cost
Exhibit C	Schedule of Subconsultant Participation
Exhibit D	Schedule of CBE Participation
Exhibit E	Minimum Insurance Coverages

ARTICLE 3. SCOPE OF SERVICES

3.1 Consultant shall provide all Services as set forth in Exhibit A, including all necessary, incidental, and related activities required for full and complete performance of this Agreement (the “Scope of Services”).

3.2 This Agreement does not delineate every detail and minor work task required to be performed by Consultant to complete the Project. During the course of the performance of the Services included in this Agreement, if Consultant determines that work should be performed to complete the Project and, in Consultant’s opinion, that work is outside the level of effort originally anticipated, whether or not the Scope of Services identifies the work items, Consultant shall notify Contract Administrator in writing in a timely manner before proceeding with the work. If Consultant proceeds with such work without notifying the Contract Administrator, the work shall be deemed to be within the original level of effort, whether or not specifically addressed in the Scope of Services. Notice to Contract Administrator does not constitute authorization or approval by County to Consultant to perform the work. Performance of work by Consultant outside the originally anticipated level of effort without prior written County approval shall be at no additional cost to County.

3.3 Exhibit A identifies the initial services related to the Project, and additional negotiations may be required for other phases or additional services. County and Consultant may negotiate additional services, compensation, time of performance, and other related matters, including for other phases of Project; notwithstanding the foregoing, County shall have the right to terminate negotiations at any time at no cost to County and procure services for other Project phases from any other source.

3.4 County shall assist Consultant by placing at Consultant’s disposal all information County has available pertinent to the Project, including previous reports and any other data relative to design or construction of the Project. County shall arrange for access to, and make all provisions for, Consultant to enter upon public and private property as required for Consultant to perform its Services. County shall review any itemized deliverables and documents required to be

submitted by Consultant and respond in writing with any comments within the time set forth in Exhibit A. County shall give prompt written notice to Consultant whenever County observes or otherwise becomes aware of any material defect in the work of the Contractor or other material development that affects the scope or timing of Consultant's Services.

ARTICLE 4. TIME FOR PERFORMANCE; CONTRACTOR DAMAGES; LIQUIDATED DAMAGES

4.1 Consultant shall perform the Services within the time periods specified in Exhibit A. Time periods shall commence from the date of the applicable Notice to Proceed.

4.2 Consultant must receive a Notice to Proceed from the Contract Administrator prior to commencement of Services and any phase of Services under this Agreement. Prior to granting approval for Consultant to proceed to any phase, the Contract Administrator may, at his or her sole option, require Consultant to submit the itemized deliverables and documents identified in Exhibit A for the Contract Administrator's review.

4.3 In the event Consultant is unable to complete Services because of delays resulting from untimely review by County or other governmental agencies having jurisdiction over the Project and such delays are not the fault of Consultant, or because of delays caused by factors outside the control of Consultant, County shall grant a reasonable extension of time for completion of the Services and shall provide reasonable compensation, if appropriate. It shall be the responsibility of Consultant to notify the Contract Administrator promptly in writing whenever a delay in approval by a governmental agency is anticipated or experienced, and to inform the Contract Administrator of all facts and details related to the delay.

4.4 In the event (a) Contractor fails to substantially complete the Project on or before the substantial completion date specified in its agreement with County, or (b) if Contractor is granted an extension of time beyond said substantial completion date and Consultant's Services are extended beyond the substantial completion date through no fault of Consultant, then Consultant shall be compensated in accordance with Article 5 for all Services rendered by Consultant beyond the substantial completion date.

4.5 In the event Contractor fails to substantially complete the Project on or before the substantial completion date specified in its agreement with County, and the failure to substantially complete is caused in whole or in part by Consultant, then Consultant shall pay to County its proportional share of any claim for damages to Contractor arising out of the delay. The provisions for the computation of delay costs, damages, or any other amounts, whether direct or indirect, in the agreement between the Contractor and County are incorporated herein. This section shall not affect the indemnification rights or obligations of either party otherwise set forth in this Agreement.

ARTICLE 5. COMPENSATION AND METHOD OF PAYMENT

5.1 Amount and Method of Compensation. The amounts set forth in this Article 5 are the total compensation payable to Consultant and constitute a limitation upon County's obligation to compensate Consultant for Services under this Agreement, but do not constitute a limitation

of any sort upon Consultant’s obligation to perform all Services required under this Agreement.

5.1.1 Maximum Amount Not-To-Exceed Compensation. For Basic Services identified in Exhibit A as payable on a “Maximum Amount Not-To-Exceed” basis, compensation to Consultant shall be based upon the Salary Costs as described in Section 5.2 up to a maximum not-to-exceed amount of \$ N/A.

5.1.2 Lump Sum Compensation. For Basic Services identified in Exhibit A as payable on a “Lump Sum” basis, compensation to Consultant shall be not more than a total lump sum of \$1,213,941.33.

5.1.3 Optional Services. County may procure Optional Services up to a maximum not-to-exceed amount of \$256,000.00 pursuant to Article 6. Unused amounts of these Optional Services monies shall be retained by County.

5.1.4 Reimbursable Expenses. County will reimburse authorized Reimbursable Expenses as defined in Section 5.3 up to a maximum not-to-exceed amount of \$20,000.00. Unused amounts of those monies shall be retained by County.

5.1.5 Salary Costs. The maximum billing rates payable by County for each of Consultant’s employee categories are shown on Exhibit B and are further described in Section 5.2.

5.1.6 Subconsultant Fees. Consultant shall bill Subconsultant fees using the employee categories for Salary Costs on Exhibit B as defined in Section 5.2 and Reimbursable Expenses defined in Section 5.3. Consultant shall bill Subconsultant fees with no mark-up and within any applicable maximum not to exceed amount.

5.1.7 Phased Payments. Payments for Basic Services shall be paid out pursuant to the Project phasing specified in Exhibit A and shall not exceed the amount set forth below for the applicable phase. The invoiced fee amount for each phase shall be subject to retainage as set forth in Section 5.5.

Project Phase	Fee %	Phase Amount
Phase I: Reconciliation and Schematic Design	21.5%	\$260,601.81
Phase II: Design Development	12%	\$146,838.97
Phase III: Construction Documents		
50% Construction Documents	12%	\$146,017.71
75% Construction Documents	6%	\$72,866.07
100% Construction Documents	7%	\$90,080.07
Phase IV: GMP Negotiations	4.5%	\$53,790.42
Phase V: Administration of the Construction Contract	36%	\$434,647.03
Phase VI: Warranty Administration and Post-Occupancy Services	1%	\$9,099.25
Total Basic Services Fee	100%	\$1,213,941.33

5.2 Salary Costs. The term Salary Costs as used herein shall mean the hourly rate actually paid to all personnel engaged directly on the Project, as adjusted by an overall multiplier that consists of the following: 1) a fringe benefits factor; 2) an overhead factor; and 3) an operating margin. Said Salary Costs are to be used only for time directly attributable to the Project. The fringe benefit and overhead rates shall be Consultant's most recent and actual rates determined in accordance with Federal Acquisition Regulation ("FAR") guidelines and audited by an independent Certified Public Accountant. For the purposes of this Agreement, the rates must be audited for fiscal periods of Consultant within eighteen (18) months preceding the execution date of this Agreement. These rates shall remain in effect for the term of this Agreement except as provided for in this Section 5.2 inclusive of the subsections below.

5.2.1 Consultant shall require all of its Subconsultants to comply with the requirements of Section 5.2.

5.2.2 Salary Costs for Consultant and Subconsultants as shown in Exhibit B are the Maximum Billing Rates, which are provisional, subject to audit of actual costs, and if the audit discloses that the actual costs are less than the costs set forth on Exhibit B for Consultant or any Subconsultant, Consultant shall reimburse County based upon the actual costs determined by the audit. County may withhold the amount Consultant is required to reimburse County from any payment due Consultant.

5.2.3 Unless otherwise noted, the Salary Costs stated above are based upon Consultant's "home office" rates. Should it become appropriate during the course of this Agreement that a "field office" rate be applied, then it is incumbent upon Consultant to submit a supplemental Exhibit B reflective of such rates for approval by Contract Administrator and, upon such County approval, invoice County accordingly.

5.2.4 The total hours payable by County for any "exempt" or "nonexempt" personnel shall not exceed forty (40) hours per employee in any week. In the event the work requires Consultant's or Subconsultant's personnel to work in excess of forty (40) hours per week, any additional hours must be authorized in advance, in writing, by the Contract Administrator. If approved, Salary Costs for additional hours of service provided by nonexempt (hourly) employees or exempt (salaried) employees shall be invoiced at no more than one and one-half of the employee's hourly rate and in a manner consistent with Consultant's or Subconsultant's applicable certified FAR audit and all other provisions of Section 5.2. In the event a "Safe Harbor" rate is elected for use by Consultant or Subconsultant, then the additional hours are payable at no more than the employee's regular rate.

5.2.5 Consultant and any of its Subconsultants may alternatively use a "Safe Harbor" combined fringe benefit and overhead rate of 110% in lieu of providing fringe benefit and overhead cost factors certified by an independent Certified Public Accountant in accordance with the FAR guidelines. The Safe Harbor rate, once elected, shall remain in place for the entire term of this Agreement, and be applicable for use as "home" and "field" fringe benefit and overhead rates, if applicable, and shall not be subject to audit under this Agreement. All other provisions of Section 5.2 remain in place.

5.3 Reimbursable Expenses. For reimbursement of any travel costs, travel-related expenses, or other direct nonsalary expenses directly attributable to this Project permitted under this Agreement, Consultant agrees to adhere to Section 112.061, Florida Statutes, except to the extent otherwise stated herein. County shall not be liable for any such expenses that have not been approved in writing in advance by the Contract Administrator. Reimbursable Subconsultant expenses must also comply with the requirements of this section.

5.4 Method of Billing.

5.4.1 For Maximum Amount Not-To-Exceed Compensation under Section 5.1.1. Consultant shall submit billings that are identified by the specific Project number on a monthly basis in a timely manner for all Salary Costs and Reimbursable Expenses attributable to the Project. These billings shall identify the nature of the work performed, the total hours of work performed, and the employee category of the individuals performing same. Billings shall itemize and summarize Reimbursable Expenses by category and identify the personnel incurring the expense and the nature of the work with which such expense was associated. Where prior written approval by Contract Administrator is required for Reimbursable Expenses, a copy of said approval shall accompany the billing for such reimbursable. Billings shall also indicate the cumulative amount of CBE participation to date. The statement shall show a summary of Salary Costs and Reimbursable Expenses with accrual of the total and credits for portions paid previously. External Reimbursable Expenses and Subconsultant fees must be documented by copies of invoices or receipts that describe the nature of the expenses and contain a Project number or other identifier that clearly indicates the expense is identifiable to the Project. Subsequent addition of the identifier to the invoice or receipt by Consultant is not acceptable except for meals and travel expenses. Internal expenses must be documented by appropriate Consultant's cost accounting forms with a summary of charges by category. When requested, Consultant shall provide backup for past and current invoices that records hours and Salary Costs by employee category, Reimbursable Expenses by category, and Subconsultant fees on a task basis, so that total hours and costs by task may be determined.

5.4.2 For Lump Sum Compensation under Section 5.1.2. Consultant shall submit billings that are identified by the specific Project number on a monthly basis in a timely manner. These billings shall identify the nature of the work performed, the phase of work, and the estimated percent of work accomplished. Billings for each phase shall not exceed the amounts allocated to said phase. Billings shall also indicate the cumulative amount of CBE participation to date. The statement shall show a summary of fees with accrual of the total and credits for portions paid previously. When requested, Consultant shall provide backup for past and current invoices that record hours, salary costs, and expense costs on a task basis, so that total hours and costs by task may be determined.

5.5 Method of Payment.

5.5.1 County shall pay Consultant within thirty (30) days after receipt of Consultant's proper invoice, as defined by County's Prompt Payment Ordinance, minus any applicable retainage or other deductions permitted by this Agreement.

5.5.2 Unless otherwise provided in this section, retainage in the amount of ten percent (10%) of each invoice shall be retained by County until satisfactory completion of the applicable phase. No amount shall be withheld from payments for Reimbursable Expenses or for Services performed during the construction phase.

5.5.3 Upon Consultant's completion of each phase to the satisfaction of the Contract Administrator, County shall remit to Consultant any amounts withheld as retainage for that phase. Final payment for the Project must be approved by the Purchasing Director.

5.5.4 Payment will be made to Consultant at the following address: 3501 Griffin Road Fort Lauderdale, FL 33312-5444.

5.6 Fiscal Year. The continuation of this Agreement beyond the end of any County fiscal year is subject to both the appropriation and the availability of funds in accordance with Chapter 129, Florida Statutes.

5.7 Consultant shall pay Subconsultants and suppliers providing Services under this Agreement within fifteen (15) days following receipt of payment from County for such subcontracted work or supplies. If Consultant withholds an amount as retainage from a Subconsultant or supplier, Consultant shall release such retainage and pay same within fifteen (15) days following receipt of payment of retained amounts from County. The Contract Administrator may, at its option, increase allowable retainage or withhold progress payments unless and until Consultant demonstrates timely payments of sums due to all Subconsultants and suppliers. Consultant shall include requirements substantially similar to those set forth in this section in its contracts with Subconsultants and suppliers.

ARTICLE 6. OPTIONAL AND ADDITIONAL SERVICES; CHANGES IN SCOPE OF SERVICES

6.1 County or Consultant may request changes that would increase, decrease, or otherwise modify the Scope of Services to be provided under this Agreement. Unless otherwise expressly permitted herein, such changes must be made in accordance with the provisions of the Broward County Procurement Code and must be contained in a written amendment, executed by the Parties hereto, with the same formality and of equal dignity herewith.

6.2 To the extent any goods or services under this Agreement, or the quantity thereof, are identified as optional ("Optional Services"), County may select the type, amount, and timing of such goods or services pursuant to a work authorization ("Work Authorization") form executed by Consultant and County pursuant to this section, provided that no such selection, when combined with those goods or services required under this Agreement, would result in a payment obligation exceeding the applicable maximum amount stated in Article 5. A Work Authorization

for Optional Services shall specify the method of compensation applicable to that Work Authorization and the required completion date for those additional services.

6.3 Notwithstanding anything to the contrary in this Agreement, Work Authorizations for Optional Services shall be executed on behalf of County as follows: (a) the Contract Administrator may execute Work Authorizations for which the total cost to County in the aggregate is less than \$50,000.00; (b) the Purchasing Director may execute Work Authorizations for which the total cost to County in the aggregate is within the Purchasing Director's delegated authority; and (c) any Work Authorization above the Purchasing Director's delegated authority requires express approval by the Board. Subsequent to the full execution of any Work Authorization, the Contract Administrator will issue a Notice to Proceed for those authorized Optional Services. Consultant shall not commence work on any Work Authorization until after receipt of a purchase order and Notice to Proceed.

6.4 In the event a dispute between the Contract Administrator and Consultant arises over whether any work requested by County is within the scope of contracted Services and such dispute cannot be resolved by the Contract Administrator and Consultant, such dispute shall be promptly presented to Purchasing Director for resolution, whose decision shall be in writing and shall be final and binding on the Parties. During the pendency of any dispute, Consultant shall promptly perform the disputed work.

ARTICLE 7. REPRESENTATIONS AND WARRANTIES

7.1 Representation of Authority. Consultant represents and warrants that this Agreement constitutes the legal, valid, binding, and enforceable obligation of Consultant, and that neither the execution nor performance of this Agreement constitutes a breach of any agreement that Consultant has with any third party or violates any law, rule, regulation, or duty arising in law or equity applicable to Consultant. Consultant further represents and warrants that execution of this Agreement is within Consultant's legal powers, and each individual executing this Agreement on behalf of Consultant is duly authorized by all necessary and appropriate action to do so on behalf of Consultant and does so with full legal authority.

7.2 Solicitation Representations. Consultant represents and warrants that all statements and representations made in Consultant's proposal, bid, or other supporting documents submitted to County in connection with the solicitation, negotiation, or award of this Agreement, including during the procurement or evaluation process, were true and correct when made and are true and correct as of the date Consultant executes this Agreement, unless otherwise expressly disclosed in writing by Consultant.

7.3 Contingency Fee. Consultant represents that it has not paid or agreed to pay any person or entity, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement.

7.4 Truth-In-Negotiation Representation. Consultant's compensation under this Agreement is based upon its representations to County, and Consultant certifies that the wage rates, factual

unit costs, and other information supplied to substantiate Consultant's compensation, including, without limitation, in the negotiation of this Agreement, are accurate, complete, and current as of the date Consultant executes this Agreement. Consultant's compensation will be reduced to exclude any significant sums by which the contract price was increased due to inaccurate, incomplete, or noncurrent wage rates and other factual unit costs.

7.5 Public Entity Crime Act. Consultant represents that it is familiar with the requirements and prohibitions under the Public Entity Crime Act, Section 287.133, Florida Statutes, and represents that its entry into this Agreement will not violate that Act. Consultant further represents that there has been no determination that it committed a "public entity crime" as defined by Section 287.133, Florida Statutes, and that it has not been formally charged with committing an act defined as a "public entity crime" regardless of the amount of money involved or whether Consultant has been placed on the convicted vendor list.

7.6 Discriminatory Vendor and Scrutinized Companies Lists. Consultant represents that it has not been placed on the discriminatory vendor list as provided in Section 287.134, Florida Statutes. Consultant further represents that it is not ineligible to contract with County on any of the grounds stated in Section 287.135, Florida Statutes.

7.7 Warranty of Performance. Consultant represents and warrants that it possesses the knowledge, skill, experience, and financial capability required to perform and provide all required and optional Services under this Agreement, and that each person and entity that will provide Services under this Agreement is duly qualified to perform such services by all appropriate governmental authorities, where required, and is sufficiently experienced and skilled in the area(s) for which such person or entity will render Services. Consultant represents and warrants that the Services under this Agreement shall be performed in a skillful and respectful manner, and that the quality of all such services shall equal or exceed prevailing industry standards for the provision of such services.

7.8 Domestic Partnership Requirement. Unless this Agreement is exempt from the provisions of the Broward County Domestic Partnership Act, Section 16½-157, Broward County Code of Ordinances, Consultant certifies and represents that it will comply with the provisions of Section 16½-157 for the duration of this Agreement, and the contract language referenced in Section 16½-157 is deemed incorporated in this Agreement as though fully set forth in this section.

7.9 Breach of Representations. In entering into this Agreement, Consultant acknowledges that County is materially relying on the representations and warranties of Consultant stated in this article. County shall be entitled to recover any damages it incurs to the extent any such representation or warranty is untrue. In addition, if any such representation or warranty is false, County shall have the right, at its sole discretion, to terminate this Agreement without any further liability to Consultant, to deduct from the compensation due Consultant under this Agreement the full amount of any value paid in violation of a representation or warranty, or to recover all sums paid to Consultant under this Agreement. Furthermore, a false representation may result in debarment from County's competitive procurement activities.

ARTICLE 8. TERMINATION

8.1 Termination. This Agreement or any Work Authorization issued under this Agreement may be terminated for cause by the aggrieved party if the party in breach has not corrected the breach within ten (10) days after receipt of written notice from the aggrieved party identifying the breach. This Agreement may also be terminated for convenience by the Board. Termination for convenience by the Board shall be effective on the termination date stated in written notice provided by County, which termination date shall be not less than thirty (30) days after the date of such written notice. If this Agreement or any Work Authorization was entered into on behalf of County by someone other than the Board, termination by County may be by action of the County Administrator or County representative (including his or her successor) who entered in this Agreement on behalf of County. This Agreement may also be terminated by the County Administrator upon such notice as the County Administrator deems appropriate under the circumstances in the event the County Administrator determines that termination is necessary to protect the public health, safety, or welfare. If County erroneously, improperly, or unjustifiably terminates for cause, such termination shall be deemed a termination for convenience and shall be effective thirty (30) days after such notice of termination for cause is provided.

8.2 This Agreement may be terminated for cause by County for reasons including, but not limited to, any of the following:

8.2.1 Consultant's failure to suitably perform the work, failure to continuously perform the Services in a manner calculated to meet or accomplish the objectives in this Agreement or Work Authorization, or repeated (whether negligent or intentional) submission for payment of false or incorrect bills or invoices;

8.2.2 If Consultant is a "scrutinized company" pursuant to Section 215.473, Florida Statutes, if Consultant is placed on a "discriminatory vendor list" pursuant to Section 287.134, Florida Statutes, or if Consultant provides a false certification submitted pursuant to Section 287.135, Florida Statutes;

8.2.3 By the Contract Administrator or the Director of Office of Economic and Small Business Development ("OESBD") for any fraud, misrepresentation, or material misstatement by Consultant in the award or performance of this Agreement or that otherwise violates any applicable requirement of Section 1-81, Broward County Code of Ordinances; or

8.2.4 By the Director of the OESBD upon the disqualification of Consultant as a CBE if Consultant's status as a CBE was a factor in the award of this Agreement and such status was misrepresented by Consultant, or upon the disqualification of one or more of Consultant's CBE participants by County's Director of the OESBD if any such participant's status as a CBE firm was a factor in the award of this Agreement and such status was misrepresented by Consultant during the procurement or the performance of this Agreement.

8.3 Notice of termination shall be provided in accordance with the “Notices” section of this Agreement except that notice of termination by the County Administrator to protect the public health, safety, or welfare may be oral notice that shall be promptly confirmed in writing.

8.4 In the event this Agreement or a Work Authorization issued under this Agreement is terminated for convenience, Consultant shall be paid for any Services properly performed under this Agreement or Work Authorization through the termination date specified in the written notice of termination, subject to any right of County to retain any sums otherwise due and payable. Consultant acknowledges and agrees that it has received good, valuable, and sufficient consideration from County, the receipt and adequacy of which are acknowledged by Consultant, for County’s right to terminate this Agreement for convenience.

8.5 In the event this Agreement or a Work Authorization is terminated, for any reason, any amounts due Consultant shall be withheld by County until Consultant has provided all documents required to be provided to County.

ARTICLE 9. INSURANCE

9.1 For the duration of the Agreement, Consultant shall, at its sole expense, maintain the minimum insurance coverages stated in Exhibit E in accordance with the terms and conditions of this article. Consultant shall maintain insurance coverage against claims relating to any act or omission by Consultant, its agents, representatives, employees, or Subconsultants in connection with this Agreement. County reserves the right at any time to review and adjust the limits and types of coverage required under this article.

9.2 Consultant shall ensure that “Broward County” is listed and endorsed as an additional insured as stated in Exhibit E on all policies required under this article.

9.3 On or before the date this Agreement is fully executed or at least fifteen (15) days prior to commencement of Services, Consultant shall provide County with a copy of all Certificates of Insurance or other documentation sufficient to demonstrate the insurance coverage required in this article. If and to the extent requested by County, Consultant shall provide complete, certified copies of all required insurance policies and all required endorsements within thirty (30) days after County’s request.

9.4 Consultant shall ensure that all insurance coverages required by this article shall remain in full force and effect for the duration of this Agreement and until all performance required by Consultant has been completed, as determined by Contract Administrator. Consultant or its insurer shall provide notice to County of any cancellation or modification of any required policy at least thirty (30) days prior to the effective date of cancellation or modification, and at least ten (10) days prior to the effective date of any cancellation due to nonpayment, and shall concurrently provide County with a copy of its updated Certificates of Insurance evidencing continuation of the required coverage(s). Consultant shall ensure that there is no lapse of coverage at any time during the time period for which coverage is required by this article.

9.5 Consultant shall ensure that all required insurance policies are issued by insurers: (1) assigned an A. M. Best rating of at least “A-” with a Financial Size Category of at least Class VII;

(2) authorized to transact insurance in the State of Florida; or (3) a qualified eligible surplus lines insurer pursuant to Section 626.917 or 626.918, Florida Statutes, with approval by County's Risk Management Division.

9.6 If Consultant maintains broader coverage or higher limits than the minimum insurance requirements stated in Exhibit E, County shall be entitled to any such broader coverage and higher limits maintained by Consultant. All required insurance coverages under this article shall provide primary coverage and shall not require contribution from any County insurance, self-insurance or otherwise, which shall be in excess of and shall not contribute to the insurance required and provided by Consultant.

9.7 Consultant shall declare in writing any self-insured retentions or deductibles over the limit(s) prescribed in Exhibit E and submit to County for approval at least fifteen (15) days prior to the date this Agreement is fully executed or commencement of Services. Consultant shall be solely responsible for and shall pay any deductible or self-insured retention applicable to any claim against County. County may, at any time, require Consultant to purchase coverage with a lower retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. Consultant agrees that any deductible or self-insured retention may be satisfied by either the named insured or County, if so elected by County, and Consultant agrees to obtain same in endorsements to the required policies.

9.8 Unless prohibited by the applicable policy, Consultant waives any right to subrogation that any of Consultant's insurer may acquire against County, and agrees to obtain same in an endorsement of Consultant's insurance policies.

9.9 Consultant shall require that each Subconsultant maintains insurance coverage that adequately covers the Services provided by that Subconsultant on substantially the same insurance terms and conditions required of Consultant under this article. Consultant shall ensure that all such Subconsultants comply with these requirements and that "Broward County" is named as an additional insured under the Subconsultants' applicable insurance policies.

9.10 In the event Consultant or any Subconsultant fails to maintain the insurance required by this Agreement, County may pay any costs of premiums necessary to maintain the required coverage and deduct such costs from any payment otherwise due to Consultant. Consultant shall not permit any Subconsultant to provide Services under this Agreement unless and until the requirements of this article are satisfied. If requested by County, Consultant shall provide, within one (1) business day, evidence of each Subconsultant's compliance with this section

9.11 If any of the policies required under this article provide claims-made coverage: (1) any retroactive date must be prior to the date this Agreement is fully executed; (2) the required coverage must be maintained after termination or expiration of the Agreement for at least the duration stated in Exhibit E and (3) if coverage is canceled or nonrenewed and is not replaced with another claims-made policy form with a retroactive date prior to the date this Agreement is fully executed, Consultant must obtain and maintain "extended reporting" coverage that applies after termination or expiration of the Agreement for at least the duration stated in Exhibit E.

ARTICLE 10. EQUAL EMPLOYMENT OPPORTUNITY AND CBE COMPLIANCE

10.1 No party to this Agreement may discriminate on the basis of race, color, sex, religion, national origin, disability, age, marital status, political affiliation, sexual orientation, pregnancy, or gender identity and expression in the performance of this Agreement. Consultant shall include the foregoing or similar language in its contracts with any Subconsultants, except that any Project assisted by the U.S. Department of Transportation funds shall comply with the nondiscrimination requirements in 49 C.F.R. Parts 23 and 26.

10.2 Consultant shall comply with all applicable requirements of Section 1-81, Broward County Code of Ordinances, in the award and administration of this Agreement. Failure by Consultant to carry out any of the requirements of this article shall constitute a material breach of this Agreement, which shall permit County to terminate this Agreement or exercise any other remedy provided under this Agreement, the Broward County Code of Ordinances, the Broward County Administrative Code, or under other applicable law, all such remedies being cumulative.

10.3 Consultant will meet the required CBE goal by utilizing the CBE firms listed in Exhibit D (or a CBE firm substituted for a listed firm, if permitted) for twenty-five percent (25%) of total Services under this Agreement (the "Commitment").

10.4 In performing the Services, Consultant shall utilize the CBE firms listed in Exhibit D for the scope of work and the percentage of work amounts identified on each Letter of Intent. Promptly upon execution of this Agreement by County, Consultant shall enter into formal contracts with the CBE firms listed in Exhibit D and, upon request, shall provide copies of the contracts to the Contract Administrator and OESBD.

10.5 Each CBE firm utilized by Consultant to meet the CBE goal must be certified by OESBD. Consultant shall inform County immediately when a CBE firm is not able to perform or if Consultant believes the CBE firm should be replaced for any other reason, so that OESBD may review and verify the good faith efforts of Consultant to substitute the CBE firm with another CBE firm. Whenever a CBE firm is terminated for any reason, Consultant shall provide written notice to OESBD and, upon written approval of the Director of OESBD, shall substitute another CBE firm in order to meet the CBE goal, unless otherwise provided in this Agreement or agreed in writing by the Parties. Such substitution shall not be required in the event the termination results from modification of the Scope of Services and no CBE firm is available to perform the modified Scope of Services; in which event Consultant shall notify County, and OESBD may adjust the CBE goal by written notice to Consultant. Consultant shall not terminate a CBE firm for convenience without County's prior written consent, which consent shall not be unreasonably withheld.

10.6 The Parties stipulate that if Consultant fails to meet the Commitment, the damages to County arising from such failure are not readily ascertainable at the time of contracting. If Consultant fails to meet the Commitment and County determines, in the sole discretion of the OESBD Program Director, that Consultant failed to make Good Faith Efforts (as defined in Section 1-81, Broward County Code of Ordinances) to meet the Commitment, Consultant shall pay County liquidated damages in an amount equal to fifty percent (50%) of the actual dollar amount by which Consultant failed to achieve the Commitment, up to a maximum amount of ten

percent (10%) of the total contract amount, excluding costs and reimbursable expenses. An example of this calculation is stated in Section 1-81.7, Broward County Code of Ordinances. As elected by County, such liquidated damages amount shall be either credited against any amounts due from County, or must be paid to County within thirty (30) days after written demand. These liquidated damages shall be County's sole contractual remedy for Consultant's breach of the Commitment, but shall not affect the availability of administrative remedies under Section 1-81. Any failure to meet the Commitment attributable solely to force majeure, changes to the scope of work by County, or inability to substitute a CBE Subconsultant where the OESBD Program Director has determined that such inability is due to no fault of Consultant, shall not be deemed a failure by Consultant to meet the Commitment.

10.7 Consultant acknowledges that the Board, acting through OESBD, may make minor administrative modifications to Section 1-81, Broward County Code of Ordinances, which shall become applicable to this Agreement if the administrative modifications are not unreasonable. Written notice of any such modification shall be provided to Consultant and shall include a deadline for Consultant to notify County in writing if Consultant concludes that the modification exceeds the authority under this section. Failure of Consultant to timely notify County of its conclusion that the modification exceeds such authority shall be deemed acceptance of the modification by Consultant.

10.8 County may modify the required participation of CBE firms under this Agreement in connection with any amendment, extension, modification, change order, or Work Authorization to this Agreement that, by itself or aggregated with previous amendments, extensions, modifications, change orders, or Work Authorizations, increases the initial Agreement price by ten percent (10%) or more. Consultant shall make a good faith effort to include CBE firms in work resulting from any such amendment, extension, modification, change order, or Work Authorization, and shall report such efforts, along with evidence thereof, to OESBD.

10.9 Consultant shall provide written monthly reports to the Contract Administrator attesting to Consultant's compliance with the CBE goal stated in this article. In addition, Consultant shall allow County to engage in onsite reviews to monitor Consultant's progress in achieving and maintaining Consultant's contractual and CBE obligations. The Contract Administrator in conjunction with OESBD shall perform such review and monitoring, unless otherwise determined by the County Administrator.

10.10 The presence of a "pay when paid" provision in a Consultant's contract with a CBE firm shall not preclude County or its representatives from inquiring into allegations of nonpayment or exercising any right stated in Section 5.7.

ARTICLE 11. MISCELLANEOUS

11.1 Contract Administrator Authority. Unless expressly stated otherwise in this Agreement or otherwise set forth in an applicable provision of the Broward County Procurement Code, Broward County Code of Ordinances, or Broward County Administrative Code, the Contract Administrator may act on behalf of County under this Agreement, and all Parties may rely upon instructions or determinations made by the Contract Administrator provided that such

instructions and determinations do not change the Scope of Services. The Contract Administrator may designate one or more County employees with authority pertaining to day-to-day Project management or activities. Consultant shall notify Contract Administrator in writing of Consultant's representative(s) to whom matters involving the Project shall be addressed.

11.2 Rights in Documents and Work. Any and all reports, photographs, surveys, and documents created by Consultant in connection with performing Services under this Agreement shall be owned by County and shall be deemed works for hire by Consultant and its agents; in the event the Services are determined not to be a work for hire, Consultant hereby assigns all right, title, and interest, including any copyright or other intellectual property rights in or to the work, to County. In the event of termination of this Agreement, any reports, photographs, surveys, and other data and documents created by Consultant, whether finished or unfinished, shall become the property of County and shall be delivered by Consultant to the Contract Administrator within seven (7) days after termination of this Agreement. Any compensation due to Consultant may be withheld until all documents are received as provided in this Agreement. Consultant shall ensure that the requirements of this section are included in all agreements with its Subconsultant(s).

11.3 Ownership of Documents. All finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, specifications and reports prepared or provided by Consultant in connection with this Agreement shall become the property of County, whether the Project for which they are made is completed or not, and shall be delivered by Consultant to Contract Administrator within fifteen (15) days of the receipt of the written notice of termination. If applicable, County may withhold any payments then due to Consultant until Consultant complies with the provisions of this section.

11.4 Public Records. To the extent Consultant is acting on behalf of County as stated in Section 119.0701, Florida Statutes, Consultant shall:

11.4.1 Keep and maintain public records required by County to perform the services under this Agreement;

11.4.2 Upon request from County, provide County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time and at a cost that does not exceed that provided in Chapter 119, Florida Statutes, or as otherwise provided by law;

11.4.3 Ensure that public records that are exempt or confidential and exempt from public record requirements are not disclosed except as authorized by law for the duration of this Agreement and following completion or termination of this Agreement if the records are not transferred to County; and

11.4.4 Upon completion or termination of this Agreement, transfer to County, at no cost, all public records in possession of Consultant or keep and maintain public records required by County to perform the services. If Consultant transfers the records to County, Consultant shall destroy any duplicate public records that are exempt or confidential and

exempt. If Consultant keeps and maintains the public records, Consultant shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to County upon request in a format that is compatible with the information technology systems of County.

A request for public records regarding this Agreement must be made directly to County, who will be responsible for responding to any such public records requests. Consultant will provide any requested records to County to enable County to respond to the public records request.

Any material submitted to County that Consultant contends constitutes or contains trade secrets or is otherwise exempt from production under Florida public records laws (including Chapter 119, Florida Statutes) ("Trade Secret Materials") must be separately submitted and conspicuously labeled "EXEMPT FROM PUBLIC RECORD PRODUCT – TRADE SECRET." In addition, Consultant must, simultaneous with the submission of any Trade Secret Materials, provide a sworn affidavit from a person with personal knowledge attesting that the Trade Secret Materials constitute trade secrets under Section 812.081, Florida Statutes, and stating the factual basis for same. In the event that a third party submits a request to County for records designated by Consultant as Trade Secret Materials, County shall refrain from disclosing the Trade Secret Materials, unless otherwise ordered by a court of competent jurisdiction or authorized in writing by Consultant. Consultant shall indemnify and defend County and its employees and agents from any and all claims, causes of action, losses, fines, penalties, damages, judgments, and liabilities of any kind, including attorneys' fees, litigation expenses, and court costs, relating to the nondisclosure of any Trade Secret Materials in response to a records request by a third party.

IF CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO CONSULTANT'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (954) 357-6402, LCLARKE@BROWARD.ORG, 115 S. ANDREWS AVE., ROOM A550, FORT LAUDERDALE, FLORIDA 33301.

11.5 Audit Rights and Retention of Records. Consultant shall preserve all Contract Records (as defined below) for a minimum period of three (3) years after expiration or termination of this Agreement or until resolution of any audit findings, whichever is longer. Contract Records shall, upon reasonable notice, be open to County inspection and subject to audit and reproduction during normal business hours. County audits and inspections pursuant to this section may be performed by any County representative (including any outside representative engaged by County). County may conduct audits or inspections at any time during the term of this Agreement and for a period of three (3) years after the expiration or termination of this Agreement (or longer if required by law). County may, without limitation, verify information, payroll distribution, and amounts through interviews, written affirmations, and on-site inspection with Consultant's employees, Subconsultants, vendors, or other labor.

Contract Records include any and all information, materials and data of every kind and character, including, without limitation, records, books, papers, documents, subscriptions, recordings, agreements, purchase orders, leases, contracts, commitments, arrangements, notes, daily

diaries, drawings, receipts, vouchers, memoranda, and any and all other documents that pertain to rights, duties, obligations, or performance under this Agreement. Contract Records include hard copy and electronic records, written policies and procedures, time sheets, payroll records and registers, cancelled payroll checks, estimating work sheets, correspondence, invoices and related payment documentation, general ledgers, insurance rebates and dividends, and any other records pertaining to rights, duties, obligations or performance under this Agreement, whether by Consultant or Subconsultants.

County shall have the right to audit, review, examine, inspect, analyze, and make copies of all Contract Records at a location within Broward County. Consultant hereby grants County the right to conduct such audit or review at Consultant's place of business, if deemed appropriate by County, with seventy-two (72) hours' advance notice. Consultant agrees to provide adequate and appropriate work space. Consultant shall provide County with reasonable access to Consultant's facilities, and County shall be allowed to interview all current or former employees to discuss matters pertinent to the performance of this Agreement.

Consultant shall, by written contract, require its Subconsultants to agree to the requirements and obligations of this section.

Any incomplete or incorrect entry in such books, records, and accounts shall be a basis for County's disallowance and recovery of any payment upon such entry. If an audit or inspection in accordance with this section discloses overpricing or overcharges to County of any nature by Consultant or its Subconsultants in excess of five percent (5%) of the total contract billings reviewed by County, the reasonable actual cost of County's audit shall be reimbursed to County by Consultant in addition to making adjustments for the overcharges. Any adjustments or payments due as a result of such audit or inspection shall be made within thirty (30) days after presentation of County's findings to Consultant.

11.6 Subconsultants. Consultant shall utilize only the Subconsultants identified in Exhibit C, Schedule of Subconsultants, to provide the Services for this Project. Consultant shall obtain written approval of Contract Administrator prior to changing or modifying the Schedule of Subconsultants, which shall be automatically updated upon such written approval. Consultant shall bind in writing each and every approved Subconsultant to the terms stated in this Agreement, provided that this provision shall not, in and of itself, impose the insurance requirements set forth in Article 9 on Consultant's Subconsultants.

11.7 Assignment. Neither this Agreement nor any interest herein shall be assigned, transferred, or encumbered without the written consent of the other party. County shall have the right to terminate this Agreement, effective immediately, if there is an assignment, or attempted assignment, transfer, or encumbrance, of this Agreement or any right or interest herein by Consultant without County's written consent.

11.8 Indemnification of County. Consultant shall indemnify and hold harmless County, its officers and employees from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness or intentionally wrongful conduct of Consultant or other persons employed or utilized by Consultant in the

performance of this Agreement. The provisions of this section shall survive the expiration or earlier termination of this Agreement. To the extent considered necessary by Contract Administrator and County Attorney, any sums due Consultant under this Agreement may be retained by County until all of County's claims subject to this indemnification obligation have been settled or otherwise resolved, and any amount withheld shall not be subject to payment of interest by County.

11.9 Prior Agreements Superseded. This document incorporates and includes all prior negotiations, correspondence, conversations, agreements, or understandings applicable to the matters contained herein; and the Parties agree that there are no commitments, agreements, or understandings concerning the subject matter of this Agreement that are not contained in this document. Accordingly, the Parties agree that no deviation from the terms hereof shall be predicated upon any prior representations or agreements whether oral or written.

11.10 Amendments. No modification, amendment, or alteration in the terms or conditions contained herein shall be effective unless contained in a written document executed with the same formality and of equal dignity herewith.

11.11 Notices. In order for a notice to a party to be effective under this Agreement, notice must be sent via U.S. first-class mail, hand delivery, or commercial overnight delivery, each with a contemporaneous copy via e-mail, to the addresses listed below and shall be effective upon mailing or hand delivery (provided the contemporaneous email is also sent). The addresses for notice shall remain as set forth in this section unless and until changed by providing notice of such change in accordance with the provisions of this section.

FOR COUNTY:

Broward County Construction Management Division
Attn: Ariadna Musarra, Director/County Architect or Designee
Governmental Center, Room A-550
115 South Andrews Avenue
Fort Lauderdale, Florida 33301
Email address: amusarra@broward.org

FOR CONSULTANT:

Saltz Michelson Architects, Inc.
Attn: Charles A. Michelson, Principal
3501 Griffin Road
Fort Lauderdale, FL 33312
Email address: cmichelson@saltzmichelson.com

11.12 Interpretation. The titles and headings contained in this Agreement are for reference purposes only and shall not in any way affect the meaning or interpretation of this Agreement. All personal pronouns used in this Agreement shall include the other gender, and the singular shall include the plural, and vice versa, unless the context otherwise requires. Terms such as "herein," "hereof," "hereunder," and "hereinafter" refer to this Agreement as a whole and not to any particular sentence, paragraph, or section where they appear, unless the context

otherwise requires. Whenever reference is made to a section or article of this Agreement, such reference is to the section or article as a whole, including all of the subsections of such section, unless the reference is made to a particular subsection or subparagraph of such section or article. Any reference to “days” means calendar days, unless otherwise expressly stated.

11.13 Consultant’s Staff. Consultant will provide the key staff identified in its proposal for Project as long as said key staff are in Consultant’s employment. Consultant will obtain prior written approval of Contract Administrator to change key staff. Consultant shall provide Contract Administrator with such information as necessary to determine the suitability of proposed new key staff. Contract Administrator will be reasonable in evaluating key staff qualifications. If Contract Administrator desires to request removal of any of Consultant’s staff, Contract Administrator shall first meet with Consultant and provide reasonable justification for said removal; upon such reasonable justification, Consultant shall use good faith efforts to remove or reassign the staff at issue.

11.14 Drug-Free Workplace. To the extent required under Section 21.31(a)(2), Broward County Administrative Code, or Section 287.087, Florida Statutes, Consultant certifies that it has a drug-free workplace program and that it will maintain such drug-free workplace program for the duration of this Agreement.

11.15 Independent Contractor. Consultant is an independent contractor under this Agreement, and nothing in this Agreement shall constitute or create a partnership, joint venture, or any other relationship between the Parties. In providing Services under this Agreement, neither Consultant nor its agents shall act as officers, employees, or agents of County, except as authorized by the Contract Administrator for permitting, licensing, or other regulatory requirements. Consultant shall not have the right to bind County to any obligation not expressly undertaken by County under this Agreement.

11.16 Regulatory Capacity. Notwithstanding the fact that County is a political subdivision with certain regulatory authority, County’s performance under this Agreement is as a party to this Agreement and in the capacity as owner of the Project. In the event County exercises its regulatory authority, the exercise of such authority and the enforcement of any rules, regulation, laws, and ordinances shall have occurred pursuant to County’s regulatory authority as a governmental body separate and apart from this Agreement, and shall not be attributable in any manner to County as a party to this Agreement.

11.17 Sovereign Immunity. Except to the extent sovereign immunity may be deemed to be waived by entering into this Agreement, nothing herein is intended to serve as a waiver of sovereign immunity by County nor shall anything included herein be construed as consent by County to be sued by third parties in any matter arising out of this Agreement. County is a political subdivision as defined in Section 768.28, Florida Statutes, and shall be responsible for the negligent or wrongful acts or omissions of its employees pursuant to Section 768.28, Florida Statutes.

11.18 Third-Party Beneficiaries. Neither Consultant nor County intends to directly or substantially benefit a third party by this Agreement. Therefore, the Parties acknowledge that

there are no third-party beneficiaries to this Agreement and that no third party shall be entitled to assert a right or claim against either of them based upon this Agreement.

11.19 Conflicts. Neither Consultant nor its employees shall have or hold any continuing or frequently recurring employment or contractual relationship that is substantially antagonistic or incompatible with Consultant's loyal and conscientious exercise of judgment and care related to its performance under this Agreement. During the term of this Agreement, none of Consultant's officers or employees shall serve as an expert witness against County in any legal or administrative proceeding in which he, she, or Consultant is not a party, unless compelled by court process. Further, such persons shall not give sworn testimony or issue a report or writing, as an expression of his or her expert opinion that is adverse or prejudicial to the interests of County in connection with any such pending or threatened legal or administrative proceeding unless compelled by court process. The limitations of this section shall not preclude Consultant or any persons in any way from representing themselves, including giving expert testimony in support of such representation, in any action or in any administrative or legal proceeding. In the event Consultant is permitted pursuant to this Agreement to utilize Subconsultants to perform any Services required by this Agreement, Consultant shall require such Subconsultants, by written contract, to comply with the provisions of this section to the same extent as Consultant.

11.20 Materiality and Waiver of Breach. Each requirement, duty, and obligation set forth in this Agreement was bargained for at arm's-length and is agreed to by the Parties. Each requirement, duty, and obligation set forth in this Agreement is substantial and important to the formation of this Agreement, and each is, therefore, a material term of this Agreement. County's failure to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement. A waiver of any breach of a provision of this Agreement shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of the terms of this Agreement. To be effective, any waiver must be in writing signed by an authorized signatory of the waiving Party.

11.21 Compliance with Laws. Consultant and the Services must comply with all applicable federal, state, and local laws, codes, ordinances, rules, and regulations including, without limitation, American with Disabilities Act, 42 U.S.C. § 12101, Section 504 of the Rehabilitation Act of 1973, and any related federal, state, or local laws, rules, and regulations.

11.22 Severability. In the event any part of this Agreement is found to be unenforceable by any court of competent jurisdiction, that part shall be deemed severed from this Agreement and the balance of this Agreement shall remain in full force and effect.

11.23 Joint Preparation. This Agreement has been jointly prepared by the Parties, and shall not be construed more strictly against either Party.

11.24 Priority of Provisions. If there is a conflict or inconsistency between any term, statement, requirement, or provision of any document or exhibit attached to, referenced by, or incorporated in this Agreement and any provision of Articles 1 through 11 of this Agreement, the provisions contained in Articles 1 through 11 shall prevail and be given effect.

11.25 Law, Jurisdiction, Venue, Waiver of Jury Trial. This Agreement shall be interpreted and construed in accordance with and governed by the laws of the State of Florida. The exclusive venue for any lawsuit arising from, related to, or in connection with this Agreement shall be in the state courts of the Seventeenth Judicial Circuit in and for Broward County, Florida. If any claim arising from, related to, or in connection with this Agreement must be litigated in federal court, the exclusive venue for any such lawsuit shall be in the United States District Court or United States Bankruptcy Court for the Southern District of Florida. **BY ENTERING INTO THIS AGREEMENT, CONSULTANT AND COUNTY HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

11.26 Reuse of Project. County may, at its option, reuse (in whole or in part) the resulting end-product or deliverables resulting from Consultant's Services (including, but not limited to, drawings, specifications, other documents, and services as described herein and in Exhibit A); and Consultant agrees to such reuse in accordance with this provision. If the Contract Administrator elects to reuse the services, drawings, specifications, and other documents, in whole or in part, prepared for this Project for other Projects on other sites, Consultant will be paid a reuse fee to be negotiated between Consultant and County, subject to approval by the proper awarding authority. Each reuse shall include all Basic Services and modifications to the drawings, specifications, and other documents normally required to adapt the design documents to a new site. This reuse may include preparation of reverse plans, changes to the program, provision for exceptional site conditions, preparation of documents for off-site improvements, provisions for revised solar orientation, provisions for revised vehicular and pedestrian access, and modifications to building elevations, ornament, or other aesthetic features. In all reuse assignments, the design documents shall be revised to comply with building codes and other jurisdictional requirements current at the time of reuse for the new site location. The terms and conditions of this Agreement shall remain in force for each reuse Project, unless otherwise agreed by the Parties in writing.

11.27 Payable Interest.

11.27.1 Payment of Interest. County shall not be liable to pay any interest to Consultant for any reason, whether as prejudgment interest or for any other purpose, and in furtherance thereof Consultant waives, rejects, disclaims, and surrenders any and all entitlement it has or may have to receive interest in connection with a dispute or claim arising from, related to, or in connection with this Agreement. This subsection shall not apply to any claim for interest, including for post-judgment interest, if such application would be contrary to applicable law.

11.27.2 Rate of Interest. If the preceding subsection is inapplicable or is determined to be invalid or unenforceable by a court of competent jurisdiction, the annual rate of

interest payable by County under this Agreement, whether as prejudgment interest or for any other purpose, shall be, to the full extent permissible under applicable law, one quarter of one percent (0.25%) simple interest (uncompounded).

11.28 Incorporation by Reference. Any and all Recital clauses stated above are true and correct and are incorporated in this Agreement by reference. The attached Exhibits are incorporated into and made a part of this Agreement.

11.29 Counterparts and Multiple Originals. This Agreement may be executed in multiple originals, and may be executed in counterparts, each of which shall be deemed to be an original, but all of which, taken together, shall constitute one and the same agreement.

11.30 Additional Security Requirements. Consultant shall comply with the attached hereto and incorporated herein as Exhibit A.

(The remainder of this page is intentionally left blank.)

IN WITNESS WHEREOF, the Parties hereto have made and executed this Agreement: BROWARD COUNTY, through its BOARD OF COUNTY COMMISSIONERS, signing by and through its Mayor or Vice-Mayor authorized to execute same by Board action on the _____ day of _____, 20____, and SALTZ MICHELSON ARCHITECTS, INC., signing by and through its _____, duly authorized to execute same.

COUNTY

ATTEST:

BROWARD COUNTY, by and through its Board of County Commissioners

Broward County Administrator, as
ex officio Clerk of the Broward County
Board of County Commissioners

By: _____
_____ day of _____, 20____

Insurance requirements approved by Broward
County Risk Management Division:

Approved as to form by
Andrew J. Meyers
Broward County Attorney
Governmental Center, Suite 423
115 South Andrews Avenue
Fort Lauderdale, Florida 33301
Telephone: (954) 357-7600
Telecopier: (954) 357-7641

By: _____ (Date)
Tim Crowley
Property Specialist

By: _____ (Date)
Jordan S. Nadel
Assistant County Attorney

By: _____ (Date)
Michael J. Kerr
Deputy County Attorney

**AGREEMENT BETWEEN BROWARD COUNTY AND SALTZ MICHELSON ARCHITECTS, INC.
FOR CONSULTANT SERVICES FOR MAIN JAIL EXTERIOR GLAZING SYSTEMS REMEDIATION
(RFP # GEN2116591P1)**

FOR INDIVIDUAL:

Consultant

WITNESSES:

Signature

(Print/Type Name)

Signature

(Print/Type Name)

By _____

(Please Type Name)

____ day of _____, 20____.

FOR CORPORATION:

CONSULTANT

WITNESSES:

Signature

(Print/Type Name)

Signature

(Print/Type Name)

Saltz Michelson Architects, Inc.

By _____
President/Vice President

(Typed Name and Title)

____ day of _____, 20____.

CORPORATE SEAL

EXHIBIT A
Scope of Work

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Attachment 1: Project Schedule

Attachment 2: BIM and Electronic Media Submittal Requirements

Attachment 3: Architectural Program (NOT USED)

Attachment 4: Preliminary Project Budget

Exhibit B – Maximum Billing Rates

Exhibit B-1 - Schedule of Testing Unit Cost

Exhibit C - Schedule of Subconsultant Participation

Exhibit D - Schedule of CBE Participation

Exhibit E - Minimum Insurance Coverages

1.01 Project Description and Program Project Description and Program

1.01.01 The following paragraphs form a general description of the professional services required for the design and construction for renovations. As such, it is not all inclusive and County does not represent that it is a complete inventory of the professional services necessary to achieve County's goals. The following paragraphs represent County's minimum level of performance but do not limit the professional services that may be required during any Project phase described herein.

1.01.02 Project Description

(A) The Project encompasses remediation of all exterior glazing systems, and restorations of the same (windows, store fronts, other glazing systems), to meet current Florida Building Code High Velocity Hurricane Zone (HVHZ) wind loads and detention/correctional facility standards, such as American Correctional Association Guide for Adult Local Detention Facilities and The Florida Model Jail Standards. Project includes restoration of existing structural and other building systems affected by the work, including but not limited to mechanical, electrical, fire sprinkler systems, security systems, landscaping at the existing Broward County Main Jail (BCMJ) building.

(B) Consultant services shall include strategic planning, design, construction sequence and logistics for the remediation of all exterior glazing systems in this continuously occupied detention facility.

(C) Consultant shall comply with Broward Sheriff Office (BSO) security requirements and protocols.

(D) The Project Site is located at:

**555 Southeast 1st Avenue
Fort Lauderdale, Florida 33301**

1.01.03 Preliminary Architectural Documents

The following reference documents shall be provided by the Contract Administrator with issuance of first Notice to Proceed:

(A) Glass & Glazing Systems Condition Survey: Broward County Main Jail, prepared by A/R/C Associates Incorporated, dated: 1/12/12; and

(B) Broward County Main Jail, Glass and Glazing Systems Condition Survey, prepared by Glazing Consultants International, LLC, dated 1/12/12.

(C) Courthouse Complex Civil, ALTA Survey & Tree Survey; prepared by: Craven Thompson & Associates, dated 8/15/11 and subsequent updates.

(D) Design Documents prepared by others.

(E) Building Information Model prepared by others.

2.01 Basic Services

2.01.01 The services listed below, in addition to those specified by Consultant's agreement with County, are related to the specific Project or other professional services as necessary to meet the needs of Broward County.

2.01.02 The listed services below shall not limit those activities or services that may be requested by the Contract Administrator.

3.01 Basic Services by Project Phase

3.01.01 Consultant agrees to:

(A) Provide complete professional architectural, engineering and/or other professional design services set forth in the Phases enumerated hereinafter and all necessary personnel, equipment and materials to perform services;

(B) Complete those design services in accordance with the Project Schedule (Exhibit A, Attachment 1, Project Schedule);

(C) Complete those services that will deliver a facility (or facilities) within County's established budget for the Project (Exhibit A, Attachment 4, Project Budget);

(D) Participate in the Contract Administrator's programs of Value Engineering and Constructability Reviews throughout Phases I (Reconciliation and Schematic Design), Phase II (Design Development) and Phase III (Construction Documents).

3.01.02 Consultant shall schedule and attend a bi-weekly Project review and coordination meetings with representatives of the Contract Administrator throughout Phases I through IV of the Project. At each of these meetings, Consultant and Contract Administrator shall review the Project's budget, schedule, and scope along with Consultant's development and progress to date on the respective phases of the Project and any special problems related to the continuing progress of the Project. Consultant shall attend weekly meetings during Phase V (Construction) as required elsewhere in this Agreement. For each Project review meeting, and as may be otherwise appropriate during any Project phase, Consultant shall provide progress sketches and other documents sufficient to illustrate progress and the issues at hand for the Contract

Administrator's review. Consultant shall not be entitled to claims for delays to the Project Schedule due to Consultant's provision of such documents.

3.01.03 Consultant and representatives of each sub-consulting firm shall attend a Design Phase Kick-Off meeting and a Design Phase Debriefing meeting which will be scheduled by the Contract Administrator at the beginning and end of each of the Project's phases. The Design Phase Kick-Off meetings will provide a forum for the entire Project team to review Project goals, continuing Project issues, and review performance expectations for the respective phase of the Project. The Design Phase Debriefing Meetings will provide a forum in which the entire Project team can provide feedback concerning team performance, communications, procedures, quality control and other related issues for the current and future Projects.

3.01.04 Consultant, as required by the Contract Administrator, shall attend and provide representation at all review meetings, workshops, hearings and Commission/Council meetings concerning the Project as conducted by any and all other agencies having jurisdiction over the Project. Consultant shall be responsible for attending and participating in design reviews conducted by the municipal, county or other jurisdictional agency and shall be responsible for responding in writing to all review comments generated in such reviews and providing revised and resubmitted documents as required by reviewing agencies in response to such reviews.

3.01.05 Consultant's services shall conform to Contract Administrator's specifications (as they may be made available to Consultant), including but not limited to, Contract Administrator's Design and Materials Standards Manuals, and Contract Administrator's Guidelines and Procedures Manual and Forms for capital Projects, provided, however, that in the event of conflict the provisions of this agreement shall govern, and Consultant shall remain, as the Architect or Engineer of Record, responsible for the content and accuracy of Consultant's documents generated for this Project.

3.01.06 Consultant shall keep Contract Administrator informed of any proposed changes in requirements or in construction materials, systems or equipment as the drawings and specifications are developed. Proposed changes must be reviewed and approved in writing by Contract Administrator prior to incorporation into the design or construction documents.

3.01.07 Consultant shall cooperate with Contract Administrator by participating in, reviewing and commenting on Constructability and Value Engineering studies performed by Contract Administrator, and attending meetings, where the content of design and construction contract documents will be coordinated and reconciled, scheduled during any phase of the Project. In the event Contract Administrator accepts recommendations from Value Engineering and Constructability studies, Consultant shall implement same, including providing revised drawings and specifications or other documents, as a part of Basic Services.

3.01.08 A preliminary Building Information Model (BIM) has been produced and is provided for the Project. BIM model has been validated by the Contractor and believed to be accurate to within one-half ($\frac{1}{2}$) of an inch. The BIM model shall be used as the basis of the Project

documentation. Consultant shall review, and update BIM Model as needed to accomplish the work.

3.01.09 Consultant shall be required to submit various documents further defined below in both hardcopy and electronic media formats. The Parties shall agree to requirements for electronic media submittals consistent with the requirements contained in Exhibit A, Attachment 2, BIM Requirements & Electronic Media Submittal Requirements ("Attachment 2"). Attachment 2 is provided as a template for the Parties, and sets forth the expectations of the Parties regarding electronic media submittals. The specific requirements for electronic media submittals shall be further negotiated by the Parties subsequent to the execution of this Agreement. Once the Parties have agreed upon electronic media submittal requirements, requests for deviations from those electronic media submittal requirements shall be submitted in advance by Consultant in writing for the consideration of the Contract Administrator.

3.01.10 Documents, electronic media and other materials submitted to Contract Administrator by Consultant shall be retained by the Contract Administrator except as otherwise noted herein and are subject to the ownership provisions of this Agreement.

3.01.11 For all Project deliverables provide a "Project Transmittal Form." In the absence of a proprietary form issued by County's Construction Management Division, Consultant shall utilize its own office standard transmittal form (or an equivalent document such as that published by the American Institute of Architects). The Project Transmittal Form must accurately delineate the date of submittal and list each component document of the submittal.

3.01.12 Consultant shall make complete document submittals at the various phases listed below. Incomplete or partial submittals may be requested in advance through the Contract Administrator and may be allowed only when Consultant has received advance approval in writing by the Contract Administrator. Incomplete or partial submittals made without advance approval shall be returned to Consultant unreviewed and unaccepted by the Contract Administrator and subject to any liquidated damages applicable as provided for elsewhere in this Agreement.

3.01.13 The Consultant shall pursue LEED design principles and guidelines established by the United States Green Building Council (USGBC) in all Project Phases as part of Basic Services. Project will not be submitted for LEED Certification. All applicable LEED principles and guidelines shall be applied.

3.02 Predesign Phase (NOT USED)

3.03 Phase I – Reconciliation and Schematic Design Phase:

3.03.01 After written Notice to Proceed from Contract Administrator, Consultant shall research and prepare a bound Reconciliation Report to be presented in mid-phase to better inform Schematic Design Development that includes:

(A) Results and observations from Consultant's review of County provided reports, verification of site and building conditions to determine if conditions conform to documents provided by the County. Identify substantive differences and appropriate actions for resolution.

(B) Results and concerns regarding applicable codes, laws, rules and regulations governing the Project. Consultant shall investigate the municipal, county and other jurisdictional agency requirements (such as the South Florida Water Management District, Department of Health and Rehabilitative Services, etc.). Identify approval processes and procedures, such as Development Review Committee (DRC) submissions if required by municipal agencies, site plan and other reviews as appropriate to the Project. Consultant shall prepare and provide a preliminary list of permits and approvals required by any and all such agencies to the Contract Administrator and shall coordinate with Contract Administrator concerning the timing, application requirements, fees and other matters pertaining to those approvals.

(C) Research and identify best practices for exterior glazing systems for detention/correctional facilities. Identify options for suitable material and product selections, installation and attachment methods, relevant manufactured products with Notices of Acceptance (NOA) and other pertinent information. Provide relevant illustrations and examples of current industry standard approaches in similar facilities.

(D) Provide an updated "Opening Chart." The chart shall list all glazed exterior openings of the Project by number, type, square foot area of each opening, total square foot area for each opening type and a grand total.

(E) Present all findings, including supporting documentation such as BIM model, drawings, sketches, photographs, etc.

(F) Provide a review of existing security systems as relevant to the work.

3.03.02 Consultant shall make a presentation of findings, opinions and resulting actions required for the best progress of the work.

3.03.03 Consultant shall develop and present a minimum of three (3) alternative approaches or each type of exterior glazing system. Provide supporting material illustrating the general scope, security concerns, attachments, configuration, scale, and relationship of Project components. Consultant shall supplement with drawings, models, photographs, etc. Consultant shall include preliminary selections of materials, possible manufacturers, potential installation methods and the logistics of the work.

(A) Consultant shall coordinate with the Contractor to construct full width, cell window mock-ups for a minimum of the three (3) alternative proposed designs for each type of cell window approach. Consultant shall provide specifications and illustrations for the

construction of the identified elements. In cooperation with Contractor, Consultant shall jointly present design mock-ups to the Contract Administrator and stakeholders for review and comment.

3.03.04 Provide estimated comparative construction costs as they pertain to solutions, alternative details, and approaches to the work.

3.03.05 The Contract Administrator will convene a Reconciliation and Schematic Design Phase review conference at which Consultant shall review with the Contract Administrator (and other concerned parties) the alternative approaches. Consultant shall identify the preferred solutions for joint discussion and evaluation. The Contract Administrator will identify a preferred design solution which shall then form the basis of Consultant's continuing work of the Project.

3.03.06 Consultant, in coordination with the Contractor, shall provide an updated probable construction cost for the selected approach.

3.03.07 Consultant shall submit five (5) hard and digital electronic copies of all documents required under this Phase (except where otherwise specified), without additional charge, for approval by the Contract Administrator. The Contract Administrator shall review submitted documents and provide written review comments to Consultant within the time frames established on Attachment 1, Project Schedule. Consultant shall modify and resubmit to Contract Administrator until approved (if not initially satisfactory to the Contract Administrator) within fourteen (14) consecutive calendar days from the receipt of Contract Administrator's review comments such documents and drawings as required to fulfill the submittal requirements for this Project phase as listed in the paragraphs above.

Consultant shall not proceed with the next Phase until the completion of all required presentations and reports, reconciliation or correction of all outstanding Contract Administrator review comments, and receipt of a written Notice to Proceed with the next phase.

3.04 Phase II – Design Development

3.04.01 After written Notice to Proceed from Contract Administrator and based on the approved Phase I Reconciliation and Schematic Design Documents and any adjustments authorized by the Contract Administrator in the Project Scope or Budget, Consultant shall lead the ongoing discussion to develop the details and approach to the Work including:

3.04.02 Bi-weekly meetings to present the development of the work for discussion with the County and stakeholders. Development of the design and details for the selected approach including but not limited to:

- (A) Proposed jail/detention/hurricane glazing systems, framing and glazing materials, and protection levels.

(B) Connection detailing (architectural and structural) such as: envelope integrity, air and vapor barrier applications, waterproofing components, existing glazing system reinforcing, affected finishes repair or replacement strategies.

(C) Testing requirements such as pendulum, impact, air and water infiltration, etc.

3.04.03 Work in coordination with the Contractor to:

(A) Develop proposed schedule and sequence of work.

(B) Identify construction logistics including staging, temporary facilities, movement patterns, maintenance of life safety systems and circulation.

(C) Provide updated estimated comparative construction costs as they pertain to solutions, alternative details and approaches to the work.

(D) Review constructability of proposed solutions as they progress.

3.04.04 Formalize the developed conclusions of the above. The County intends that the electronic drawings and Building Information Model supplied by the County be updated and used as the basis of the existing conditions for the Project drawings. Submit and present the Design Development Phase drawings and conclusions for approval by the Contract Administrator, comprised of the following:

(A) Design Development Documents. These documents shall respond to the Reconciliation and Schematic Design documentation and scope of work requirements illustrating the general scope, scale, and relationship of Project components. Format two-dimensional drawings to fit on standard 30-inch by 42-inch drawing sheets. Provide break lines in a consistent location as needed. Provide a "Project Transmittal Form" as required by County's Construction Management Division.

(B) Documents shall include, as a minimum, the following in addition to other graphic or descriptive materials Consultant may deem necessary to adequately communicate the Project:

1) Existing property survey provided by County.

2) A site plan showing acreage, points of the compass, scale, general topographical conditions, flood plain elevation and velocity zone, over-all dimensions, adjacent highways, roads, off-site improvements, emergency access, fire hydrants, power transmission lines, walks and paths, vehicle and bike parking areas, generator/chiller plant/cooling tower/electrical vault locations, accessibility for the disabled, service areas, loading docks, courtyards, bus and car loading zones, and existing buildings.

- 3) Landscape and Irrigation Drawings, limited to items affected by the Project scope, including preliminary designs for a code conforming landscape layout and supporting irrigation system. Landscape drawings should indicate preliminary locations of major planting areas (trees and planting beds); locations, species, size and character of existing landscaped areas, areas for temporary planting of existing plant materials to be removed and replanted; existing plant materials designated to remain and requiring protection, preliminary plant species selections, and any “special” landscape features. Irrigation system drawings should indicate existing water sources, primary distribution, valves and remediation in areas affected by the Project scope. All such work shall be in conformance with required zoning and development codes and other jurisdictional requirements of Project's location.
- 4) Preliminary Structural Drawings limited to the Project scope, including plans and sections indicating systems, connections and design wind pressures. These drawings may be structural roughs.
- 5) Updated ADA Plan(s) indicating the further development of the facility’s accessible features as required by code. Consultant shall:
 - a. Detail remediation of all building components affected by the Project scope to be in full compliance with applicable Florida Accessibility Code for Building Construction.
- 6) Life-safety plans to show exit strategy, rated doors, rated walls and partitions, emergency wall openings, ramps, vertical lifts and other life safety equipment applicable to the Project scope. Consultant shall:
 - a. Provide life-safety plan(s) delineating the necessity for and initial decisions concerning exits, provisions for accessibility for the physically challenged, fire walls, protected corridors, smoke partitions, fire alarm systems, fire sprinkler systems, room names and numbers, and any other life-safety features relevant to the facility. Indicate those facilities, or portions thereof, that will serve as emergency shelters or which have been designed to incorporate special emergency preparedness features including but not limited to fire watch or equipment including a brief notation of those design features and/or equipment.
 - b. Indicate and provide information concerning occupancy type, construction type, building area(s) (in square feet), total building occupancy, fire zone, maximum travel distances allowed/provided, maximum dead end corridor allowed/provided, minimum exit corridor width allowed/provided, UL and/or other classification(s) of proposed finishes, and determination that building is fire sprinklered, notations concerning installation of life safety equipment by certified specialty sub-contractors pursuant to applicable codes, rules and regulations.
 - c. By symbol, indicate exits (required/provided), fire extinguishers, fire alarm equipment, annunciator panels, smoke vents, master valves and any emergency disconnect, emergency exit lighting, emergency power equipment, fire sprinklers,

- fire valve cabinets, exit signs, smoke and fire dampers, generator(s) and other life-safety equipment relevant to the Project scope.
- d. By symbol, indicate connections and tie-ins to existing equipment for any added or modified components.
- 7) Floor plans showing points of the compass, over-all dimensions, identity of each space and room by name and number, door locations and swing, accessibility clearances, mechanical and electrical rooms. Provide floor plan(s) including, but not be limited to, the following:
- a. A floor plan drawn at an architectural scale that will allow the entire facility to be shown on one sheet, without break lines and which indicates Project phasing as applicable to the Project.
 - b. Floor and roof plans drawn at 1/8 inch or larger scale showing all existing occupied and non-occupied spaces or special rooms with dimensions, equipment and furnishing layouts, sanitary facilities, stairs, elevators, and identification of accessible areas for the disabled by the Project scope.
 - c. Furniture and equipment plans as applicable to and as affected by the Project scope.
 - d. Floor plans for renovations to an existing facility: Indicate all existing spaces, exits, plumbing fixtures and locations, and any proposed changes thereto as affected by the Project scope. Distinguish between new and existing areas for renovation.
 - e. Large scale plans (at a minimum of ¼ inch scale) for cells, restrooms, kitchens, stairs, and other spaces that require detailed delineation of furniture, fixture and equipment affected by the Project scope. Provide detailed plans (at a minimum of ½ inch scale) for mechanical rooms, electrical rooms, PBX rooms, and elevator machine rooms affected by the Project scope.
 - f. Reflected ceiling plan(s) (corresponding to scale, orientation and layout of building floor plans) indicating light fixture layout, air diffusers and return grilles, other ceiling mounted mechanical/plumbing/fire protection/security and surveillance system components, ceiling mounted electrical system components, proposed soffits, ceiling height changes, ceiling material changes, access panels, and other principal ceiling design features limited to areas affected by the Project scope.
- 8) All exterior building elevations necessary to fully illustrate the existing building and scope of work. Consultant shall:
- a. Provide elevations and sections of the building to fully illustrate and indicate the mass and character of the facility including fenestration, openings, walkways, vertical transportation (elevators, escalators, lifts, ramps and stairs), preliminary material selections, and other building features and spatial relationships.
- 9) Typical building sections to show vertical dimensions, proposed construction materials, and relationship of finished floor to finished grades to fully illustrate the scope of work.

- 10) Preliminary Room Finish Schedule limited to Project scope.
- 11) Preliminary Exterior glazing system Schedule limited to Project scope.
- 12) Preliminary Door Schedule limited to Project scope.
- 13) Mechanical and Plumbing Drawings, limited to items affected by the Project scope, including floor plans, reflected ceiling plans and diagrams of the facility's air conditioning (HVAC), fire sprinkler and other mechanical building systems required for distribution and disposal of solids, fluids and gases within the facility. Include duct layout, air handling equipment, return air systems, fresh air intakes, air handling equipment, plumbing lines, equipment and fixtures, location of grease trap(s), LP gas tank location, natural gas pipe system, and any tie in or connection to existing utilities.
- 14) Electrical Drawings, limited to items affected by the Project scope. These may include reflected ceiling plans, lighting layouts for the outdoors and interior spaces. Indicate location of the main components of the electrical system such as transformers, panels, and main switch board, and emergency generator, location of communications consoles, cable or closed-circuit television head-ins, radio antennas, and satellite and short-wave dish antennas and equipment, fire alarm panel. Include principal equipment and rack locations for computer networking, telecommunications and other communications/computer systems. Show locations of all electronically controlled doors and security control equipment as well as primary building mechanical equipment such as chillers, air handler units, etc. Provide plans which indicate locations of telephone, power and computer networking connections necessary for each space within the facility. Delineate cable tray or floor duct distribution systems.
- 15) Consultant shall present a progress BIM Model in electronic format of BIM Model appropriate to this phase of Development.
- 16) Outline specifications – Consultant shall:
 - a. Organize according to the Specification Section numbering system specified in the Construction Specifications Institute's (CSI) MASTERFORMAT, latest edition numbering system current on the date of execution of the Contract.
 - b. Formatt to conform to the formats for outline specifications as established by the Construction Specifications Institute's Manual of Practice (latest edition).
 - c. Complete for Divisions 1 through 48 documenting Project decisions and giving general description of all finishes, materials, and systems including civil, structural, architectural, fire protection, plumbing, HVAC, electrical, and specialty items, including alarm systems, electronic controls and computer networking components.
 - d. Supplement (but do not replace) outline specification sections with "cut-sheets", product information, data, and samples as requested by Contract Administrator

or as necessary to communicate Consultant's design intent to the Contract Administrator.

- e. Provide content edited on a Project specific basis for the Project described in this agreement.
- (C) Consultant shall advise Contract Administrator of any adjustments to the Phase I (Reconciliation and Schematic Design) estimate of probable construction cost.
- (D) An updated Project Development Schedule reflecting development and anticipated schedules for all subsequent Project activities.
- (E) A letter from Consultant and each of the major technical disciplines and any necessary Subconsultants explaining how each previous review comment (as generated by the Contract Administrator and/or other reviewing agencies) concerning the Project have been addressed and/or corrected.
- (F) A letter indicating, after coordination with County's Construction Management Division (and other agencies at its direction), the extent of any known or suspected asbestos containing materials or other potentially hazardous materials (PCB's, groundwater contaminants, etc.) which might require mitigation by County prior to or during construction of the Project. Consultant shall establish and confirm responsibility for removing the asbestos or other hazardous materials in the design development documents and coordinate with Project Development Schedule, Statement of Probable Construction Cost and other documentation.
- (G) Preliminary color and materials boards (two (2) copies), to present preliminary material types and color selections for all basic building finish materials to the Contract Administrator.

3.04.05 Staff from each of Consultant's major technical disciplines, and Subconsultants as necessary shall attend coordination, review and presentation meetings with the Contract Administrator to explain the design concept and technical resolution of their respective building or site systems.

3.04.06 Consultant shall submit five (5) hard copy sets and five (5) DVD or flash drives containing all documents required under this Phase (except where otherwise specified), without additional charge, for approval by the Contract Administrator. Submit an electronic copy of the BIM model and provide an interactive presentation to the County. The Contract Administrator shall review submitted documents and provide written review comments to Consultant within the time frames established on Attachment 1, Project Schedule. Consultant shall modify and resubmit to Contract Administrator until approved (if not initially satisfactory to the Contract Administrator) within the time frame established in Attachment 1, Project Schedule, from the receipt of Contract Administrator's review comments such documents and drawings as required to fulfill the submittal requirements for this Project phase as listed in the paragraphs above.

3.05 Phase III – 50% Construction Documents:

3.05.01 After written Notice to Proceed from the Contract Administrator and based on the approved Design Development Phase documents and any adjustments in the scope or quality of the Project or in the Fixed Limit of Construction Cost authorized by the Contract Administrator, Consultant shall prepare for approval by Contract Administrator and in accordance with the Contract Administrator's requirements for format and organization, Final Construction Documents setting forth in detail the requirements for the construction of the Project.

3.05.02 **50% Construction Documents Submittal:** Consultant shall make a 50% Construction Documents submittal, for approval by the Contract Administrator, which shall include five (5) hard copy sets and five (5) DVD or flash drives containing the following:

(A) "Project Transmittal Form" as required by County's Construction Management Division.

(B) Drawings of areas within or affected by the Project scope which in addition to the Phase II requirements shall include updates or improved information and the following:

- 1) Existing property survey
- 2) Site Plan(s)
 - a. Legal description, property lines, location of applicable easement lines, setback lines, other restrictive lines or limits, existing site features or amenities to remain, limits of Work area, locations of temporary structures, and staging areas and related Contractor facilities for use during execution of the Work.
 - b. Location of existing storm water and roof drainage systems, including catch basins, retention areas, piping, culverts, control devices and other system components.
 - c. Existing parking lot lighting pole locations.
 - d. Existing location for personnel holes, handholes, pull boxes.
 - e. Layout of existing underground distribution systems (normal power emergency power, fire alarm, telephone, radio or other communications systems, antennas, security, etc.
 - f. Delineation of construction access (including parking and delivery locations), haul routes, site barriers, traffic control devices, and other area designations and protective measures to control and separate staff and the public from construction activities and traffic.
- 3) Site Demolition plans.
 - a. Indicating demolition conditions pertinent to the scope of work.
- 4) Construction Sequence Plans.

- a. Developed in coordination with the Contractor and the County, delineating the order of the construction and remediation work at each exterior glazing system opening. Additionally, the Consultant shall modify the BIM model and shall utilize it to present and illustrate the proposed sequencing of the construction work.
- 5) Existing landscape plans and detailing,
 - a. Including a plant list clearly referenced and targeted, details for shrub and tree plantings, identification of plants and trees to remain (with associated plans and details of their protection, maintenance and care during the Project), identification of plants to be removed or relocated (including details and specifications for their preparation, replanting, maintenance or disposal), and other necessary documentation to ensure healthy and vigorous plant growth.
 - 6) Existing irrigation plans and details
 - a. Delineating the areas affected by the Project scope, and addressing necessary connections, alteration, repair or replacement of any existing irrigation systems and irrigation requirements for plant materials provided or retained on site during the Project.
 - 7) Floor plans including:
 - a. All dimensions and any target notes explaining the extent of Work, wall types, or other component, assembly or direction regarding the Construction.
 - b. Note all chases and delineate all rainwater leaders.
 - c. Show structural columns and coordinate with the floor plan.
 - d. Target interior elevations.
 - e. All built-in cabinetry or equipment affected by the Project scope.
 - f. Room and door numbers with all spaces and doors having individual numbers.
 - g. Life-safety information to show exit strategy, rated doors, rated walls and partitions, emergency wall openings, ramps, vertical lifts and other life safety equipment applicable such as working stage protection, range and fume hoods, eye wash, emergency showers, etc.
 - 8) Demolition Plans, Indicating required demolition activities. Consultant shall:
 - a. Provide separate demolition plan(s) and other drawings (elevations, sections, etc.) for the Project scope of work.
 - b. Indicate notes on the extent of the demolition: address dimensions at locations where partial walls or glazing systems are being removed or altered, existing room names and numbers, existing partitions, equipment, plumbing, HVAC or electrical elements.
 - c. The Consultant shall specify removal, relocation and coordination of all furniture, equipment, and all items obstructing the work.
 - d. Provide locations and detailing for protective barriers and safeguards (indoor and outdoor) to provide separation of construction activities and protection of

County's existing facilities. Protective barriers shall be designed as appropriate to the purpose they are required to serve. Where required by code, such barriers shall sustain wind loads, ensure against water intrusion and thermal gain. Such barriers shall be designed so as to ensure their components and/or fasteners do not become weapons/shanks for inmates' use.

9) Building elevations developed further than at the Design Development Phase and including delineation of building joints (including dimensionally located stucco control joints), expansion joints, material locations, elevation heights, color scheme, special finishes, design wind pressures, and other building features.

10) Existing Building Sections and Large-scale wall sections as appropriate to this level of document development and as required to indicate existing vertical controls and construction types for the Project. Include clear graphics, and notes on construction assemblies and systems to be used, dimensions, heights. Provide larger scale detailing to delineate solutions for connections. Include clear graphics, and notes on construction assemblies and systems to be used, dimensions, heights. Provide associated detailing to further delineate solutions for connections.

11) Reflected ceiling plans of areas impacted by the Project scope indicating existing and new ceiling types, heights, light fixture types, speakers, outlets, alarms, mechanical diffuser locations, sprinkler heads (if area includes sprinklers) and any other ceiling mounted device, equipment, fixture and/or finish. Consultant shall delineate and detail any dropped soffits or joint conditions between different materials. Consultant shall ensure coordination with architectural, electrical, mechanical and plumbing disciplines and work of any applicable Subconsultants.

12) Roof plans:

- a. Indicating all existing roof penetrations, including drains, scupper, mechanical exhaust fans, any other equipment on the roof, slopes of roof with elevations shown, existing type of roofing system, expansion joints, curbs, and other roof accessories.
- b. Providing dimensions to locate the items noted previously and show detail targets where necessary to reference detailed drawings elsewhere in the drawings.

13) Exterior Glazed Openings Schedules. Consultant shall provide:

- a. Openings Charts indicating opening marks, counts, total areas, glazed areas, and grand total areas; basis of design manufacturer, model number, NOA approval number and remarks.
- b. Detailed Openings Elevations, with head, jamb and sill section marks and appropriate notes for each type of exterior glazed opening being remediated.

c. Openings Schedules indicating mark, type, room number unit/work area, width, height, material, finish, glazing, head, sill, jamb and remarks for each type of exterior glazed opening being remediated.

14) Interior elevations of all rooms affected by the Project scope (where those rooms house existing casework, built-in furniture, variations in material finishes, wall mounted equipment or specialty items, graphics, artworks, plumbing, mechanical or electrical fittings, fixtures or equipment, or other improvement that cannot be shown as a standard detail for several similar rooms) including detail targets referencing cabinetry details, dimensions and heights, notes indicating type of equipment (and whether equipment is in or out of contract), wall materials, finishes, and accessories.

15) Details of casework affected by the Project scope as necessary to appropriately delineate repairs to existing casework. Provide appropriate schedules referencing manufacturer's numbers or catalogs, finishes, hardware and other construction characteristics.

16) Details of the following when affected by the Project scope:

- a. Door jamb, head and sill conditions including delineation of required fire ratings for assemblies and components, electrical power requirements and connections to fire alarm, security and other building automation systems within the Project or the existing facility.
- b. Wall and partition types including identification of rated assemblies and product limitations and tolerances relative to those ratings.
- c. Exterior glazing system head, sill and jamb conditions, and anchorage methods shown, in lieu of referencing to manufacturer's standards.
- d. Interior signage to include room and building identification, directional signage, directories, emergency exiting and equipment signs, occupancy and other code mandated signage, and any other items pertinent to the identification of the Project. Consultant shall coordinate and delineate electrical connections and power requirements.
- e. Interior or exterior expansion control connections and related flashings, cover plates, applied sealants, etc.
- f. Any other specialized items necessary to clearly express the intent of the Project design.

17) Room finish, door and exterior glazing system schedules of areas impacted by the Project scope coordinated with the floor plans developed beyond the Design Development Phase.

18) Structural foundation and framing plans and details, with associated diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the basis of design, the design intent and coordination with other disciplines for areas impacted by the Project scope.

- 19) Mechanical Drawings of work affected by the Project scope. Consultant shall:
- a. Provide double line duct work layout and HVAC equipment layout drawings of existing conditions with related diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.
 - b. Provide plumbing equipment and fixture layout drawings of existing conditions with related diagrams, schedules, fixture schedules, notes, detailing and section drawings completed sufficiently to communicate the existing conditions.
- 20) Drawings of existing electrical systems. Consultant shall provide drawings of existing electrical systems affected by the Project scope which contain the following:
- a. Lighting including circuiting and luminaire identification and switching.
 - b. Illuminance computer printout for all indoor typical indoor spaces and parking lots.
 - c. Convenience outlets and circuiting, special outlets and circuiting, television outlets, and power systems and equipment.
 - d. Riser diagrams for all electrical systems including intercom, fire alarm, cable television, computer networking/telephone.
 - e. Emergency and normal power distribution.
 - f. A luminaire schedule.
 - g. A panel schedule and circuitry must be included for all electrical equipment, fixtures and devices affected by the Project scope.
 - h. A general legend and list of abbreviations.
 - i. A 1/2" scale floor plan and wall elevations for all electrical rooms.
 - j. Indications of surge protectors for main switchboard and electrical panels.
- 21) Updated existing Furniture and Equipment Plans, loose furniture and systems furniture and their location within facility for areas of work affected by the Project scope.
- (C) Progress construction specifications:
- 1) Provide Project Manual including front end documents. Completion of fill-in items in Bidding documents and other "Division 0" documents are not required.
 - 2) Provide a Division 1 based upon the standard documents provided by the Contract Administrator and edited by Consultant after consultation with the Contract Administrator to establish Project specific requirements.
 - 3) Include progress set of all other Sections in all Divisions with each section developed to demonstrate to the Contract Administrator an understanding of the

- Project and an appropriate level of developmental progress comparable to that of the drawings.
- 4) Specification sections shall be organized to follow the Construction Specification Institute's (CSI) MASTERFORMAT, latest edition numbering system current on the date of execution of the Contract. Each section shall be developed to include CSI's standard 3-part section and page formats with full paragraph numbering.
- (D) An updated Project Development Schedule, formatted as a preliminary construction schedule reflecting continued Project development and illustrating anticipated schedules for all subsequent Project activities including permitting and submittal coordination with all agencies having jurisdiction on the Project, site mobilization, temporary facilities, general construction sequencing, anticipated substantial and final completion dates, and all other significant Project events. Consultant shall format updated schedule as a Bar Chart (Gantt Chart) type schedule with milestones.
- (E) A letter from Consultant and each of the major technical disciplines and any necessary Subconsultants or explaining how each previous comment concerning the Project have been addressed and/or corrected.
- (F) A Phase III - 50% Construction Document estimate of probable construction cost prepared by Contractor. This estimate shall consist of a fully detailed estimate Projected to the expected time of bid (or other award of construction services) and contain sufficient detail to provide information necessary to evaluate compliance with the Project Budget set for this Project. Consultant shall utilize the Construction Specification Institute's (CSI) MASTERFORMAT, latest edition numbering system current on the date of execution of the Contract, to organize the estimate. The estimate shall specifically include identification of glazing systems replacement and/or remediation areas and scope of work, evaluation of current construction market conditions; application of unit cost data to exterior glazing system, door, and exterior openings; estimates of related costs such as site staging, landscaping relocation and restoration, utilities, logistics, sequencing and other services. Additionally, Consultant shall:
- a. Reconcile the architectural scope of work with County's budget.
 - b. Advise the Contract Administrator if budget and scope of work are not compatible.
- (G) Electronic files of the Project BIM Model appropriate to this phase of Development.
- (H) Consultant shall utilize the BIM model to diagrammatically illustrate the proposed sequencing of the construction work. Consultant shall present this model to the County.

3.05.03 Consultant shall make all changes to the documents as required by the Contract Administrator's review of the documents and resolve all questions of constructability, code compliance, compliance with Contract Administrator standards, or other issues raised by the Contract Administrator during its review of the documents. The Contract Administrator will retain the documents submitted at this phase

3.06 Phase III – 75% Construction Documents:

3.06.01 After written Notice to Proceed from the Contract Administrator and based on the approved Design Development Phase documents and any adjustments in the scope or quality of the Project or in the Fixed Limit of Construction Cost authorized by the Contract Administrator, Consultant shall prepare for approval by Contract Administrator and in accordance with the Contract Administrator's requirements for format and organization, Final Construction Documents setting forth in detail the requirements for the construction of the Project. Consultant is responsible for the full compliance of the design with all applicable codes.

3.06.02 **75% Construction Documents Submittal:** Consultant shall make a 75% Construction Documents submittal, for approval by the Contract Administrator, which shall include five (5) hard copy sets and five (5) DVD or flash drives containing the following:

(A) "Project Transmittal Form" as required by County's Construction Management Division.

(B) Drawings of areas within or affected by the Project scope which in addition to Phase III-50% Construction Documents requirements shall include updates or improved information and the following:

- 1) Site Plan(s) and detailing which, in addition to the Phase II requirements, indicate:
 - a. Legal description, property lines, location of applicable easement lines, setback lines, other restrictive lines or limits, existing site features or amenities to remain, limits of Work area, locations of temporary structures, and staging areas and related Contractor facilities for use during execution of the Work.
 - b. Site demolition plans.
 - c. Spot elevations, based on the existing civil grading plan pertinent to the drainage of rainwater.
 - d. Location of existing storm water and roof drainage systems, including catch basins, retention areas, piping, culverts, control devices and other system components.
 - e. Existing parking lot lighting poles location and type. Existing location for manholes, handholes, pull boxes.
 - f. Layout of existing underground distribution systems (normal power emergency power, fire alarm, intercommunication, computer networking, television, telephone, radio (or other communications systems, antennas, etc.), security, control and spares).

- g. Existing layout of all curbing, typical parking spaces (regular and accessible), accessibility ramps and curb cuts, light fixtures, flagpole and fence foundations, and any other site improvement or condition pertinent to the scope of work.
- h. Existing site equipment or furnishings including site improvements and equipment, pavements, shelters, accessory structures, signage and kiosks, planters, seating areas and other site furniture, postal equipment, vehicular and parking equipment, landscape accessories, site and security lighting, art work, security and pedestrian safety devices, traffic control devices, loading dock equipment, dumpster and recycling areas, and other existing equipment.

2) Construction sequence plans: developed in coordination with the Contractor, to delineate the order of the construction and security logistics to ensure separation of inmates from workers and other construction personnel during construction, as well as delineating staging and storage areas, temporary buildings or structures, temporary utilities, other temporary constructions, construction access (including parking and delivery locations), haul routes, site barriers, traffic control devices, and other area designations and protective measures to control and separate staff and the public from construction activities and traffic. Additionally, the Consultant shall prepare a BIM model and shall utilize it, amongst other things, to present and illustrate the proposed sequencing of the construction work.

3) Existing landscape plans and details: including a plant list clearly referenced and targeted, details for shrub and tree plantings, identification of plants and trees to remain (with associated plans and details of their protection, maintenance and care during the Project), identification of plants to be removed or relocated (including details and specifications for their preparation, replanting, maintenance or disposal), and other necessary documentation to ensure healthy and vigorous plant growth.

4) Existing irrigation plans and details: delineating the entire area of the Project, and addressing necessary connections, alteration, repair or replacement of any existing irrigation systems and irrigation requirements for plant materials provided or retained on site during the Project.

- 5) Full floor plans of existing building conditions including:
- a. All dimensions and any target notes explaining the extent of Work, wall types, or other component, assembly or direction regarding the Construction.
 - b. Note all chases and delineate all rainwater leaders.
 - c. Show structural tie columns and coordinate with the floor plan.
 - d. Target interior elevations.
 - e. Delineate and note all built-in cabinetry or equipment.
 - f. Identify room and door numbers with all spaces and doors having individual numbers.
 - g. Life-safety information to show exit strategy, rated doors, rated walls and partitions, emergency wall openings, ramps, vertical lifts and other life safety

equipment applicable such as working stage protection, range and fume hoods, eye wash, emergency showers, etc.

- 6) Demolition Plans, Indicating required demolition activities. Consultant shall:
 - a. Provide separate demolition plan(s) and other drawings (elevations sections, etc.) for the Project scope of work.
 - b. Indicate notes on the extent of the demolition: address dimensions at locations where partial walls or glazing systems are being removed or altered, existing room names and numbers, existing partitions, equipment, plumbing, HVAC or electrical elements.
 - c. Include notes dealing with repair of existing areas as a result of demolition. Where materials are to be repaired, removed or replaced match existing in size, color and pattern. Where materials are to be repaired, removed or replaced to match existing in size, color and pattern and an identical match is not possible, Consultant shall make appropriate provisions in the contract documents to accommodate such situations without causing change order(s) for added cost.
 - d. Delineate any modifications to existing buildings involving structural elements within the structural documents rather than on the architectural.
 - e. Provide locations and detailing for protective barriers, fire watch and safeguards (indoor and outdoor) to provide separation of construction activities and protection of County's existing facilities. Protective barriers shall be designed as appropriate to the purpose they are required to serve. Where required by code, such barriers shall sustain wind loads, ensure against water intrusion and thermal gain. Such barriers shall be designed to ensure their components and/or fasteners cannot be removed without specialized tools nor become weapons for inmates' use.

- 7) Building elevations: developed further than at the 50% Construction Documents Submittal Phase and including delineation of building joints (including dimensionally located stucco control joints), expansion joints, material locations, elevation heights, color scheme, special finishes, design wind pressures, and other building features.

- 8) Building and wall sections: indicating existing vertical controls and construction types for the Project. Consultant shall include clear graphics, and notes on construction assemblies and systems to be used, dimensions, heights. Provide references to associated detailing to further delineate solutions for connections.

- 9) Reflected ceiling plans: of areas impacted by the Project scope indicating existing and new ceiling types, heights, light fixture types, speakers, outlets, alarms, mechanical diffuser locations, sprinkler heads (if area includes sprinklers) and any other ceiling mounted device, equipment, fixture and/or finish. Consultant shall delineate and detail any dropped soffits or joint conditions between different materials. Consultant shall ensure coordination with architectural, electrical, mechanical and plumbing disciplines and work of any applicable Subconsultants.

10) Roof plans:

- a. Indicating all existing roof penetrations, including drains, scupper, mechanical exhaust fans, any other equipment on the roof, slopes of roof with elevations shown, existing type of roofing system, expansion joints, curbs, and other roof accessories.
- b. Provide dimensions to locate the items noted previously and show detail targets where necessary to reference detailed drawings elsewhere in the drawings.

11) Existing building sections and large-scale wall sections as appropriate to this level of document development and as required to indicate existing vertical controls for the Project. Include clear graphics, and notes on construction assemblies and systems to be used, dimensions, heights. Provide larger scale detailing to delineate solutions for connections.

12) Interior elevations of all rooms affected by the Project scope (where those rooms house existing casework, built-in furniture, variations in material finishes, wall mounted equipment or specialty items, graphics, artworks, plumbing, mechanical or electrical fittings, fixtures or equipment, or other improvement that cannot be shown as a standard detail for several similar rooms) including detail targets referencing cabinetry details, dimensions and heights, notes indicating type of equipment (and whether equipment is in or out of contract), wall materials, finishes, and accessories.

13) Details of casework affected by the Project scope as necessary to appropriately delineate repairs to existing casework. Provide appropriate schedules referencing manufacturer's numbers or catalogs, finishes, hardware and other construction characteristics.

14) Details of the following when affected by the Project scope:

- a. Door jamb, head and sill conditions including delineation of required fire ratings for assemblies and components, electrical power requirements and connections to fire alarm, security and other building automation systems within the Project or the existing facility.
- b. Wall and partition types including identification of rated assemblies and product limitations and tolerances relative to those ratings.
- c. Exterior glazing system head, sill and jamb conditions, and anchorage methods shown, in lieu of referencing to manufacturer's standards.
- d. Interior signage to include room and building identification, directional signage, directories, emergency exiting and equipment signs, occupancy and other code mandated signage, and any other items pertinent to the identification of the

Project. Consultant shall coordinate and delineate electrical connections and power requirements.

e. Interior or exterior expansion control connections and related flashings, cover plates, applied sealants, etc.

f. Any other specialized items necessary to clearly express the intent of the Project designs.

15) Room finish, door and exterior glazing system schedules of areas impacted by the Project scope coordinated with the floor plans developed beyond the Design Development Phase.

16) Structural foundation and framing plans and details, with associated diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the basis of design, the design intent and coordination with other disciplines for areas impacted by the Project scope.

17) Mechanical Drawings of work affected by the Project scope:

a. Provide double line duct work layout and HVAC equipment layout drawings of existing conditions with related diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.

b. Provide plumbing equipment and fixture layout drawings of existing conditions with related diagrams, schedules, fixture schedules, notes, detailing and section drawings completed sufficiently to communicate the existing conditions.

c. Provide 1/2-inch scale plans, elevations and sections of the existing mechanical rooms showing service clearance, room openings, nominal equipment size, ceiling height, duct clearance between bottom of joist and top of ceiling and any ceiling mounted lighting fixtures, electrical equipment or other building assembly or component, etc.

18) Existing electrical of work affected by the Project scope: Consultant shall provide drawings for the following systems:

a. Lighting including circuiting and luminaire identification and switching. Consultant shall also provide illuminance computer printout for all indoor typical indoor spaces and parking lots.

b. Convenience outlets and circuiting, special outlets and circuiting, television outlets, and power systems and equipment. Consultant shall provide riser diagrams for all electrical systems, intercom, fire alarm, cable television, computer networking/telephone. Consultant shall provide for emergency and normal power distribution. Consultant shall also provide a luminaire schedule.

All drawings provided shall:

a. Include panel schedule and circuitry.

- b. Include a general legend and list of abbreviations.
- c. Provide a 1/2" scale floor plan and wall elevations for all electrical rooms.
- d. Indicate surge protector for main switchboard and electrical panels.

19) Updated existing Furniture and Equipment Plans, loose furniture and systems furniture and their location within facility for areas of work affected by the Project scope.

(C) Progress construction specifications:

- 1) Provide Project Manual including front end documents. Completion of fill-in items in Bidding documents and other "Division 0" documents are not required.
- 2) Provide Division 1 Sections based upon the standard documents provided by the Contract Administrator and edited by Consultant after consultation with the Contract Administrator to establish Project specific requirements.
- 3) Include progress set of all other Sections in all Divisions with each section developed to demonstrate to the Contract Administrator an understanding of the Project and an appropriate level of developmental progress comparable to that of the drawings.
- 4) Specification sections shall be organized to follow the Construction Specification Institute's (CSI) MASTERFORMAT, latest edition numbering system current on the date of execution of the Contract. Each section shall be developed to include CSI's standard 3-part section and page formats with full paragraph numbering.

(D) Coordinate with the Contractor to completely construct a full-size, fully-finished, cell window assembly and attachments mock-up, suitable for physical testing by all stakeholders. Provide all proposed sealants, sleeves, anchors and components to demonstrate the extent of the new construction. In cooperation with Contractor, assess the constructability and jointly present design mock-up to the Contract Administrator and stakeholders for review and comment.

(E) An updated Project Development Schedule, formatted as a preliminary construction schedule reflecting continued Project development and illustrating anticipated schedules for all subsequent Project activities including permitting and submittal coordination with all agencies having jurisdiction on the Project, Project phasing, site mobilization, temporary facilities, general construction sequencing, anticipated substantial and final completion dates, and all other significant Project events. Consultant shall format updated schedule as a Bar Chart (Gantt Chart) type schedule with milestones.

(F) Final color and materials boards (two (2) copies), illustrating the final selection of colors, finishes, textures and aesthetic qualities of all basic building finish materials for final review

and approval by the Contract Administrator and to establish a final palette of material selections for development of subsequent specifications, schedules and other requirements for incorporation into the Contract Documents.

(G) A letter from Consultant and each of the major technical disciplines and any necessary Subconsultants or explaining how each previous comment concerning the Project have been addressed and/or corrected.

(H) Calculations and certification of conformance with Code ventilation requirements, at time of original permit application, for any operable exterior glazing systems affected by the scope of work specific to the Project.

(I) Electronic files of BIM Model appropriate to this phase of Development. Additionally, the Consultant shall prepare a BIM model and shall utilize it, amongst other things, to present and illustrate the proposed sequencing of the construction work.

3.06.03 Consultant shall make all changes to the documents as required by the Contract Administrator's review of the documents and resolve all questions of constructability, code compliance, compliance with Contract Administrator standards, or other issues raised by the Contract Administrator during its review of the documents. The Contract Administrator will retain the documents submitted at this phase.

3.07 Phase III - 100% Construction Documents Submittal:

3.07.01 Upon 100% completion of the Construction Documents, Consultant shall submit to the Contract Administrator five (5) hard copy sets and five (5) DVD or flash drives containing check sets of the Drawings, Specifications, reports, structural calculations, a final up-dated Project Development Schedule, a final up-dated detailed estimate of probable construction cost prepared by an independent cost estimator and such other documents as reasonably required by the Contract Administrator. The 100% construction documents shall conform to the Contract Administrator's requirements, all mandatory requirements cited by County's Construction Management Division and its designated reviewers.

3.07.02 All documents for this phase shall be provided in both hard copy and in electronic media. Phase III construction documents shall be included with the Phase III submittal:

(A) "Project Transmittal Form" as required by County's Construction Management Division.

(B) General Requirements:

- 1) Record Set. This submittal is the official record set and shall be the bid documents.
- 2) Signed and Sealed/Statements of Compliance: Only complete documents, properly signed and sealed by Consultant and respective Subconsultants, will be

accepted for review; in addition, these documents shall contain a statement of compliance by the architect or engineer of record that "To the best of my knowledge these drawings and the Project manual are complete, and comply with the Florida Building Code and pertinent Broward County amendments thereto."

3) Signed and Sealed Engineering calculations as required by the scope of work for mechanical, electrical, and structural systems shall be submitted separately from drawings and the Project manual.

4) Changes to the Contract Documents may be made by addenda or resubmittal of documents graphically indicating the changes. Addenda shall be signed and sealed by the design professionals and submitted to the Contract Administrator in duplicate as they occur during the bidding process. Documents resubmitted shall bear the appropriate signatures and seals.

(C) Drawings of areas within or affected by the Project scope which shall include, in addition to the Phase III 75% Construction documents requirements specified above, the following:

1) Site plans including: landscaping, mechanical, electrical, civil/structural, and architectural.

2) Plans and details including, but not limited to:

a. Title sheet utilizing County's Construction Management Division's standard cover sheet format including a table of contents and statement of compliance by the architect and engineer(s) of record.

b. Abbreviations and Symbols: Each discipline shall have a list of abbreviations, schedule of material indications, and schedule of notations and symbols at the beginning of their section of the plans. (Alternatively, Consultant may provide a complete, fully coordinated set of abbreviations, material indications, notations and symbols for the entire Project following the cover sheet.)

c. Information Available to Bidders: Drawing sheets such as surveys, "as-built" drawings, and other graphic material provided and clearly marked as "Information Available to Bidders" shall be provided within the drawing set after coordination with County's Construction Management Division.

d. Construction sequence plans: developed in coordination with the Contractor, to delineate the order of the construction.

e. Architectural sheets including floor plans, door, exterior glazing system and finish schedules, roof plans, elevations, sections, and details.

f. Civil/Structural sheets including paving; drainage; foundation plans; floor plans; roof plans; structural plans; sections; details; and, pipe, culvert, beam and column schedules.

g. Mechanical sheets including floor plans; elevations, sections; details; riser and other diagrams; kitchen exhaust hoods; and, equipment, fan, fixture and other necessary schedules and drawing information with an indication that the

mechanical/electrical systems from the Phase II FEEC/LCCA analysis have been incorporated into the documents.

h. Electrical sheets including floor plans; sections; elevations; details; riser and other diagrams; fixture, panel and other schedules; and other drawing information.

i. Landscape Architecture, Irrigation and other Subconsultant prepared sheets including plans, sections, elevations, details, diagram, schedules and other drawing information necessary to communicate the complete and integrated scope of work related to that discipline.

(D) Project Manual. Consultant shall review and coordinate with the Contract Administrator regarding the preparation of the following:

1) The necessary bidding information, the bidding forms, the conditions of the contract and Division 1 with respect to the foregoing documents and regarding any other agreements necessary for construction of the Project, including documents made necessary by the Bidding Method chosen by the Contract Administrator. However, in no case will Consultant amend or delete items from these documents without prior written approval from Contract Administrator.

2) A Project specific set of Division 1 specifications based upon guide documents provided by the Contract Administrator (or, in the absence of Contract Administrator guide specification documents, from Consultant's own specifications as previously coordinated with the Contract Administrator), including all schedules, lists and inventories as required to complete the Contract Administrator's guide documents including Contractor's submittal schedules, warranty schedules, salvage schedules, etc.

3) Final specification sections for Divisions 2 through 48 organized and formatted as required for the set of Phase III 75% Construction Documents progress specifications.

4) Approved alternate bid and/or unit price items, if required and authorized by the Contract Administrator, to bring the Project within the Fixed Limit of Construction Cost (FLCC) which would permit Contract Administrator in its sole discretion to accept or reject portions of the construction of the Project.

(E) Final updated detailed estimate of probable construction cost prepared by an independent cost estimator as indicated by time factor, changes in requirements, or general market conditions.

(F) A letter from Consultant and each of the major technical disciplines and any necessary Subconsultants explaining how each previous review comment (as generated by the Contract Administrator and/or other reviewing agencies) concerning the Project have been addressed and/or corrected.

(G) Electronic files of 100% complete BIM Model. Additionally, the Consultant shall prepare a BIM model and shall utilize it, amongst other things, to present and illustrate the proposed sequencing of the construction work.

3.07.03 If the Latest detailed estimate of probable construction cost exceeds the Fixed Limit of Construction Cost for construction, Consultant shall review the materials, equipment, component systems and types of construction included in the Contract Documents and may recommend changes in such items and/or reasonable adjustments in the scope of the Project (to be made at no additional cost to County).

3.07.04 Consultant shall make all required changes or additions and resolve all questions on the documents, subject to the Contract Administrator's approval. The 100% complete Check Set shall be returned to the Contract Administrator. Upon final approval by the Contract Administrator Consultant shall furnish three (3) record copies, duly signed and sealed by the Florida registered design professionals responsible for their preparation, of all Drawings, Specifications and other documents required during this Project phase to the Contract Administrator without additional charge.

3.07.05 Consultant shall, with the Contract Administrator's assistance, file the required documents for approval by governmental authorities having jurisdiction over the Project (including Broward County and municipalities and their constituent departments, the South Florida Water Management District, and other state, local or federal agency with jurisdictional authority over some aspect of the Project) and obtain certifications of "permit approval" by reviewing authorities prior to the commencement of Phase IV and early enough to ensure that the eventual contractor is not delayed by permit processing by Broward County, a municipality or other jurisdictional agency. Consultant (and pertinent Subconsultants) shall provide the documents as required for submittal to any and all governmental authorities.

(A) Consultant (and pertinent Subconsultants) shall attend and provide representation at all review meetings, workshops, hearings and Commission/Council meetings concerning the Project as conducted by other jurisdictional agencies. Consultant shall submit documents, attend meetings and provide other support as necessary to fully participate in any submittals, resubmittals, review meetings, presentations or negotiations required to obtain jurisdictional approval for the Project.

(B) Any changes to the Project drawings or Project manual or other supporting document made necessary by jurisdictional reviews shall be made by Consultant (and pertinent Subconsultants) at no additional cost to County.

3.07.06 Staff from each of Consultant's major technical disciplines and Subconsultants as necessary shall attend coordination, review and presentation meetings with the Contract

Administrator to present and explain the development of the design concept and technical resolution of their respective building or site systems for the Phase III (100%) Submittals.

3.07.07 The Contract Administrator's review and approval of the drawings, specifications, calculations and other construction documents shall not relieve Consultant of any responsibility for their accuracy, adequacy and completeness

3.08 Phase IV - Bidding and Award of Contract

3.08.01 Bid Documents Approvals and Printing: Upon obtaining all necessary approvals of the Construction Documents, approval by the Contract Administrator of the latest detailed estimate of probable construction cost, and a specific Notice to Proceed with the Bidding and Award phase of the Project, Consultant shall assist the Contract Administrator in obtaining bids and awarding construction contracts.

3.08.02 Consultant shall assist the Contract Administrator in conducting negotiations with a Contractor or other similar entity to establish a Guaranteed Maximum Price and other contractual issues related to the establishment of a construction contract with the Contractor.

3.08.03 Consultant will incorporate the Contract Administrator's standard form construction documents (as provided by the Contract Administrator for alternative construction delivery) for this into the Project Manual and shall make final modifications to the Project Manual to reflect results of Contract Administrator's negotiations with the Contractor. Contract Administrator will coordinate any deviations from the standard form construction documents in advance with Consultant and County's Office of the County Attorney.

3.08.04 Consultant shall assist the Contract Administrator and the Contractor in obtaining permits, approvals and authorizations from jurisdictional agencies with authority over the Project. Consultant shall, as requested by the Contract Administrator, meet on an as-needed basis with jurisdictional agencies to clarify or explain submitted documents and to ascertain the scope and intent of review comments made by those jurisdictional agencies. Consultant shall provide graphic and written documents as necessary to facilitate these jurisdictional reviews, including issuing revised drawings and specifications in response to review comments and/or other concerns generated by those jurisdictional agencies without additional cost to County.

3.08.05 Consultant shall assist the Contract Administrator's review of the Contractor's bidding activities and make recommendations concerning the conduct and result of that bidding. These activities shall include investigating the qualifications of bidders and provision of a written recommendation for bid award. Consultant shall review and, upon request of the Contract Administrator, prepare Contract Price Element Adjustment Memoranda made necessary by the Contractor's bidding activities, changes requested by the Contract Administrator, and/or other circumstances affecting the Project's GMP structure.

3.08.06 Consultant shall provide to the Contract Administrator two (2) copies of the finalized construction contract documents, including all drawings and specifications. The Contract Administrator will be responsible for printing the documents and distributing them to the Contractor. The Contract Administrator reserves the right to instruct Consultant to print the construction contract documents (including drawings and specifications) and distribute them to the Contractor, either through its open agreements with printing firms or as a reimbursable service through Consultant.

3.08.07 Consultant shall render interpretations and clarifications of the drawings and specifications in a written format, supplemented by appropriate graphics, acceptable to the Contract Administrator.

3.08.08 Consultant shall attend coordination meetings, negotiation meetings, pre-bid conferences and bid openings as scheduled by the Contract Administrator and the Contractor.

3.08.09 Consultant shall prepare addenda, if any are required, for the Contract Administrator to issue to Contractor. No addenda shall be issued without the Contract Administrator's approval. If dimensional changes or extensive graphic changes are required, the full drawing sheets shall be revised and issued as addendum drawings. Extensive modifications to specification section(s) shall be prepared as replacements of the entire specification section(s).

3.08.10 Consultant shall advise and consult with Contract Administrator in awarding and assisting in the preparation of any agreements necessary for the construction of the Project, including, without limitation, that form of agreement between County and Contractor.

3.08.11 If the Guaranteed Maximum Price exceeds County's funds available for the Project, the Contract Administrator will either: (A) approve the increase in Project cost and award a contract or, (B) reject the negotiations with the Contractor and initiate negotiations with alternatively selected firms within a reasonable time with no change in the Project, (C) direct Consultant to revise the Project scope or quality, or both, as approved by the Contract Administrator, and reinitiate negotiations with the Contractor, or (D) suspend or abandon the Project.

3.08.12 Under Article 3.08.11 (C) above Consultant shall, without additional compensation, modify the Construction Documents as necessary to bring the Guaranteed Maximum Price within County's available funds for the Project. The Contract Administrator may recognize exceptional construction market cost fluctuations before exercising the option provided in Article 3.08.11 (C) above. The Contract Administrator agrees to discuss this issue with Consultant prior to exercising this option.

3.08.13 If, in the Contract Administrator's sole opinion, the Project merits a bidding & award phase estimate prepared by an independent cost estimator, then Contract Administrator may authorize Consultant to obtain those independent cost estimating services as an Optional Service expense. Consultant shall utilize the previously established independent cost estimator,

or a replacement acceptable to the Contract Administrator to analyze bids and to assist in the preparation of any modified documents that may be required to ensure successful negotiations with the Contractor.

3.09 Phase V - Administration of the Construction Contract:

3.09.01 The Construction Phase will begin with County's award of the Construction Contract (to a Contractor other alternately selected construction entity) and will end when the Contractor's final Payment Certificate is approved by the Contract Administrator. During this period, Consultant shall provide Administration of the Construction Contract as set forth in the construction contract documents (hereafter referred to and defined as the "Contract Documents") between County and the Contractor.

3.09.02 Consultant, as the representative of the Contract Administrator during the Construction Phase, shall advise and consult with the Contract Administrator and shall have authority to act on behalf of the Contract Administrator within the limits established by this Agreement and the Contract Documents. Consultant shall contemporaneously provide Contract Administrator with electronic or faxed copies of all communications between Consultant and Contractor and others concerning matters material to the cost, time, sequence, scope, performance or requirements of the Project. Documents or materials which cannot be faxed to the Contract Administrator shall be delivered to the Contract Administrator within twenty-four (24) hours of receipt or generation by Consultant.

3.09.03 Consultant and Consultant's respective Subconsultants shall attend all key construction events as necessary to ascertain the progress of the Project and to determine in general if the Work is proceeding in accordance with the Contract Documents and the Project Schedule. A minimum of at least one site visit per week will be required by Consultant. In addition to the required weekly site visit, Consultant shall make additional site visits as required to ascertain the progress and quality of the Contractor's installation or construction of key building systems, assemblies and components, attend pre-installation conferences and other site meetings as established by the Contract Documents, and to assist the Contract Administrator as requested in other site related administration of the Contract. The Subconsultant(s) will be required to visit the site at least once a week when their respective portion of the work is in progress.

(A) Consultant shall visit the site at least once per week on an ongoing periodic basis to become familiar with the progress and quality of the Work and to determine if the Work is proceeding in accordance with the Contract Documents and Project Schedule. Consultant shall coordinate the timing of these visits with the Contract Administrator's Representative so as to permit joint observations of the progress of the Work and discussions about Project issues. On the basis of on-site observations as a Consultant, Consultant shall keep Contract Administrator informed of the progress and quality of the Work. Consultant shall promptly submit to Contract Administrator a detailed written report of the results of each visit to the

site, and copies of all field reports and notes of meetings with contractor, subcontractors of any tier or suppliers.

(B) Consultant shall, based upon its on-site visits, promptly report to the Contract Administrator any defects and deficiencies in the Work coming to the attention of Consultant and shall endeavor to guard County against defects and deficiencies in the Work. This obligation is not reduced or limited by the fact that others, such as County's staff, are undertaking inspection for or on behalf of County. Consultant shall make on-site observations utilizing the same personnel over the course of the Work and shall, if requested by the Contract Administrator, replace personnel whom the Contract Administrator has found to be incompetent or to whom the Contract Administrator otherwise reasonably objects.

(C) Consultant shall not have control over or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work.

(D) Consultant waterproofing subconsultant(s) shall perform inspections and testing as required by contract documents, applicable codes, industry standards or as directed by Contract Administrator, including but not limited to: materials testing, special inspections, building envelope waterproofing inspections. Consultant shall certify all waterproofing installation work. Waterproofing Consultant shall provide:

- 1) Inspections at 150 inspections and with reports.
- 2) Five (5) days of water penetration testing at a minimum rate of three openings per day. Consultant shall receive a minimum of 24-hour notice for the schedule or re-schedule for each test. In the event a scheduled test is canceled in less than a 24-hour period, Consultant shall be issued a specific Work Authorization, as negotiated.

3.09.04 Consultant shall have access to the Work wherever it is in preparation or progress. Consultant and the Subconsultants shall review and advise the Contract Administrator as to whether the Contractor is making timely, accurate, and complete notations on the "Project Record Documents" and maintaining various other administrative records as required by the Contract Documents. In addition, the Contract Administrator may at its discretion require Consultant and all Subconsultants to regularly submit additional written materials or forms to the Contract Administrator relating to or regarding the Project or its progress.

3.09.05 Consultant shall assist the Contract Administrator in determining the amounts owing to Contractor based on observations at the site and on evaluations of Contractor's Applications for Payment and shall certify Certificates for Payment in such amounts as provided in the Contract Documents and in such form as the Contract Administrator may request. The certification of a Certificate for Payment shall constitute a representation by Consultant to the

Contract Administrator, based on Consultant's observations at the site and on the data comprising Contractor's Application for Payment, that the Work has progressed to the point indicated; that the quality of the Work is in substantial accordance with the contract documents (subject to an evaluation of the Work for substantial conformance with the Contract Documents upon substantial completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in the Certificate for Payment); and that Contractor is entitled to payment in the amount certified. However, the certification of a Certificate for Payment shall not be a representation that Consultant has made any examination, other than information which has come to Consultant's attention, to ascertain how and for what purpose Contractor has used the moneys paid by County.

3.09.06 All interpretations and advisory decisions of Consultant shall be consistent with the intent of, and reasonably inferable from, the Contract Documents and shall be in writing or in the form of drawings. In the capacity of interpreter Consultant shall endeavor to secure faithful performance by both County and Contractor and shall not show partiality to either.

3.09.07 Consultant shall have authority to recommend rejection of Work which does not conform to the Contract Documents. Consultant shall not have authority to stop the Work without approval of the Contract Administrator. Whenever, in Consultant's reasonable opinion, it is necessary or advisable for the implementation of the intent of the Contract Documents, Consultant may recommend special inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work be then fabricated, installed or completed, but Consultant shall take such action only after consultation with the Contract Administrator. Consultant's monitoring of such additional special testing or inspections is a part of the Basic Services. Contract Administrator shall furnish all such tests inspections and reports that are required by law or by the Contract Documents or that it has previously approved in writing, without waiving its right to reimbursement from Contractor. However, neither this authority of Consultant nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty of responsibility of Consultant to Contractor or other third parties performing portions of the Work.

3.09.08 Consultant shall promptly review and take other appropriate action upon Contractor's submittals such as shop drawings, product data and samples, but only for conformance with the design concept of the Contract Documents. Such action shall be taken within twenty (20) days of receipt by Consultant unless the Contract Administrator and Consultant otherwise mutually agree.

(A) Consultant's review shall not constitute review or approval of safety precautions or of construction means, methods, techniques, sequences or procedures. Consultant shall maintain a log of all submittals made and shall compare the submittals with Contractor's progress schedule. Consultant shall not approve changes to the contract or substitutions through the regular submittal process but will utilize those respective methods specified in the Contract Documents.

(B) Should Consultant have to reject more than two (2) submittals of shop drawings, product data, samples or other required Contractor submittal due to Contractor's non-compliance, then Consultant shall be due additional services for each subsequent review. Fees for such additional services shall be negotiated by Contract Administrator as Optional Services with Consultant according to Article 6 of the Agreement and for an hourly rate not to exceed the average hourly rate for all personnel specified in this Agreement's Exhibit B, Salary Costs.

3.09.09 Consultant shall coordinate with and assist the Contract Administrator concerning Contract Modifications including the development, review, recommendation for approval, and processing of Contract Price Element Adjustment Memoranda (CPEAM's), Change Orders and Amendments to the construction contract including County's or other jurisdictional authority's required review of such Contract Modifications for Code Compliance Consultant shall:

(A) Meet with the Contract Administrator prior to the preparation of CPEAM's, change order items or Amendments to ensure that proposed changes comply with applicable codes.

(B) Reconcile Consultant's analysis of proposed Change Order amounts with an analysis provided by the independent cost estimator and provide the Contract Administrator with a recommendation concerning the respective cost studies.

(C) Submit written and graphic information documenting proposed changes for formal review by County and municipal or other jurisdictional agencies for code compliance and any necessary permitting.

(D) Consultant shall review and indicate concurrence through signing CPEAM forms, change orders and Amendments for County's authorization in accordance with the Contract Documents, shall have authority to order minor changes in the Work not involving an adjustment in the contract sum or an extension of the contract time and which are not inconsistent with the intent of the Contract Documents. Such minor changes shall be effected by written order issued through Contract Administrator. The Basic Services shall include providing recommendations concerning proposed change orders and minor changes, and the preparation and processing of change orders and construction change directives.

(E) Consultant shall process, prepare and issue request for proposals and other contract modification documents in a timely manner and not allow the period required for evaluation, preparation or to issue such documents to exceed twenty-one (21) days. Consultant shall provide written notification to the Contract Administrator concerning those modification documents requiring more than twenty-one (21) days processing time with an attached explanation of the circumstances requiring longer processing time.

(F) All final decisions with respect to substitutions, change orders, and other contract modifications shall be at the sole determination of County.

3.09.10 Consultant shall conduct thorough site observations, make recommendations and otherwise assist Contract Administrator in determining the dates of substantial completion and final completion, shall review, approve and forward to the Contract Administrator for the Contract Administrator's review, written warranties and related documents required by the Contract Documents and assembled by Contractor, and shall certify a final certificate for payment.

3.09.11 There shall be only one (1) substantial completion date and only one (1) final completion date for the Project. However, procedures shall be established for determination of beneficial occupancy by the Consultant, Contractor and the County such that finished areas may be released in order to maintain ongoing Main Jail operations.

3.09.12 Upon the Contractor's request stipulating completion of areas or sections of the work, the Consultant in coordination with the Contractor and County shall prepare a rolling punch list of observed items requiring correction, completion or replacement by Contractor and, when appropriate, allow beneficial occupancy of completed areas. A "rolling punch list" method is defined as inspection of the work upon completion of areas or sections deemed to be ready for immediate beneficial occupancy. Reference 3.09.03 (D) for scope of Waterproofing subconsultant inspections and testing services.

3.09.13 Upon proper notification of substantial completion, Consultant shall prepare a punch list of observed items requiring correction, completion or replacement by Contractor, administer the Contractor's submittal of various closeout submittals including warranty documents, operations and maintenance materials, extra materials, and other closeout submittals as required by the Contract Documents. Consultant and the Subconsultants shall verify and confirm the Contractor's successful demonstration of equipment and systems and the training of County's personnel as required by the Contract Documents. Consultant shall inspect the Project upon final completion to determine compliance with the Contract Documents and, upon so determining, prepare and execute the required forms and other documents indicating that the Work is completed in compliance with the Contract Documents.

3.09.14 Consultant shall review, approve and/or certify Contractor's submittal of as-built survey documentation, (including Computer Aided Design (CAD) and/or other hardcopy or electronic media documents) as may be required by jurisdictional agencies with authority over the Project.

3.09.15 Consultant shall within sixty (60) days of final acceptance provide the Contract Administrator with prints and electronic media copies of the original drawings, which Consultant has revised to conditions based on information furnished by the Contractor (redlined prints and other "as-built" information) as Project Record Documents. The Contractor's original marked drawings shall be submitted to the Contract Administrator with the updated prints and electronic media files prepared by Consultant. These prints and electronic media copies shall become the property of County. Submittal of these documents to the Contract Administrator is a condition of final payment to Consultant. Electronic media shall comply with negotiated electronic media

submittal requirements premised on Attachment 2, BIM Requirements & Electronic Media Submittal Requirements below (see Section 3.01.09).

3.10 Phase VI - Warranty Administration and Post-Occupancy Services:

3.10.01 For one (1) year following substantial completion of the Project, Consultant shall assist the Contract Administrator, without additional compensation, in securing correction of defects, and shall in the sixth (6th) and eleventh (11th) months make inspections of the Project with the Contract Administrator and report observed discrepancies to Contract Administrator and Contractor.

3.10.02 Consultant, with Subconsultants who contributed to the design of the Project, shall participate in a Post-Occupancy Walkthrough and Evaluation which will be scheduled by County's Construction Management Division at a time subsequent to the eleventh month warranty inspection specified above. During this Walkthrough and Evaluation, Consultant shall:

- (A) Assist the Contract Administrator in reviewing the built Project on site;
- (B) Participate in and assist County's Construction Management Department in conducting interviews with principal building occupants and users;
- (C) Generate written commentary concerning the relative success or failure of the facilities design; specified materials, equipment and systems; the Project's design, bidding and construction process; construction cost, schedule and quality concerns that affected the Project, the effectiveness of administrative and managerial procedures utilized by County, Consultant and the Contractor, and recommendations concerning future design and construction of the same or similar building types.
- (D) Assist County's Construction Management Division in preparing and distributing a Post-Occupancy Evaluation Report that presents the findings and recommendations generated during the Post-Occupancy Walkthrough and Evaluation.
- (E) Participate in presentations of the Post-Occupancy report as required to the Broward County Board of County Commissioners, County Administrator, the Contract Administrator and/or the public as required.

3.10.03 Consultant shall assist the Contract Administrator in coordinating and supervising vendor delivery and set-up of those "not-in-contract" furniture and equipment items.

4.01 Optional Services:

Optional Services indicated with a checked box (☒) are incorporated into this Agreement as a BASIC SERVICE.

4.01.01 The services listed below are normally considered to be beyond the scope of Basic Services as defined in this Agreement, and if authorized in advance by an appropriate written authorization, will be compensated for as provided under Article 5:

- (A) Providing financial feasibility, or other special studies.
- (B) Master planning or providing services relative to future facilities, systems and equipment which are not intended to be constructed during the construction phase.
- (C) Providing services to make measured drawings of the existing site or facilities.
- (D) Providing investigations and making detailed appraisals and valuations of existing facilities, and surveys or inventories required in connection with construction performed by County.
- (E) Providing any additional or special professional services as may be required for the Project not within this Agreement.
- (F) Providing the services of one or more full-time on-site representative during construction; including the services of a Special Threshold Inspector.
- (G) Providing extended assistance beyond that provided under Basic Services for the initial start-up, testing, adjusting and balancing of any equipment or system; extended training of County's personnel in operation and maintenance of equipment and systems, and consultation during such training; and preparation of operating and maintenance manuals, other than those provided by the Contractor, subcontractor, or equipment manufacturer.
- (H) Providing consultation concerning replacement of any Work damaged or built inconsistent with the Contract Documents, providing the cause is found by the Contract Administrator to be other than by fault of Consultant.
- (I) Providing consultation concerning replacement of any Work damaged by fire or other cause during construction and furnishing services as may be required in connection with the replacement of such Work.
- (J) Preparing revisions of Reconciliation and Schematic Design, Design Development, and Construction Document Phase Documents previously approved in writing by Contract Administrator, when so directed in writing by Contract Administrator, provided, however, that no compensation for Additional Services shall be paid for

- revisions which may be required when due to errors or omissions by Consultant or when due to the fact that the lowest Bona Fide construction bid exceeds the 'fixed limit of construction cost'.
- (K) Providing services made necessary by the default of the Contractor, or any major unanticipated defects or deficiencies in the Work of the Contractor or any other entity engaged with the construction of the Work.
 - (L) Preparing change orders and related documents required by changes (whether increases or decreases) in the scope of the Project as requested by the Contract administrator for unforeseen conditions and Contract Administrator requested changes only and not for any changes due to the error or omission of Consultant.
 - (M) Providing revisions in drawings, specifications or other documents required by the enactment or revision of codes, laws or regulations subsequent to the preparation of such documents.
 - (N) Preparing to serve or serving as an expert witness in connection with any public hearing, arbitration proceeding or legal proceeding.
 - (O) Participation in the Contract Administrator's program of Building Commissioning.
 - (P) Participation in the Contract Administrator's program of Partnering.
 - (Q) Review of extensive claims by the Contractor or others relating to the Project. However, there shall be no additional charges to County from Consultant in the event the claims are not extensive or in the event the claims are determined by the Contract Administrator to be based upon the failure of Consultant or Subconsultant to properly perform its services or to comply with the provisions of this Agreement.
 - (R) Interior Design Services to include the following minimum services at the indicated design phase of the Project:
 - 1) Phase I: Reconciliation and Schematic Design: Provide preliminary color and materials boards and interior design sketch perspectives to communicate spatial relationships, preliminary furniture selections, material types and color and texture palette/selections for all finish materials with the Contract Administrator. Provide single copies of preliminary color and materials boards.
 - 2) Phase II: Design Development:
 - a. Provide detailed Equipment and Furnishing Schedules: In addition to those preliminary furniture and equipment schedules required as Basic Services, provide listing of at least three sources for each furniture type from vendors listed on state and local contracts or purchasing agreements. Provide documentation for each

furniture item which includes manufacturer's and/or vendor discounts, installation and freight costs, dimensions, finishes available, furniture features, pricing and furniture lead times.

b. Provide Detailed Equipment and Furnishing Drawings: In addition to those layout drawings required as Basic Services, provide elevations, preliminary systems furniture workstation plates and isometric drawings indicating the locations, scale and proposed arrangement of all furniture and equipment items including those that will be provided by the Contractor and those that will be provided by the Contract Administrator or others. Provide a symbols legend and unique identifiers for each piece of furniture or equipment corresponding to those established in the Equipment and Furnishing Schedules described above. Coordinate with Contract Administrator concerning standardized color coding of Equipment and Furnishing drawings necessary to facilitate internal Contract Administrator review and coordination of equipment and furnishings. Ensure that all illustrated furniture items are drawn to manufacturer's dimensions and are not generic templates or blocks which may not accurately reflect the size and configuration of proposed furniture or equipment items.

3) Phase III: Construction Contract Documents Development

a. Provide Updated Detailed Equipment and Furnishing Drawings and detailed Equipment and Furnishing Schedules indicating "In Contract" and "Not In Contract" furniture and equipment items, loose furniture and systems furniture.

b. Systems Furniture: Provide systems furniture workstation plate drawings including a Panel Plan (showing panel widths, heights and finishes), a Component Plan and Isometric (indicating all components to be provided within the Project with a written description of each component by size, type and quantity and with an isometric drawing of workstations) and an Electrical Panel Plan (indicating electrical outlets, locations of system power entry, computer data and telephone receptacles).

c. Loose Furniture and Equipment: Provide updated furniture floor plans indicating loose furniture and equipment items with symbols, legends, notes and indicators required for earlier submittals. Supplement with drawing notations concerning installation.

d. Color and materials boards illustrating furniture selections and the selection of colors, finishes, textures and aesthetic qualities of all finish materials for final review and approval by the Contract Administrator and to establish a final palette of material selections for development of subsequent specifications, schedules and other requirements for incorporation into the Contract Documents.

e. Loose furniture detailed specifications and descriptive data coordinated through County's Purchasing Division (via the Contract Administrator) in sufficient detail to allow procurement through the Purchasing Division:

1. Manufacturer's Information
2. Vendor State and Local Contract Listings
3. Vendor Information

4. Quantities
 5. Item numbers keying specifications to Furniture Floor Plans
 6. Manufacturer's Model Numbers
 7. Description, size, finishes and other information required to order
 8. furniture.
 9. Installation General Notes
- f. Systems furniture detailed specifications and descriptive data coordinated through County's Purchasing Division (via the Contract Administrator) in sufficient detail to allow procurement through the Purchasing Division:
1. Manufacturer's Information
 2. Vendor State and Local Contract Listings
 3. Vendor Information
 4. Quantities
 5. Item numbers keying specifications to Furniture Floor Plans
 6. Manufacturer's Model Numbers
 7. Description, size, finishes and other information required to order furniture.
 8. Installation General Notes
- 4) Phase IV: Bidding and Award of Contracts
- a. Provide assistance to the Contract Administrator's and Purchasing Division's acquisition of furniture, fixtures equipment by participating in pre-bid meetings and assisting with analysis of submitted bids, substitution requests and other administrative matters related to County's procurement process.
- 5) Phase V: Administration of the Construction Contract
- a. Provide assistance to the Contract Administrator by providing on-site observation of installation of substrate materials, anchorages and other construction items that impact the subsequent placement/installation of furniture/fixtures and equipment.
- 6) Phase VI: Warranty Administration and Post-Occupancy Services:
- a. Provide direct supervision of the delivery, installation and testing of furniture, fixtures and equipment items. Provide inventory control and shipping verification to Contract Administrator.
 - b. Provide Warranty Administration and support for furniture, fixtures and equipment for a minimum one-year post-installation period (starting from date installation receives inspection and final acceptance by the Contract Administrator) and extending through any extended or special warranty periods associated with individual furniture, fixture or equipment items.
 - c. Participate in Contract Administrator's Post Occupancy Evaluations.

- (S) Renderings: Thirty (30) days after receipt of the Notice to Proceed with the Construction Documents Phase, Consultant shall submit several simple studies of proposed perspective drawings for the Project, indicating suggestions for angles of view and general composition of a rendering. Upon approval of a perspective format, Consultant shall execute and submit, with the 100% Construction Documents:
- 1) One (1) 20" x 30" matted, framed and glassed color perspective rendering(s) of the Project.
 - 2) Five (5) smaller 10" x 15" framed color photographic copies of the original rendering(s). (Color Xerox copies are not acceptable.)
 - 3) One (1) original and nine (9) duplicate 35 mm color photographic slides mounted in standard cardboard sleeves.
- (T) Color Photography: Consultant shall facilitate the Contract Administrator's selection of a professional architectural photographer. Consultant shall arrange for and participate in the Contract Administrator's: review of photographer's past work, interview(s) with prospective photographers and photographer's tour of subject facilities. Consultant shall assist photographer on day(s) of on-site photography and shall assist the Contract Administrator in selecting photographs for printing. Number of photographs, media and photographer's compensation shall be subject to negotiations conducted with the photographer by Consultant and Contract Administrator.
- (U) If, in the Contract Administrator's sole opinion the Project merits a detailed estimate prepared by an independent cost estimator and those services are not previously required as a Basic Service, then Contract Administrator may authorize Consultant to obtain those independent cost estimating services as an Optional Service expense. Such estimate shall consist of a fully detailed estimate of probable construction cost Projected to the expected time of bid (or other award of construction services) and containing sufficient detail to provide information necessary to evaluate compliance with the Project Budget set for this Project. Format estimate and provide detail matching the organization and content of the Project's Outline Specifications complete for Divisions 2 through 16 including all finishes, materials, and systems including civil, structural, HVAC, electrical, plumbing, and specialty items, including fire sprinklers, alarm systems, electronic controls and computer networking components. Utilize the Construction Specification Institute's (CSI) MASTERFORMAT, latest edition numbering system current on the date of execution of the Contract, to organize the estimate.
- (V) Provide scheduling services to provide CPM schedules or other scheduling formats pursuant to the detail and complexity required by the Contract Administrator.

- (W) Provide physical modeling of proposed facilities, building assemblies or other assemblies or other spaces/facilities pursuant to the particular Project needs of the Contract Administrator.
- (X) Provide services to achieve LEED Certification for the Project through application to the appropriate organization.
- (Y) Any other services not otherwise included in this Agreement and not customarily furnished in accordance with generally accepted architectural practice related directly to design, construction or Project administration.

**Professional Services Agreement
EXHIBIT A - SCOPE OF WORK
ATTACHMENT 1:
Project Schedule**

RFP No: GEN2116591P1
Project Title: Main Jail Exterior Glazing Systems Remediation
Facility Name: Broward County Main Jail

The required Project Schedule milestones for this Project are presented below. Items marked undetermined require additional development and submittal of the Consultant's Project Development Schedule as required by the Professional Services Agreement for this Project.

ACTIVITY	DATE REQUIRED OR ESTIMATED TIME PERIOD	
Phase I: Reconciliation and Schematic Design:		
Consultant's Document Preparation & Submittal	150 Days	<input type="checkbox"/> Undetermined
County Review	21 Days	<input type="checkbox"/> Undetermined
Consultant's Document Correction & Re-Submittal	14 Days	<input type="checkbox"/> Undetermined
Phase II: Design Development		
Consultant's Document Preparation & Submittal	120 Days	<input type="checkbox"/> Undetermined
County Review	21 Days	<input type="checkbox"/> Undetermined
Consultant's Document Correction & Re-Submittal	14 Days	<input type="checkbox"/> Undetermined
Phase III: Construction Documents Development		
50% Construction Documents		
Consultant's Document Preparation & Submittal	60 Days	<input type="checkbox"/> Undetermined
County Review	14 Days	<input type="checkbox"/> Undetermined
Consultant's Document Correction & Re-Submittal	14 Days	<input type="checkbox"/> Undetermined

75% Construction Documents

Consultant's Document Preparation & Submittal	40 Days	<input type="checkbox"/> Undetermined
County Review	14 Days	<input type="checkbox"/> Undetermined
Consultant's Document Correction & Re-Submittal	14 Days	<input type="checkbox"/> Undetermined

100% Construction Documents

Consultant's Document Preparation & Submittal	40 Days	<input type="checkbox"/> Undetermined
County Review	14 Days	<input type="checkbox"/> Undetermined
Consultant's Document Correction & Re-Submittal	14 Days	<input type="checkbox"/> Undetermined

Phase IV: GMP Negotiation and Award of Contract	0 Days	<input checked="" type="checkbox"/> Undetermined
Bid Opening Date:	0 Days	<input checked="" type="checkbox"/> Undetermined
Or		
Board Approval of Contractor Agreement	0 Days	<input checked="" type="checkbox"/> Undetermined

Phase V: Administration of the Construction Contract	548 Days*	<input type="checkbox"/> Undetermined
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***This time needs to be revisited with CM@Risk contractor and confirmed between all parties.**

Substantial Completion Date:	548 Days	<input type="checkbox"/> Undetermined
Final Completion Date:	60 Days	<input type="checkbox"/> Undetermined

Phase VI: Warranty	365 Days	<input type="checkbox"/> Undetermined
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Preamble

The Contract Administrator will be utilizing electronic media as the principal way it develops, communicates and archives information concerning its various construction programs. To that end, County's standard Professional Services Agreements for Consultant services and Construction Agreements for construction services require submittal of documents produced on electronic media. The County encourages Building Information Model (BIM) based design and documentation to the maximum extent possible, especially for all major projects including all new construction.

For projects utilizing BIM delivery, Consultant and Contractor will include native BIM format and Industry Foundation Class (IFC) BIM deliverables at all project milestones. The Consultants will derive any supplementary two-dimensional (2D) deliverables from the Building Information Model. Further, it is the intent of the County to require open-standard facility management data as a project deliverable at all milestones. Consultants and Contractors shall initiate and jointly develop BIM and COBie information throughout all phases of the project. Requirements for these media are presented below.

Table of Contents for - Exhibit A - Scope of Work, Attachment 2:

1. **Section 1 - Definitions and Identifications**
2. **Section 2 – Electronic Media**
3. **Section 3 – BIM/ CADD Standard of Care, Level of Development (LOD), COBie**
4. **Section 4 - BIM Execution Plan (BIMPxP) *(Template to be completed)***
5. **Section 5 - Model Progression Schedule *(Template to be completed)***

Section 1 Definitions and Identifications

The following definitions and identifications set forth below apply unless the context, the Agreement, Exhibit A, Scope of Work in which the word or phrase is used requires a different definition. In the event of a conflict, the Contract Administrator will determine its final resolution:

- 1.1 **3D Coordination & Conflict Analysis:** A process in which clash detection software is utilized during the coordination process to determine field conflicts by comparing 3D models of building systems. The goal of clash detection is to eliminate the major system conflicts prior to installation.
- 1.2 **As-constructed BIMs:** Multiple Construction BIMs, delivered and validated by the Contractor before closing up spaces and reviewed by the Consultants that represent the final as-constructed building and components, including embedded data as required by the Contract Documents.

- 1.3 **Asset Management:** A process in which an organized management system will efficiently aid in the maintenance and operation of a facility and its assets. Asset Management utilizes the data contained in a record model to determine cost implications of changing or upgrading building assets, segregate costs of assets for financial tax purposes, and maintain a current comprehensive database that can produce the value of a company's assets.
- 1.4 **BIM:** Building Information Model(ing). BIM is not a specific product or technology, instead it's a collection of software applications designed to facilitate coordination and project collaboration. BIM is a digital representation of physical and functional characteristics of a facility and is used as a process for developing design and construction documentation by virtually constructing a building, bridge or other form of infrastructure – before anything is built.
- 1.5 **BIM Project Execution Plan (BIMPxP / PxP):** A document that defines the appropriate uses for Building Information Modeling on a project (e.g., design authoring, design review and 3D coordination), along with a detailed design and documentation process for executing BIM throughout a facility's lifecycle, team contacts, team responsibilities, team roles, definitions, delivery methods / formats, LOD matrix, work flow and process maps are among other information as outlined in the BIMPxP.
- 1.6 **Building Maintenance Scheduling:** A process in which the functionality of the building structure (walls, floors, roof, etc.) and equipment serving the building (mechanical, electrical, plumbing, etc.) are maintained over the operational life of a facility.
- 1.7 **CAD/CADD:** Computer Aided Design/Computer Aided Design and Drafting. Interchangeably used terms interpreted as 2D, (Two Dimensional) representations in electronic format.
- 1.8 **CIM / Sub-Surface:** Civil Information Modeling and subsurface utility mapping that relates and is coordinated with the building modeling.
- 1.9 **Clash detection/ Clash Rendition:** Rendition of the native-format model file is be used specifically for spatial coordination processes. Used to achieve clash avoidance or for clash detection (between, for example structure and services) between Building Information Models prepared by different disciplines. The key benefit is in reducing errors, and hence costs, pre-construction commencement.
- 1.10 **COBie:** Construction Operations Building Information Exchange specifications as administered through the buildingSMART alliance, National Institute of building Sciences, Washington, DC. http://www.nibs.org/?page=bsa_cobie.
- 1.11 **Code Validation:** A process in which code validation software is utilized to check model parameters against specific codes.
- 1.12 **Commissioning:** The process of verifying, in new construction agreed upon building systems to achieve Owners project requirements.
- 1.13 **Compatible Data:** Data that can be accessed directly by the target BIM or CADD system upon delivery to the County, without further translation or post-processing of the electronic digital data files. It is the responsibility of Consultant to ensure this minimum level of compatibility.
- 1.14 **Constructability / PEER Review:** Constructability can be defined as a review of the building model along with drawings, specifications to determine feasibility to assembly

- the project in the manner documented. The review includes, but does not limit, evaluating and identifying efficiencies, assemblies, systems and obstacles to construction.
- 1.15 **Construction System Design:** A process in which 3D System Design Software is utilized to design and analyze the construction of a complex building system (e.g. form work, glazing, tie-backs, etc.) in order to improve planning.
- 1.16 **Cost Analysis:** A process in which a BIM model can offer a preliminary analysis of the costs of constructing a Project during the design process and provide cost effects of additions and modifications with potential to save time and avoid budget overruns. The accumulation, examination, and manipulation of cost data for comparisons and projections.
- 1.17 **Cost Estimation:** A process in which a BIM is used to develop accurate quantity take-offs for the purpose of creating or validating cost estimates.
- 1.18 **Design Authoring:** A process in which 3D software is used to develop a BIM model based on criteria that is important to the translation of the building's design. Design authoring tools are a first step towards BIM, connecting the 3D model with a database of properties.
- 1.19 **Design for Maintenance:** An evaluation process where each object selected during design for inclusion in a BIM are evaluated for maintenance issues, such as clearances to perform routine maintenance activates to include complete replacement of the object or any of its components.
- 1.20 **Design Reviews:** A process in which a 3D model is used to showcase the proposed design to the stakeholders and to help evaluate whether it has met deliverable requirements.
- 1.21 **Digital Fabrication:** A process that utilizes machine technology to prefabricate objects directly from a 3D Model.
- 1.22 **Digital Layout - BIM2Field:** A process that allows information in a BIM to be transferred to digital layout tools for layout in conformance to the model. This information can be used to validate (QA/QC) the physical facility against the model.
- 1.23 **Disaster Planning / EM Preparation:** A process in which emergency responders would have access to critical building information in the form of model and information system. The BIM would provide critical building information to the responders, that would improve the efficiency of the response and, more importantly, minimize the safety risks. The dynamic building information would be provided by a building automation system (BAS), while the static building information, such as floor plans and equipment schematics, would reside in a BIM model. These two systems would be integrated via a wireless connection and emergency responders would be linked to an overall system. The BIM coupled with the BAS would be able to clearly display where the emergency was located within the building, possible routes to the area, and any other harmful locations within the building.
- 1.24 **Electrical Analysis:** A process in which intelligent modeling software uses the BIM model to determine the most effective electrical system based on engineering and design specifications. These analysis tools and performance simulations can significantly improve the design of the facility and its energy consumption during its lifecycle in the future.
- 1.25 **Energy Analysis:** A process in which intelligent modeling software uses the BIM model to determine the most effective facility energy plan based on engineering and design

- specifications. These analysis tools and performance simulations can significantly improve the design of the facility and its energy consumption during its lifecycle in the future.
- 1.26 **Existing Conditions Modeling:** A process in which a project team develops a 3D model of the existing conditions for a site, facilities on a site, or a specific area within a facility. This model can be developed in multiple ways depending on what is desired and what is most efficient. Once the model is constructed, it can be queried for information, whether it be for new construction or a modernization project.
- 1.27 **Facility Data Exchange:** A process where a facility data schema is developed to ensure information is supplied to the BIM in electronic form so that it can be easily exchanged between the BIM and the organizations selected tool. The capability should include textural as well as graphic entities.
- 1.28 **Federated BIM Model:** A single federated model is useful for design co-ordination, clash avoidance and clash detection, approvals processes, design development, estimating and so on, but the individual models do not interact, they have clear authorship and remain separate. This means that the liabilities of the originators of the separate models are not changed by their incorporation into the federated model.
- 1.29 **IFC:** Industry Foundation Classes, open sharable standards for building information as defined by the buildingSMART alliance, National Institute of building Sciences, Washington, DC. <http://www.buildingSmart.org/compliance/certified-software>
- 1.30 **Information Manager:** The CIC BIM Protocol refers to and provides for the appointment of an 'Information Manager' by the employer. This is the project manager, or BIM Manager who is responsible for managing the delivery of the asset using BIM procedures and methods. This is expected to form part of a wider set of duties under an existing appointment and is likely to be performed either by the Design Lead or the Project Lead.
- 1.31 **Integrated Project Delivery (IPD):** The owner's goal who's primary motive is to bring the teams together early on in the project. A full implementation of BIM also requires the project teams to collaborate from the inception stage and formulate model sharing and ownership contract documents.
- 1.32 **Laser Scanning and Point Cloud Integration:** A process where the application is the controlled steering of laser beams followed by a distance measurement at every pointing direction. This is used to rapidly capture shapes of objects, buildings and landscapes. The point cloud generated is then interpreted by software to create a BIM of the existing conditions.
- 1.33 **Life Cycle Assessment -** Life-cycle assessment (LCA, also known as life-cycle analysis) is a cradle-to-grave environmental impact assessment for built assets, in terms of materials and energy. The energy and materials used, along with waste and pollutants produced as a consequence of a product or activity, are quantified over the whole life cycle; the result representing the environmental load of that asset. ISO 14040 defines LCA methodology.
- 1.34 **Lighting Analysis:** A process in which intelligent modeling software uses the BIM model to determine the most effective lighting method based on engineering and design specifications. These analysis tools and performance simulations can significantly improve the design of the facility and its energy consumption during its lifecycle in the future.

- 1.35 **LOD:** Level Of Development Specification for Building Information Models. See Section 3 – BIM/CADD Standards of Care and the current edition (2017 or later), of the BIMForum LOD Specification for additional information. <http://BIMForum.org/lod>
- 1.36 **Maintenance & Repair Information:** A function to allow the collection and storage of maintenance and repair information about objects brought into a BIM.
- 1.37 **Mechanical Analysis:** A process in which intelligent modeling software uses the BIM model to determine the most effective mechanical system design based on engineering and design specifications. These analysis tools and performance simulations can significantly improve the design of the facility and its energy consumption during its lifecycle in the future.
- 1.38 **Model Progression Schedule:** A worksheet that is a guide for the project team to define model creation scope of work and model level of development. The LOD will aid in determining the level of involvement of the project stakeholders from planning through facility turnover. This worksheet is intended to guide the project team in achieving project goals, accommodate required BIM uses, and meet schedule requirements for the project.
- 1.39 **OmniClass:** OmniClass Construction Classification System (OCCS), is a means of organizing and retrieving information specifically designed for the construction industry. This agreement incorporates Table 23 establishing National Standards for the classification of construction products. Most recent release date May 16, 2012. OmniClass uses MasterFormat and UniFormat as the basis of its Tables wherever possible. <http://www.omniclass.org/about>
- 1.40 **Owner Approval:** A business process which takes advantage of information stored in a BIM to help validate progress as well as observing that the owner's intent for the facility is being honored both conceptually and contractually.
- 1.41 **Phase Planning - 4D Modeling:** A process in which a 4D model (3D models with the added dimension of time) is utilized to effectively plan the phased occupancy in a renovation, retrofit, addition, or to show the construction sequence and space requirements on a building site.
- 1.42 **Programming:** A process in which a spatial program is utilized to efficiently and accurately assess design performance in regard to spatial requirements. Use of the BIM model allows the project team to analyze space and understand the complexity of space standards and regulations. Critical decisions are made in this phase of design and brings the most value to the project when needs and options are discussed with the client and the best approach is analyzed.
- 1.43 **PxP:** Abbreviated form of (BIMPxP). See definition for BIM Project Execution Plan.
- 1.44 **Quality Assurance/Quality Control - QA/QC:** QA/QC as a BIM Use refers to ensuring that the BIMs follow County requirements and all components of the approved BIM Execution Plan, and that the BIMs accurately represent the building geometry and data to meet the purposes for which they are developed.
- 1.45 **Quantity Take Off:** Quantity take-off's (QTO) are a detailed measurement of materials and labor needed to complete a construction project. Estimators review drawings, specifications and BIMs to find these quantities.
- 1.46 **Record BIMs:** The updated BIMs generated by the Architecture Engineering Team of record that includes the contractors As-constructed BIMs.

- 1.47 **Security / Key Management:** A process to identify and evaluate the security zones in the facility using BIM. The process includes identifying the door keys required for openings through the security perimeters established to ensure that the level of security defined is maintained.
- 1.48 **Site Analysis:** A process in which BIM/GIS tools are used to evaluate properties in a given area to determine the most optimal site location for a future project. The site data collected is used to first select the site and then the position the building based on engineering criteria (e.g. solar path, utility availability, hazardous material).
- 1.49 **Site Utilization Planning:** A process in which a 4D model is used to graphically represent both permanent and temporary facilities on site, with the construction activity schedule. Additional information incorporated into the model can include labor resources, materials and associated deliveries, and equipment location.
- 1.50 **Space Management:** A process in which BIM is utilized to effectively allocate, manage, and track assigned workspaces and resources.
- 1.51 **Specification Production:** A data based three- part specification system linked to the objects selected in a BIM which responds to any changes or alternatives items added or subtracted from the model.
- 1.52 **Structural Analysis:** A process in which analytical modeling software utilizes the BIM design authoring model to determine the behavior of a given structural system. Based on this analysis further development and refinement of the structural design takes place to create effective, efficient, and constructible structural systems.
- 1.53 **Sustainability & LEED Evaluation:** A BIM process in which a project is evaluated based on LEED or other sustainability criteria. This can refer to materials, performance, or a process. Sustainability evaluations can be applied across all four phases of a construction project, Planning, Design, Construction, and Operation. Sustainability evaluation is most effective when it is done in planning and design stages and then applied in construction and operations phase.
- 1.54 **Tolerance:** Acceptable dimension or variation from precise material, fabrication, or assembled condition as a unit of measure to be specified allowable variations in strength, stability, dimension, the mix of a material, the performance of a system, temperature ranges and so on.
- 1.55 **Total Cost of Ownership / Service Life:** A financial estimate intended to help buyers and owners determine all direct and indirect costs of a product or system.
- 1.56 **Virtual Design and Construction (VDC):** The management of integrated multi-disciplinary performance models of design-construction projects, the work processes and organization of the teams to support business objectives.
- 1.57 **Visualization:** Any technique for creating images, diagrams, or animations to communicate information. BIM can be used as a tool to show visual clarity of simple and complex systems and data to help understand project scope, design options, constructability, coordination and QA/ QC.

Section 2 Electronic Media

2.1 General Requirements:

2.1.1 All Work, including drawings, land surveying work, maps, details or other drawing information to be provided in electronic media by Consultant shall be accomplished and developed using Computer-Aided Design and Drafting (CADD), or Building Information Modeling (BIM), or a coordinated combination of both as determined by the Contract Administrator and may also include other software and procedures conforming to the following criteria.

2.2 BIM and CADD Graphic Formats:

2.2.1 Provide all CADD data in Autodesk, Inc.'s AutoCAD release 2018 or higher for Windows in native .dwg electronic digital format. CADD data required for Contract submittals shall be provided in native .dwg format. Provide copies of all drawing sheets or other CADD and/or PDF format produced documents intended for hardcopy plotting or printing in plot (.plt) and drawing web format (.dwt) versions of all sheets/documents.

2.2.2 Provide all BIM models and data in Autodesk Revit 2018 or higher. Provide all BIM and data in any of the following software formats:

- a. Autodesk, Inc. Revit 2018 or higher.
- b. Alternative compatible BIM software formats that conform to the requirements of Section 2.2 of this Attachment if accepted in writing by the County's Contract Administrator.

2.2.3 BIM data required for Contract submittals shall be provided in native .rvt format as well as .ifc format in conformance with IFC (Industry Foundation Classes) IFC2x4 or higher, as established by the buildingSMART International Alliance for Interoperability. Use of BIM vendor's or systems that incorporate the International Alliance for Interoperability IFC standard above must be approved in writing in advance by the County's Contract Administrator and comply with this Attachment.

2.2.4 Building Positioning to be accomplished for the intended project site by using "Auto – by Shared Coordinates" process or similar. Obtain State Plane Coordinates from Project survey information and utilize this same positioning process for all BIM files.

2.2.5 CADD data required for Contract submittals shall be provided in native .dwg format or be contained within the structure of the BIM data required in Section 2.2.2.

- a. Ensure that all digital files and data (e.g., constructs, elements, base files, prototype drawings, reference files and images, blocks, attribute links, pen settings and all other files external to the drawing itself) are Compatible Data with the Contract Administrator's target BIM and/or CADD system (i.e., BIM and CADD software, platform, database software), and adhere to the standards and

requirements specified herein.

2.2.6 Target platform: A personal computer with Windows 10 operating system that meets or exceeds the minimum manufacturer's requirements to operate the version of software utilized for the project.

2.2.7 Any non-graphical database delivered with prepared drawings must be provided in relational database format compatible with Microsoft Access 2016 or higher, or other compatible SQL format database. All database tables must conform to the structure and field-naming guidance provided upon request by the Contract Administrator.

- a. Maintain all linkages of non-graphical data with graphic elements, relationships between database tables, and report formats.

2.2.8 BIM & CAD Content:

- a. Provide all Building Information Modeling (BIM) models in conformance to the General Service Administration's (GSA) "Building Information Modeling Guide 02 - Spatial Program Validation," dated May 21, 2015 or later. Provide space identification, charts and information in conformance with this Guide.
- b. See also Attachment – 2a, BIM/CADD Standards of Care.

2.2.9 CADD Standards:

- a. Standard plotted drawing size: 24-inch x 36-inch sheets (D-sized sheet)
- b. Coordinate with the Contract Administrator concerning the standard file naming protocol to be utilized.
- c. Drawing Set Organization and Sheet Identification per the United States National CAD Standard - V5. Provide dots in lieu of dashes at all uses.

2.2.10 CADD Layering:

- a. Conform to the guidelines defined by the American Institute of Architect's (AIA) standard document, U.S. National CAD standards version 5 (V5). "CAD Layer Guidelines", 2nd edition or later.
- b. Provide an explanatory list of which layers are used at which drawing and an explanatory list of all layers which do not conform to the standard AIA CAD Layer Guidelines including any user definable fields permitted by the guidelines.
- c. Layering: The Contract Administrator may, from time to time, supplement the AIA CAD Layer Guidelines with the Contract Administrator's specific requirements for Facilities or Construction Management and other related information. Obtain latest Contract Administrator specific layering from Contract Administrator prior to production of documents and incorporate into drawings.

2.2.11 Attribute Definitions:

- a. Obtain latest guidance from the Contract Administrator concerning attribute

definition, database linking and other information embedding requirements prior to production of documents.

2.2.12 Federated Models: The following colors shall be utilized for all federated models including Design, Construction, Coordination, As-Built, and Record Models:

- a. Architectural Models
 1. Architectural - Default
 2. Envelope (Curtainwall, Precast, Other) - Default
 3. Masonry - Gray
- b. Civil & Site Improvement Model
 1. TBD
- c. Structural Models
 1. Steel – Rust
 2. Concrete - Gray
 3. Masonry - Gray
- d. MEP/FP Models
 1. Mechanical Ductwork Supply - Magenta
 2. Mechanical Ductwork Return - Plum
 3. Mechanical Ductwork Exhaust – Medium Orchid
 4. Mechanical Piping Supply – Hot Pink
 5. Mechanical Piping Return- Violet
 6. Electrical Conduit - Orange
 7. Cable Tray- Yellow
 8. Electrical Lighting – Light Golden Rod Yellow
 9. Plumbing Domestic Water - Lime
 10. Plumbing Storm / Roof Drain – Dark Green
 11. Plumbing Waste / Vent - Olive
 12. Medical Gas – Light Green
 13. Fire Protection - Red
 14. Fire Alarm – Golden Rod
 15. Data/IT / Controls - Aqua
 16. Pneumatic Tubing – Dark Slate Gray
- e. Miscellaneous Models
 1. Framing – Sandy Brown
 2. Equipment Models (by Equip. Planners) – Burly Wood
 3. Clearances - Dark Red

2.2.13 Deviations from Standards:

- a. Submit a written request for approval of any deviations from the Contract Administrator's established electronic media standards. Pre-coordinate the development, use and submittal of 3-D modeling, Building Information Models (BIM), photo-realistic renderings, animations, presentations and other visualization/information tools utilized during the design and construction process to ensure compatibility of submittal with County's uses and information systems.

- b. No deviations from the Contract Administrator's established BIM/CADD standards will be permitted unless prior written approval of such deviation has been received from the Contract Administrator.
- c. County or its Owner's Designated Representative reserves the right to review, accept or reject AutoCAD files, BIMs and other Digital Deliverables. If the Digital Deliverables do not comply with the provisions of the agreement between County and the External Project Team member, the External Project Team member will be required to correct the work at no additional cost to County or delay to the Project Schedule.
- d. County or its Owner's Designated Representative also reserves the right to review, accept or reject Facility Data deliverables when required by contractual agreements. To ensure successful integration into County's computer aided facility management software, milestone reviews may be conducted by County to export or link BIM data into these designated programs to ensure compatibility and capability. During the development of the BIMPxP, the required BIM outputs allowing for this integration will be determined. If the Facility Data integration with the computer aided facility management software fails because of the BIMs non-compliance with the provisions of the agreement between County and the External Project Team member, or the data imported does not accurately reflect the current state of the Project, the External Project Team member will be required to correct the work at no additional cost to the owner or delay to the Project Schedule.

2.3 Non-BIM/CADD Graphic Format:

2.3.1 Provide digital photography files and other miscellaneous graphics in High Resolution JPEG, PDF in 600 dots per inch (dpi) or higher resolution or PNG format.

2.4 Non-Graphic Format:

2.4.1 Provide word processing files in Microsoft Word 2016 or higher compatible file formats including all fonts, typefaces, bit-map and vector graphics and other information necessary for remote printing.

2.4.2 Provide spreadsheet files in Microsoft Excel 2016 or higher for windows compatible file formats including all fonts, typefaces, bit-map and vector graphics and other information necessary for remote printing.

2.4.3 Provide database files in relational database format compatible with Microsoft Access 2016 or higher, PDF or other compatible SQL format database including all tables, form and report formats, fonts, typefaces, bit-map and vector graphics and other information necessary for remote printing. Ensure integrity of relational database structure.

2.5 Delivery Media and Format:

2.5.1 Submit copies of all BIM/CADD data and other electronic files developed under this contract on electronic digital media as required for project phase submittals to 400 dots per inch (dpi) resolution.

2.5.2 Provide electronic digital data and files on labeled ISO-9660 CD-ROM., or DVD media. Flash drives are acceptable alternatives and shall contain identifying County project information in their disk name. Other media will not be accepted without Contract Administrators approval.

2.5.3 The electronic digital media shall be in the format which can be read and processed by the Contract Administrator's target CADD or BIM system.

2.5.4 The external label for each electronic digital media shall contain, as a minimum, the following information:

- a. The Project Number, Project Title and date.
- b. The Facility Name
- c. The format and version of operating system software.
- d. The name and version of utility software used for preparation (e.g., compression/decompression) and copying files to the media.
- e. A list of the filenames, (a separate sheet will be accepted).

2.5.5 Before a BIM/CADD file is placed on the delivery electronic digital media, the following procedures shall be performed:

- a. Ensure that drawing sheets, viewports, paper-space, line weights, fonts, and other drawing components are correctly configured for Contract Administrator's viewing and plotting.
- b. Make sure all reference files are attached using a "relative" path setting and without device or directory specifications. For each drawing, provide one bound file containing drawing sheet with associated XREFs and one un-bound file containing the associated XREFs.
- c. Compress and reduce all design files using PKZIP, WINZIP or other compatible file compression/decompression software approved by the Contract Administrator. If the file compression/decompression software is different from that specified above, then an electronic digital media copy of the file compression/decompression software shall be purchased for the Contract Administrator and provided to the Contract Administrator with the delivery media.
- d. Include all files, both graphic and non-graphic, required for the project (i.e., color tables, pen tables, font libraries, block libraries, user command files, plot files, and other elements of drawing definition). All blocks not provided as Contract Administrator-furnished materials must be provided to the Contract Administrator as a part of the electronic digital deliverables.
- e. Make sure that all support files such as those listed above are in the same directory

- and that references to those files do not include device or directory specifications.
- f. Document any fonts, tables, or other similar customized drawing element developed by Consultant or not provided among Contract Administrator-furnished materials. Contractor shall obtain Contract Administrator approval before using anything other than Contract Administrator's standard fonts, line types, tables, blocks, or other drawing elements available from Contract Administrator.
 - g. Include any standard sheets (i.e., abbreviation sheets, standard symbol sheets, or other listing) necessary for a complete project.
 - h. Check completed files are free of any known viruses or unrequired attachments.

2.6 Drawing Development Documentation:

2.6.1 Provide the following information for each finished drawing in the nonplot layer X****-NPLT:

- a. How the data were input (e.g., keyed in, downloaded from a survey total station instrument (include name and model), and other identification data).
- b. Brief drawing development history (e.g., date started, modification date(s) with brief description of item(s) modified, author's name, and other identifying data.).
- c. The names of the reference, blocks, symbols, details, tables, and schedule files required for the finished drawing.
- d. Layer assignments and lock settings.
- e. Text fonts, line styles/types used, and pen settings.

2.7 Submittal:

2.7.1 Document any fonts, tables, or other similar customized drawing element developed by Consultant or not provided among the Contract Administrator-furnished materials. The contractor shall obtain Contract Administrator approval before using anything other than the Contract Administrator's standard fonts, line-types, tables, blocks, or other drawing elements available from the Contract Administrator.

2.8 Submittals / Deliverables:

2.8.1 Submit as Project Record Documents specified above and as required for project phase submittals and project record documents.

2.8.2 Submit electronic media with a transmittal letter containing, as a minimum, the following information:

- a. The information included on the external label of each media unit (e.g., CD, DVD, flash drive, etc.), along with the total number being delivered, and a list of the names and issue dates of all files on the media.
- b. Brief instructions for transferring the files from the media.
- c. Confirm that all delivery media is free of known computer viruses. A statement

including the name(s) and release date(s) of the virus-scanning software used to analyze the delivery media, the date the virus-scan was performed, and the operator's name shall also be included with the certification. The release or version date of the virus-scanning software shall be the current version that has detected the latest known viruses at the time of delivery of the digital media.

- d. The following "Plot File Development and Project Documentation Information" as an enclosure or attachment to the transmittal letter provided with each electronic digital media submittal:
 1. List of all new figures, symbols, tables, schedules, details, and other blocks created for the project, which were not provided to Consultant with the Contract Administrator-furnished materials, and any associated properties.
 2. List of all database files associated with each drawing, as well as a description and documentation of the database format and schema design.
 3. Recommended modifications which will be necessary to make the data available for GIS use.

2.8.3 Prime Contractors are responsible for ensuring that the Digital Deliverables prepared by their Subcontractors or Subconsultants comply with the standards and policies outlined in this document.

2.9 Ownership:

2.9.1 County has ownership and all rights to all finished or unfinished Digital Deliverables developed for this Project. Any Digital Deliverables generated under any County design and construction Contract, including those generated by the External Project Team Members' Subcontractors or Subconsultants, shall become the property of County. County will have unlimited use of the Digital Deliverables produced for the Project. County acknowledges that the Digital Deliverables are an Instrument of Service of the External Project Team member and that the author of the Digital Deliverable does not represent or guarantee that the Digital Deliverable will be useful to County for any purposes beyond those uses that they were authored.

2.9.2 County will have unlimited rights under the Professional Services Agreement of which this document is a part to all information and materials developed under these and other contractual requirements and furnished to the Contract Administrator and documentation thereof, reports, and listings, and all other items pertaining to the work and services pursuant to this agreement including any copyright.

2.9.3 Unlimited rights under this contract are rights to use, duplicate, or disclose text, data, drawings, and information, in whole or in part in any manner and for any purpose whatsoever without compensation to or approval from Consultant except where otherwise limited within the Contract.

2.9.4 The Contract Administrator will at all reasonable times have the right to inspect the work and will have access to and the right to make copies of the above-mentioned items.

2.9.5 All text, electronic digital files, data, and other products generated under this contract shall become the property of County except where otherwise limited within the Contract.

2.10 Contract Administrator-Furnished Materials to the Construction Contractor:

2.10.1 The Contract Administrator and Consultant may make various electronic information available to the Contractor during the Pre-Construction and Construction phases of the Project. To this end, Consultant shall make the following information available to the Contractor in electronic format:

- a. Work-files: Selected work product files, copies of BIM and/or CAD files, reports, spreadsheets, databases, specifications, drawings and other documentation of Consultant's work in progress may be provided to the Contractor, Managing General Contractor, or other County consultant on an as required basis. Consultant shall cooperate and facilitate the exchange of these electronic media documents.
- b. Where electronic media submittals of final site surveys are required: Provide electronic copies of any existing site survey data already on electronic media conforming to Section 2.2 of this Attachment.
- c. Where Electronic Project Record Documents are required, Consultant will provide the Contractor one set of contract drawings in an electronic file format conforming to Section 2.2 of this Attachment, to be used for as-built drawings at the Contractor's option. Make electronic file drawings available on media in conformance with Section 2.5 of this Attachment.

2.11 Other Digital Information:

2.11.1 A variety of digital information may be generated by participants in the design process including the Contract Administrator, Consultant, Subconsultants, Contractor, subcontractors, the Contract Administrator's commissioning authority, local jurisdictional authorities and other project team members.

2.11.2 Consultant shall facilitate and participate in this digital exchange of information by conforming to the standards expressed above and as further described in attachments and Exhibit A Scope of Works.

Section 3 BIM/CADD Standards of Care

3.1 General Provisions:

3.1.1 The Model(s) shall be developed to include the systems described below as they would be built, the processes of installing them, and to reflect final as-built construction conditions. The deliverable Model at all phases shall be developed to include as many of the systems described below as are necessary and appropriate to the design/construction stage. The BIM Model shall be provided in an editable form and from its inception shall include automatic model positioning using a common reference point (Point of Origin), based on "Florida State Plane Coordinates" derived from the project survey.

3.1.2 The Model shall be developed using Building Information Modeling ("BIM") supplemented with Computer Aided Drafting and Design ("CADD") content as necessary to produce a complete set of Construction Documents.

3.1.3 The parties shall utilize the appropriate Levels of Development (LOD) described below in completing the Model, which establishes the required LOD for each Model Element at each phase of the Project.

3.1.4 The following Level of Development (LOD) descriptions are summaries of Level Of Development Specification for Building Information Models as developed by BIMForum. (<http://bimforum.org/lod>), current edition (2017 or later). **Each subsequent LOD builds on the previous level and includes all the characteristics of previous levels.** See also "Section 5 BIM Model Progression Schedule" for examples and graphic descriptions of Levels of Development. The following list is a simplified summary of the adopted Levels of Development:

- **LOD 100** elements are not geometric presentations. They may be symbols or other generic representations of information that can be derived from other model elements. Any information derived from LOD 100 elements must be considered approximate.
- **LOD 200** elements are represented graphically but are generic placeholders, e.g., volume, quantity, location, or orientation. Any information derived from LOD 200 elements must be considered approximate.
- **LOD 300** elements are graphically represented as specific systems, objects, or assemblies from which quantity, shape, size, location, and orientation can be measured directly, without having to refer to non-modeled information such as notes or dimension call-outs.
- **LOD 350** elements are enhanced beyond LOD 300 by the addition of information regarding interfaces with other building systems. For example, an LOD 350 masonry wall element would include jamb conditions, bond beams, grouted cells, dowel locations, and joints – information that enables the model user to coordinate the wall element with other systems in the structure.

- **LOD 400** elements are modeled at sufficient detail and accuracy for fabrication of the represented component.

NOTE - County and the LOD Specification do not address **LOD 500** since that LOD relates to field verification and is not an indication of progression to a higher level of geometry or information.

3.1.5 The parties shall utilize the appropriate Levels of Development (LOD) described below in completing the Model, which establishes the required LOD for each Model Element at each phase of the Project. LODs and Model Definition: There is no such thing as an “LOD ### model.” As previously noted, project models at any stage of delivery will invariably contain elements and assemblies at various levels of development. As an example, it is not logical to require an “LOD 200 model” at the completion of the schematic design phase. Instead, the “100% SD Model” will contain modeled elements at LOD 200 as well as various other levels of development. Consultants will be required to submit a LOD Model Progression as part of the Project Execution Plan.

3.2 **Level of Development (LOD) – Expanded Descriptions**

3.2.1 **LOD 100:** Predesign & Schematic Design Phase 0 & 1 (Basic Services)

- a. **Model Content Requirements:** Overall building massing indicative of area, height, volume, location, and orientation may be modeled in three dimensions or represented by other data.
- b. **Potential Uses:**
 1. **Analysis:** The Model may be analyzed based on volume, all spaces, area and orientation by application of generalized performance criteria assigned to the representative Model Elements.
 2. **Cost Estimating:** The Model may be used to develop a cost estimate based on current area, volume or similar conceptual estimating techniques (e.g., square feet of floor area, etc.).
 3. **Schedule:** The Model may be used for project phasing and overall duration.

3.2.2 **LOD 200:** Design Development Phase (Basic Service)

- b. **Model Content Requirements:** Model Elements are modeled as generalized systems or assemblies with approximate quantities, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements. Partitions and simple furniture models shall be included at this phase.
- c. **Potential Uses:**
 1. **Analysis.** The Model may be analyzed for performance of selected systems by application of generalized performance criteria assigned to the representative Model Elements.
 2. **Cost Estimating.** The Model may be used to develop cost estimates based on the approximate data provided and conceptual estimating techniques (e.g.,

volume and quantity of elements or type of system selected).

3. Schedule. The Model may be used to show ordered, time-scaled appearance of major elements and selected systems.

3.2.3 **LOD 300**: Construction Document Phase (Basic Service)

- a. Model Content Requirements: Model Elements are modeled as specific assemblies accurate in terms of quantity, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements.
- b. Facility Management information: Consultant will be required to input all new products installed under the scope of work for this project in conformance with an agreed upon list in OmniClass Table 23 format per Table 1 herein. County and Consultant to meet to refine the scope of the COBie information following issuance of the Schematic Phase NTP.
- c. Potential Uses:
Suitable for the generation of traditional construction documents and shop drawings.
 1. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
 2. Cost Estimating. The Model may be used to develop cost estimates based on the specific data provided and industry estimating techniques.
 3. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.
 4. Clash Detection. The Model may be used to identify architectural and engineering conflicts for primary systems and elements. Areas of study include HVAC ductwork and equipment, structural elements, above ground plumbing and drainage piping, fire sprinklers and risers.

3.2.4 **LOD 350**: Construction Phase (Contractor to provide this LOD using Consultants model unless County elects Consultant to provide as Optional Service)

- a. Model Content Requirements: Model Elements are modeled as constructed assemblies actual and accurate in terms of size, shape, location, quantity, and orientation. Clearances and access requirements to be included in model elements where applicable, (e.g. VAV access, HVAC access panels, equipment door swings, maintenance panel access, etc.). Non-geometric information may also be attached to modeled elements.
- b. Facilities Management information: Consultant to provide complete BIM model(s) to Contractor for its use containing Construction Operations Building Information Exchange (COBIE) standards in conformance with Table 1 herein.
- c. Potential Uses:
 1. Clash Detection. The model may be used to coordinate the configuration, installation and positioning of all building elements.
 2. Facility Management. The Model may be utilized for maintaining, altering,

and adding to the Project. Update and confirm preliminary COBie data.

3. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
4. Cost Estimating. The Model may be used to develop cost estimates due to change in project scope based on the specific data provided and estimating techniques.
5. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.

3.2.5 **Detailed BIM Delivery Breakdown for LOD 300 and 350:**

- a. **Architectural/Interior Design**. The Architectural systems Model may vary in level of detail for individual building elements, but at a minimum the model must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include:
 1. Spaces. The Model shall include spaces defining actual net square footage, net volume and holding data to develop the room finish schedule including room names and numbers. Include program information to verify design space against programmed space, using this information to validate area quantities.
 2. Walls and Curtain Walls. Each wall shall be depicted to the exact height, length, width, materiality and ratings (thermal, acoustic, fire) to properly reflect wall types. The Model shall include all walls, both interior and exterior, and the necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.
 3. Doors, Windows and Louvers. Doors, windows and louvers shall be depicted to represent their actual size, type and location. Doors and windows shall be modeled with the necessary intelligence to produce accurate window and door schedules.
 4. Roof. The Model shall include the roof configuration, drainage system, penetrations, specialties, and the necessary intelligence to produce accurate plans, building sections and wall sections where roof design elements are depicted.
 5. Floors. The floor slab(s) shall be developed in the Structural Model and then referenced by the Architectural Model.
 6. Ceilings. All heights and other dimensions of ceilings, including soffits, ceiling materials, or other special conditions shall be depicted in the Model with the necessary intelligence to produce accurate plans, building sections and wall sections where ceiling design elements are depicted.
 7. Vertical Circulation. All continuous vertical components (i.e., non-structural shafts, architectural stairs, ramps, conveying systems, handrails and guardrails) shall be accurately depicted and shall include the necessary intelligence to produce accurate plans, elevations and sections in which such design elements

are referenced.

8. **Architectural Specialties.** All architectural specialties (i.e., toilet room accessories, toilet partitions, grab bars, lockers, and display cases) and millwork (i.e., cabinetry and counters) shall be accurately depicted with the necessary intelligence to produce accurate plans, elevations, sections and schedules in which such design elements are referenced.
 9. **Signage.** The Model shall include all signage and the necessary intelligence to produce accurate plans and schedules.
 10. **Schedules.** Provide door, window, hardware sets using Builders Hardware Manufacturers Association (BHMA) designations, flooring, wall finish, and signage schedules from the Model, indicating the type, materials and finishes used in the design.
- b. **Furniture.** The furniture Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing and have necessary intelligence to produce accurate plans. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Representation of furniture elements is to be 3D. 3D Examples of furniture include, but are not limited to, desks, furniture systems, seating, tables, and office storage. Additional minimum Model requirements include:
1. **Furniture Coordination.** Furniture that makes use of electrical, data or other features shall include the necessary intelligence to produce coordinated documents and data. Models shall be sufficient to enable their use to demonstrate complete furniture mounted electrical and data installation locations.
- c. **Equipment.** The Model may vary in level of detail for individual elements. Equipment shall be depicted to meet layout and clearance requirements with the necessary intelligence to produce accurate plans and schedules, indicating the configuration, materials, finishes, mechanical, electrical requirements and all other related utilities. Examples of equipment include but are not limited to copiers, printers, refrigerators, ice machines, microwaves, and equipment specifically related to the operations and functions of the facility.
1. **Schedules.** Provide furniture and equipment schedules from the model indicating the materials, finishes, mechanical, and electrical requirements.
- d. **Structural** The Structural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include:

1. **Foundations.** All necessary foundation and/or footing elements, with necessary intelligence to produce accurate plans and elevations.
 2. **Floor Slabs.** Structural floor slabs shall be depicted with all necessary recesses, curbs, pads, closure pours, and major penetrations accurately depicted. Major penetrations shall include A/C duct chases and pipes larger than 6" dia. only.
 3. **Structural Steel.** All steel columns, primary and secondary framing members, and steel bracing for the roof and floor systems (including decks), including all necessary intelligence to produce accurate structural steel framing plans, related building/wall sections, and schedules.
 4. **Cast-in-Place Concrete.** All walls, columns, beams, including necessary intelligence to produce accurate plans and building/wall sections, depicting cast-in-place concrete elements.
 5. **Precast/Tilt-up/CMU.** All walls, columns, beams, including necessary intelligence to produce accurate plans and building/wall sections, depicting such elements.
 6. **Expansion Joints.** Joints shall be accurately depicted.
 7. **Stairs.** All framing members for stair systems, including necessary intelligence to produce accurate plans and building/wall sections depicting stair design elements.
 8. **Shafts and Pits.** All shafts and pits, including necessary intelligence to produce accurate plans and building/wall sections depicting these design elements.
 9. **Openings and Penetrations.** All major openings and penetrations.
- e. **Mechanical.** The Mechanical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2" NPS) field-routed piping is not required to be depicted in the Model. Additional minimum Model requirements include:
1. **HVAC.** All necessary heating, ventilating, air-conditioning and specialty equipment, including air distribution for supply, return, ventilation and exhaust ducts, control systems, chillers, registers, diffusers, grills, and hydronic baseboards with necessary intelligence to produce accurate plans, elevations, building/wall sections and schedules.
 2. **Mechanical Piping.** All necessary piping and fixture layouts, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, and schedules.
 3. **Equipment Clearances.** All Mechanical equipment clearances shall be modeled for use in interference management and maintenance access requirements.
- f. **Plumbing.** All necessary plumbing piping and fixture layouts, floor and area drains, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules.

Piping shall include slope requirements.

1. Equipment Clearances. All equipment clearances shall be modeled for use in interference management and maintenance access requirements.
 2. Elevator Equipment. All necessary equipment and control systems, including necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.
- g. **Electrical/Telecommunications/Data**. The Electrical and Telecommunications systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2" Ø) field-routed conduit is not required to be depicted in the Model unless banks of 3 or more conduits are run on racks. Additional *minimum* Model requirements include:
1. Interior Electrical Power and Lighting. All necessary interior electrical components (i.e., lighting, receptacles, special and general-purpose power receptacles, lighting fixtures, panel boards, cable trays and control systems), including necessary intelligence to produce accurate plans, details and schedules. Lighting and power built into furniture/equipment shall be modeled. Whips servicing lighting fixtures are required to be modeled.
 2. Special Electrical. All necessary special electrical components (i.e., security, mass notification, public address, nurse call and other special electrical occupancy sensors, and control systems), including necessary intelligence to produce accurate plans, details and schedules.
 3. Grounding. All necessary grounding components (i.e., lightning protection systems, static grounding systems, communications grounding systems, and bonding), including necessary intelligence to produce accurate plans, details and schedules.
 4. Telecommunications/Data. All existing and new telecommunications service controls and connections, both above ground and underground, with necessary intelligence to produce accurate plans, details and schedules. Cable tray routing shall be modeled without detail of cable contents.
 5. Exterior Building Lighting. All necessary exterior lighting including all lighting fixtures, relevant existing and proposed support utility lines and equipment with necessary intelligence to produce accurate plans, details and schedules.
 6. Equipment Clearances. All Electrical equipment clearances shall be modeled for use in interference management and maintenance access requirements.
- h. **Fire Protection**. The fire protection system Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include

additional scales as required to show necessary details. All Fire Protection piping should be modeled. Additional minimum Model requirements include:

1. Fire Alarms. Fire alarm/mass notification devices and detection systems, audible and visual, shall be indicated with necessary intelligence to produce accurate plans depicting them.
 2. Fire Protection System. All relevant fire protection components (i.e., branch piping, sprinkler heads, fittings, drains, pumps, tanks, sensors, control panels) with necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules. All fire protection piping shall be modeled.
- i. **Security.** Both facilities require a level of security to ensure record and evidence integrity. The security system Model may vary in level of detail for individual elements, but at a minimum must include all devices and components that would be included on a quarter inch (1/4" = 1'-0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include, but not limited to:
1. Closed Circuit Television (CCTV). Security Cameras, devices, components, and detection systems shall be indicated with necessary intelligence to produce accurate plans depicting them on drawings.
 2. Emergency Notification Systems. All relevant security protection components (i.e. panic buttons, card readers, door controls, monitoring stations, security computer room, room/ corridor sensors, audible/visible annunciators, and security control panels) with necessary intelligence to produce accurate plans depicting the system(s).
 3. Burglar Alarm Systems. Building security including motion detectors, glass-break sensors, audible devices, and other intrusion detection devices as well control system for above shall be indicated on plans.
 4. Public address system – Speakers, zone control reflected on plan.
 5. Low-voltage systems – Various systems for communication, or customer services including WiFi, FIBS/BIDS boards, phone chargers, lighting, Public Art, induction systems, way-finding, solar PV, wind, and other systems.
 6. Bi-Directional Antenna systems (BDA) – Antennas, trunk lines, branch line, control boxes, repeaters, emergency or redundant power sources, primary interface components, & home run room.
- j. **Conveying Systems.** The conveying systems models should indicate primary equipment, all necessary plumbing piping, electrical panels, fixture layouts and other related equipment, that would appear on a quarter inch (1/4" = 1'-0") scaled drawing. Clearly indicate equipment clearances.
1. Elevator Equipment. All necessary equipment and control systems, including necessary intelligence to produce accurate plans, sections and elevations depicting these design elements. Provide indicators and call buttons.

2. Escalator and other Conveyance Equipment. All relevant components of the escalator/conveyance system including accurate modeling of stair tread, size and placement. Indicate areas where 6'-8" clear headroom exists below the finished escalator if applicable.
- k. **Landscape**. The Landscape Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4" = 1'0") scaled drawing and have necessary intelligence to produce accurate plans. Representation of Landscape elements is to be diagrammatic. Examples of landscape material include but are not limited to trees and shrubs.
- l. **Civil**. The Civil Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a one inch (1" = 100' to 1" = 20') scaled drawing. Additional *minimum* Model requirements include:
1. Terrain (DTM). All relevant site conditions and proposed grading, including necessary intelligence to produce accurate Project site topographical plans and cross sections.
 2. Drainage. All existing and new drainage piping, including upgrades thereto, including necessary intelligence to produce accurate plans and profiles for the Project site.
 3. Storm Water and Sanitary Sewers. All existing and new sewer structures and piping, including upgrades thereto, with necessary connections to mains or other distribution points as appropriate, including necessary intelligence to produce accurate plans and profiles.
 4. Utilities. All necessary new utilities connections from the Project building(s) to the existing or newly-created utilities, and all existing above ground and underground utility conduits, including necessary intelligence to produce accurate plans and site-sections.
 5. Roads and Parking. All necessary roadways, parking lots, and parking structures, including necessary intelligence to produce accurate plans, profiles and cross-sections.
- m. **Potential Uses**:
- a. Suitable for the generation of traditional construction documents and shop drawings.
 - b. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
 - c. Cost Estimating. The Model may be used to develop cost estimates based on the specific data provided and conceptual estimating techniques.
 - d. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.

3.2.6 **LOD 400**: BIM for Fabrication. (Optional Service).

- a. **Model Content Requirements**. Model Elements are modeled as specific assemblies that are accurate in terms of size, shape, location, quantity, and orientation with complete fabrication, assembly, and detailing information. Non-geometric information may also be attached to Model Elements.
- b. **Potential Uses**:
 - 1. **Construction**. Model Elements are virtual representations of the proposed element and are suitable for construction.
 - 2. **Analysis**. The Model may be analyzed for performance of approved selected systems based on specific Model Elements.
 - 3. **Cost Estimating**. Costs are based on the actual cost of specific elements at buyout.
 - 4. **Schedule**. The Model may be used to show ordered, time-scaled appearance of detailed specific elements and systems including construction means and methods.

3.3 **BIM for Facility Management**

3.3.1 BIMs shall be provided by Contractor or Managing General Contractor (MGC). Contractor or MGC shall submit an as-constructed BIM model to the A/E Consultant for the extraction of COBie in Excel format.

3.4 **As Constructed Model Content Requirements**

- a. **Model Content Requirements**. Model Elements are modeled as constructed assemblies actual and accurate in terms of size, shape, location, quantity, and orientation. Non-geometric information may also be attached to modeled elements. Facilities Management information completed with all requested information developed to Construction Operations Building Information Exchange (COBIE) standards.
- b. **Potential Uses**:
 - 1. **Facility & Construction Management**. The Model may be utilized for maintaining, altering, and adding to the Project.
 - 2. **Project Record Documents**. As-built data accurately portrayed in the BIM model for future reference and reuse.

3.5 **COBie Data**

- a. **Within 30 days from the issuance of the Notice To Proceed (NTP) for Schematic Design**, the County and Consultant shall finalize and select items from the following OmniClass 23 table to establish the basis of COBie elements to be tracked and delivered in the completed model.

23-11	Products
23-13	Structural and Exterior Enclosure Products
23-15	Interior and Finish Products
23-17	Openings, Passages, and Protection Products

23-21	Furnishings, Fixtures and Equipment Products
23-23	Conveying Systems and Material Handling Products
23-27	General Facility Services Products
23-29	Facility and Occupant Protection Products
23-31	Plumbing Specific Products and Equipment
23-33	HVAC Specific Products and Equipment
23-35	Electrical and Lighting Specific Products and Equipment
23-37	Information and Communication Specific Products and Equipment

Table 1.0 – Selected Excerpt from OmniClass Table 23

3.6 **BIM Project Execution Plan (BIMPxP or PxP)**

3.6.1 The BIMPxP template is included in this Attachment 2, as “Section 4 - Project Execution Plan (BIMPxP). The Consultants BIMPxP Coordinator for the Project has the responsibility of documenting the Project Execution Plan (PxP), gathering the required information from the External Project Team, scheduling and leading the PxP meetings and establishing and implementing protocols for revisions and sharing the PxP

3.6.2 The development of the PxP is a collaborative effort by all members of the Project team and will be reviewed and updated in meetings specifically scheduled for this purpose. All members of the Project team are required to submit initial information for their scope to the designated PxP Coordinator within 15 calendar days of commencing work. At a minimum PxP meetings shall be conducted at the end of each project phase and a revised PxP shall be issued to County and the External Project Team. A record PxP shall be provided to the owner at handover including all updated requirements.

3.6.3 The PxP is subject to review and approval by County at each project phase.

3.6.4 The design & construction teams shall submit a written BIMPxP subject to review and written approval by County prior to proceeding with the process. The BIMPxP will outline all methods and procedures for collaboration between the design and construction teams as well as coordination of VDC/BIM efforts of the subcontractors. The Contract Administrator, Design Team and all sub-consultants engaged in the BIM process will sign agreement to adhere to the BIM Project Execution Plan.

3.6.5 The BIM Project Execution Plan shall include as a minimum:

- a. Project Information
- b. Key Project Contacts
- c. Project VDC / BIM Uses
- d. Organizational Roles and Staffing
- e. VDC / BIM Process for preconstruction, construction and handover
- f. BIM Information Exchanges
- g. BIM and Facility Data Requirements
- h. Collaboration and coordination procedures

- i. Quality Control
- j. Technological Infrastructure Needs
- k. A Model Progression Schedule identifying LODs and Authors for each category of model (built) element.
- l. Clash detection approach
- m. Cost estimating level
- n. BIM Deliverables

3.6.6 To promote efficiency and continuity, the 2D construction documents must be extracted directly from the Design BIMs and both the BIMs and the 2D Deliverables will be integral parts of the contract documents. Two dimensional (2D) details, enlargements, General Notes, externally-generated Schedules, and specifications will take precedence over the Design BIMs.

3.7 **BIM Use Agent Responsibility Matrix**

3.7.1 County has identified the Required, Preferred and Optional BIM uses as it relates to this project. The County acknowledges that Design and Construction Consultants will work together to achieve these Uses. Implementation of these uses should be explained by the Consultant in the BIMPxP, Section F. Roles, responsibilities and timing are to be documented.

3.7.2 The County’s typical BIM Uses for New Construction Projects are as follows:

County Typical BIM Use - New Construction	
BIM Use	County Intent
3D Coordination / Conflict Analysis	Required
As Constructed Model	Required
Asset Management	Required
CIM / Subsurface	Required
Constructability/Peer Review	Required
Design 4 Maintenance (D4M)	Required
Design Authoring	Required
Design Reviews	Required
Existing Conditions Modeling	Required
Facility Data Exchange	Required
Owner Approvals	Required
QA/QC	Required
Record Modeling	Required

BIM Use	County Intent
Site Utilization Planning	Required
Spatial Analysis	Required
Visualization	Required
Commissioning	Preferred
Cost Estimation	Preferred
Energy / Mechanical Analysis	Preferred
Programming	Preferred
Program / Code Validation	Preferred
Quantity Take-Off	Preferred
Site Analysis	Preferred
Space Management / Tracking	Preferred
Structural Analysis	Preferred
Sustainability / LEED	Preferred
Total Cost Of Ownership	Preferred
BIM2field - Digital Layout	Optional
Building Maintenance Scheduling	Optional
Building System Analysis	Optional
Code Analysis	Optional
Construction System Design	Optional
Digital Fabrication	Optional
Disaster Planning	Optional
Electrical Analysis	Optional
Field and Material Tracking	Optional
Laser Scanning	Optional
Lighting Analysis	Optional
Pay Applications	Optional
Phase Planning 4D	Optional
Security / Key Management	Optional
Specification Production	Optional

3.8 **3D Coordination and Conflict Analysis**

3.8.1 The Design Team shall use BIM to employ a managed approach to advanced collaborative reviews, including automated element collision detection using software such as Autodesk Navisworks. By coordinating BIM data during the design phases, this can reduce the number of potential major conflicts that might arise during the construction phase.

3.8.2 This approach is not meant to replace the traditional quality control process, or the early airspace zone MEP strategy approach used by the project team and participating consultants but will enhance the ability of the project team to visualize the design and detect interferences between discipline components.

3.8.3 Design Team Coordination

- a. The Design Team shall produce a design in which all MEP/FP systems fit within the intended spaces provided, including necessary and required clearances, egress zones, and access zones. To help achieve this goal, the Design Team shall have a formal 3D spatial analysis and clash resolution process that forms the backbone of the QA/QC process. The spatial analysis and clash resolution process shall include regularly scheduled clash review meetings and the use of software tools to analyze and resolve clashes.
- b. County does not expect a “clash-free” design, however County expects a design that has been spatially analyzed and validated such that all systems are constructible within the space designed.
- c. Clash reports will be required at project milestone deliverables for both Design and Construction.
- d. Cost estimating – Level 1 thru 4
- e. Construction Schedule & Duration
- f. Utilities coordination & invert elevations

3.8.4 Contractor Team Coordination

- a. Contractor shall carry out clash detection analysis and complete preliminary virtual design and construction (VDC) activities as part of the Constructability Reviews.
- b. Weekly, the CM shall conduct coordination meetings with each Contractor, Subcontractor, PM, County and Design Team as needed.
- c. The CM shall prepare clash detection reports and distribute minutes/ reports to all attendees.

3.9 **Model Content Requirements**

3.9.1 A Model Progression Schedule (MPS) shall be used as a tool to help Model Contributors throughout the Design, Construction and Operation phases understand what should be included in the BIMs when at each project milestone.

- a. The Construction Models should reflect the exact geometric properties of the materials and/or systems being submitted. These models should reflect the exact material properties and performance data.
- b. It is the responsibility of the Design and Construction Team to use the MPS as part of the BIMpXp or JBIMpXp to establish how they progressively reach the County’s expectations.
- c. See also Section 4 BIM Project Execution Plan and Section 5 Model Progression Schedule templates.

3.10 **Shop Drawings, Sleeve Drawings and Fabrication**

3.10.1 Shop Drawings shall be produced directly from the construction BIMs. No parallel 2D process will be accepted

- a. Sleeve Drawings -Sleeve drawings for cast-in-place or precast systems shall be produced after BIM Coordination is completed for the area of construction requiring the sleeve drawings.
- b. Fabrication & Preassembly -Whenever possible the Construction Team shall use the Construction BIMs to fabricate or preassemble their systems.

3.11 **BIM in the field for Installation**

3.11.1 The Contractor shall take measures to assure that what is being installed at the field is what was agreed upon on the Coordinated Federated Construction BIM. Any deviations must be documented as updates to the BIMs and the party responsible for resulting conflicts will be liable for costs associated with such deviations.

3.12 **Submittals**

3.12.1 Upon Substantial Completion, BIM files shall be submitted to County, and shall be cleaned of extraneous “scrap” or “working space”, stories, abandoned designs, object creation and testing places, and other content which is typically produced in or during BIM construction coordination.

- a. The CM@Risk shall be responsible for providing the County a federated as-built Model that includes all building systems. The Model shall be coordinated and “clash free” except as noted.
- b. CM@Risk shall provide a native file of the final federated as-built Model for building systems used in the multi-discipline coordination process (version as agreed in BIM PxP)
- c. CM@Risk shall identify native file formats used in the final federated as-built Model for building systems for the multi-discipline coordination process (version as agreed in BIM PxP)
- d. CM@Risk shall provide IFC files (ISO 16739) of as-built models (version as agreed in BIM PxP)
- e. CM@Risk shall provide COBie / data compliant file containing room and product data information (version as agreed in BIM PxP)

3.12.2 County will not accept BIM files that have become un-useable, or too heavy for normal use. Proper care shall be taken to strip all BIMs of any and all miscellaneous files that are not directly part of the BIMs. The BIM Compliance Checklist, shown below, is required to be submitted with each BIM Deliverable as part of the QA/QC process and to show compliance.

BIM Compliance Checklist	
Description	<input checked="" type="checkbox"/> / <input type="checkbox"/>
Model content is representative of their discipline developments according to the MPS.	<input type="checkbox"/>
Model file name and folder structure conforms to County Standards.	<input type="checkbox"/>
All annotations and title blocks are per the County standards.	<input type="checkbox"/>
All floor plans types have been created for each floor or mezzanine in the project model.	<input type="checkbox"/>
All schedules are populated with all the required data for the project.	<input type="checkbox"/>
The model is correctly assembled as per visual inspection.	<input type="checkbox"/>
The color code for Federated BIMs conforms to County Standards.	<input type="checkbox"/>
All the model contents are correctly placed per their element categorization in the correct workset and conform to standards.	<input type="checkbox"/>
All non-transmittal linked-in files (CAD/Revit) have been removed from the model.	<input type="checkbox"/>
All non-required views / legends / schedules / sheets / images have been removed from the model.	<input type="checkbox"/>
Unwanted Design Options have been removed from the model (applicable for Contract Document Phase through Project completion and handover).	<input type="checkbox"/>
All unnecessary groups have been removed from the model. All groups used to model the building have been ungrouped and purged from the deliverables to reduce the file size of the model.	<input type="checkbox"/>
As a last step, the model has been purged (repeat the process three times -- materials are only removed after the parent object has been removed). This will reduce the file size.	<input type="checkbox"/>
3D Solids Check – No wireframe or lines are accepted. Surface modeling shall be reserved for Topography modeling only. Other use of surface modeling shall require prior approval by County.	<input type="checkbox"/>
Errors or Warnings - check that there are not any generated within the BIM Authoring software. It is the Design & Construction Teams' responsibility to ensure BIM quality and data integrity.	<input type="checkbox"/>
Model Elements are not duplicated. i.e. Columns in both Architectural and Structural models.	<input type="checkbox"/>
Objects are correctly defined under the proper Revit Family Category and sub-category.	<input type="checkbox"/>

3.13 **Responsibilities Related to the Final As-Built Model**

3.13.1 Design Team Responsibilities

- a. The Design Team will update the Architectural and Structural model(s) through the end of the construction phase, incorporating all updates and/or revisions to the model(s) as necessary to reflect design changes initiated by Architectural Supplemental Instructions (ASI), Request for Information (RFI), Conformed Documents, Owner Changes, or coordination with existing conditions.

3.13.2 Construction Team Responsibilities

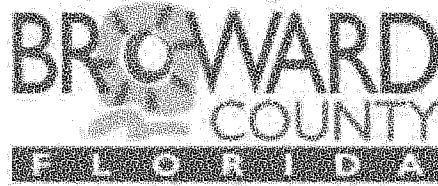
- a. During the construction phase, the Construction Team will maintain “red-line” as-

built drawings.

- b. In preparation for Substantial Completion, the Construction Team will:
 - 1. Make all necessary updates and/or revisions to the model(s) to reflect the as-built information to the tolerance specified in the Standard or agreed upon in the BIM PxP. It is the responsibility of each subcontractor to keep accurate “red-line” markups and records from the field in order to produce accurate as-built models and drawings.
 - 2. Final updates to material/equipment data and properties where installations differ from the “basis of design” included in the Design Team Model(s).
 - 3. Incorporation or linking of certain close-out documents to the Federated Model (as agreed in BIM PxP).
- c. All model updates by the Construction Team shall be complete one (1) week prior to Final Completion at which time all the required close out deliverables shall be transmitted to the County (as agreed in BIM PxP).

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Section 4 BIM Execution Plan



**BIM PROJECT EXECUTION PLAN
(BIMPxP)**

FOR

Insert Project Name Here in Black Font

DEVELOPED BY

**Broward County - Construction Management Division
(County)**

*This template is a required tool that is provided to assist in the development of a
BIM Project Execution Plan (BIMPxP) as required by Contract.*

*Consultants are required to "Track" changes when editing this document so
BROWARD COUNTY - CONSTRUCTION MANAGEMENT DIVISION (County) can
review and accept any additions and modifications as part of the review
process.*

BIM PROJECT EXECUTION PLAN

FOR

Insert Project Name Here in Black font

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Introduction

This template exists to document the decisions made by the Design and Construction Teams working through the BIM process. To successfully implement BIM on both the project and organizational levels, Broward County Construction Management Division has developed this BIM Project Execution Plan (BIMPxP) to improve accuracy and consistency of BIM deliverables. This plan will delineate roles and responsibilities while detailing BIM scope of information to be shared that is relevant to the BIM project process. The document is intended to cover both model creation and data integration.

Instructions

Submission Schedule

The Design and Construction Teams are required to submit a completed BIMPxP within 30 days of contract execution. This plan shall identify the entire project team including consulting engineers, specialty consultants and contractors. The BIMPxP should be considered a living document and maintained and updated throughout the project.

Please note: Instructions and examples to assist with the completion of this guide are displayed in italicized blue font. The text can and should be modified to suit the needs of the organization filling out the template. If modified, the format of the text should be changed to match the rest of the document (non- italicized and in black, 12-point, Calibri font typical) and “tracked changes” shall be submitted in electronic form for Broward County Construction Management Division review and approval.

The overall section headings of this template shall remain, but the BIMPxP Coordinator may propose any other changes or additions to this template including expansion of the content of the sections and additional sections and attachments. Changes & additions shall be agreed to by the project team and submitted to Broward County Construction Management Division for approval.

This BIMPxP document is based on the National BIM Standard-United States™ Version 3 and the Pennsylvania State University BIM Project Execution Plan Version 2.0 and customized for Broward County Construction Management Division.

Section A: BIM Project Execution Plan Overview

The Broward County Construction Management Division requires the use of Building Information Modeling (BIM) as a tool in the planning, design, construction and operation of our facilities worldwide. A well-executed BIM project facilitates the collaboration and communication between the owner, the design team and the construction team in order to best meet the project's goals.

The purpose of this process change is to ensure maximum benefit from our assets by improving the building's design and construction, reduce the total cost and time of delivery and improve operations and management after handover. BIM allows for a more complete, efficient, iterative design and construction process. The clearest benefits are the enhanced visualization of the project at all stages of development, the creation of higher quality design and construction deliverables and the reduction of construction coordination conflicts in the field. At the end of construction, the Building Information Models serve as rich databases of digital data captured during design and construction about the building's assets. This single centralized source of information is invaluable to the Facilities Department for the on-going operations and management of the building to ensure our facilities are sustainable and resilient.

To successfully implement Building Information Modeling (BIM) on a project, the project team has developed this detailed template BIM Project Execution Plan.

INSERT ADDITIONAL INFORMATION HERE IF APPLICABLE.

With the help of the project team, develop a brief mission statement here that will give an overview of BIM objectives that are specific to this project. This can be developed at a collaborative brainstorming session at the first BIMPxP meeting. Extensive additional information can be included as an attachment to this document.

Section B: Project Information

This section defines basic project reference information and determined project milestones

- 1. Client Name: Broward County Construction Management Division
- 2. Project Name:
- 3. Project Location and Address:
- 4. Contract Type / Delivery Method: Managing General Contractor (CM@Risk)
- 5. Brief Project Description: Refer to Exhibit A, Scope of Work
- 6. Additional Project Information: none
- 7. Project Identification Numbers: *Please complete table below*

Team Member	Project Number
Broward County Construction Management Division	
Architect	
MEP Engineers	
Structural Engineer	
Contractor	

Section C: Delivery Strategy

Delivery and Contracting Strategy for the project:

This section is useful primarily when design delivery methods are being utilized that involve early collaboration of the design and construction teams (IPD, Design Assist, etc.). List the Project Delivery strategy for the project below (Design-Bid-Build, CM at Risk, IPD, Design Assist, etc.).

Please note what additional measures need to be taken to successfully use BIM with the selected delivery method and contract type?

Section C.1 - Project Schedule / Phases / Milestones:

In coordination with the project schedule, include BIM milestones, pre-design activities, major design reviews, stakeholder reviews and any other major events which occur during the project lifecycle.

Project Phase / Milestone	Estimated Start Date	Estimated Completion Date	Project Stakeholders Involved
Notice to Proceed			
BIMPxP Kick-off			
Programming			
County Review & Comments			
Design Team Review & Resubmit			
Schematic Design			
County Review & Comments			
Design Team Review & Resubmit			
Design Development			
County Review & Comments			
Design Team Review & Resubmit			
50% CD's			
County Review & Comments			
Design Team Review & Resubmit			
___% CD's			
County Review & Comments			
Design Team Review & Resubmit			
100% CD's			
County Review & Comments			

Project Phase / Milestone	Estimated Start Date	Estimated Completion Date	Project Stakeholders Involved
Design Team Review & Resubmit			
Award / Permit			
Pre-Construction			
Project Coordination Kickoff			
Underground Coordination			
Site Coordination			
Building Exterior Coordination			
Building Interior Coordination (First Floor)			
Building Roof Coordination			
Coordination Sign-Off			

Section C.2 - Project Deliverables

In this section, please check off the BIM Deliverables from Consultant and Contractor on the appropriate tables below that are relevant for this project. Note any and all deviations to these required deliverables below.

Schedule of Deliverables to Broward County Construction Management Division				
CONSULTING ARCHITECTURE AND ENGINEERING TEAM				
Phase	Deliverable	Include Y/N	Due	File Type
Contract Award	BIMPxP		30 days of ATP	Native & PDF
Programming / Feasibility Models	Massing models & Narrative Space & Program Validation Report		Per BIMPxP	Native & IFC & PDF Native & PDF
Planning	Design Models -		Per BIMPxP	Native & IFC (2x3) files
Schematic Design	Design Models -		Per BIMPxP	Native & IFC (2x3) files
Design	Existing Conditions Model		Per BIMPxP	Native & IFC (2x3) files

Development	Design & Analysis Models - Updated BIMPxP Coordination Reports BIM Compliance Checklist			Native & IFC Native & PDF PDF PDF
Construction Documents	Design & Analysis Models 2D documents & Clash Report Updated BIMPxP Coordination Reports BIM Compliance Checklist COBie Data Set - Del 1		Per BIMPxP	Native & IFC (2x3) files PDF Native & PDF PDF PDF COBie2 2.40
Permitting / Conformance	Federated Design Model 2D Documents		Per BIMPxP	Native files PDF
Construction - Approved Submittals	COBie Data Set - Del 2		Per BIMPxP	Native & IFC (2x3) files
Construction- Close-Out Close-Out Close-Out Close-Out Close-Out Close-Out	COBie Data Set - Del 3 COBie Data Set – Final Record Floor Plans Record BIMs Federated Record BIM Coordination Report Record Model Instruction Rpt. Final BIMPxP		Per BIMPxP	COBie2 2.40 COBie2 2.40 DWG Native & IFC (2x3) Native Native & PDF Native & PDF Native & PDF

**Schedule of Deliverables to
Broward County Construction Management
Division**

CONSTRUCTION TEAM

Phase	Deliverable	Include Y/N	Due	File Type
Contract Award	BIMPxP		Within 30 days	Native & PDF
Pre-Construction	Coordination BIMs BIM Compliance Checklist		Per BIMPxP	
Project Close out	COBie Data Set – Del 3 As-Constructed BIMs BIM Compliance Checklist Coordination Report Federated As-Constructed BIM Final BIMPxP		Per BIMPxP	COBie2 2.40 Native & IFC (2x3) PDF PDF .NWD Native & PDF

Section D: Key Project Contacts

ROLE	CONTACT NAME	ORGANIZATION	EMAIL	PHONE
Owner PM		Broward County CMD		
Owners BIM Manager		Broward County CMD		
BIM P&P Coordinator				
Design Professional's Principal In Charge				
Design Professional's Project Manager				
Design Professional's BIM Manager				
Design Professional's BIM Project Lead				
Consultant's Principal In Charge				
Consultant's Project Manager				
Consultant's BIM Manager				
Consultant's BIM Project Lead (per discipline)				
Contractors PM				
Contractors BIM Manager				
Others				

Section E: Organizational Roles / Staffing

This section should be filled in at the choice of the BIMpXP Coordinator and extended team

BIM Roles and Responsibilities:

Broward County Construction Management Division (CMD): Broward County’s Construction Management Division is responsible for BIM, CAD support, coordination and integration. It is also their responsibility to ensure design and construction document/model compliance with Broward County Construction Management Division Standards while maintaining and facilitating access to record drawings and models.

Describe BIM roles and responsibilities such as BIM Managers, Project Managers, Draftspersons, etc.

Titles	Roles in Design	Roles in Construction
Broward County Construction Management Division	<ul style="list-style-type: none"> • BIM Oversight and Compliance Reviews 	<ul style="list-style-type: none"> • BIM Oversight and Compliance Reviews
Project Manager		
Model Manager		
BIM Coordinator		
Modeler		
COBie Coordinator		

Section F: BIM Uses

Broward County Construction Management Division has developed a BIM Use/Consultant Responsible Matrix for use in the planning and procurement of BIM projects. This matrix defines Broward County Construction Management Division’s priorities for the application of BIM Uses, the responsibilities of the External Team Members, and the phases to which the BIM Uses apply. BIM Uses should only be employed if they offer significant benefit to the Project without compromising cost or schedule.

Insert additional information as needed for this specific project. Items in RED are minimal required by Broward County Construction Management Division.

BIM Use	Consultant Responsible for Implementation	Proposed	Plan Design Construct Operate			
			P	D	C	O
Visualization	A & C.	Required	X	X	X	X
Programming						
Site Analysis						
Design Authoring	A, Trades	Required	X	X	X	
Design Reviews	A & C.	Required	X	X	X	
3D Coordination		Required	X	X	X	
Structural Analysis						
Lighting Analysis						
Energy Analysis						
Mechanical Analysis						
Other Eng. Analysis						
Sustainability Evaluation						
Design4Maintenance Review	A & C.	Required		X	X	
3D Coordination and Conflict Analysis	A & C.	Required	X	X	X	
Facility Data Exchange	A & C.	Required		X	X	X
Quality Assurance / Quality Control						
Code Validation						
Commissioning						
Site Utilization Planning	A or C.	Required		X	X	
Construction System Design						
Digital Fabrication						
3D Control and Planning						
4D Phase Planning						
5D Cost Estimation						
Quantity Take Off						
BIM2Field		Required			X	
Laser Scanning						
Point Cloud integration						
Security Key Management						

Building Maintenance Scheduling						
Record Modeling	A	Required		X		
Way finding						
Virtual / Mixed Reality						
As-Constructed Modeling	C				X	
Building System Analysis						
Asset Management						
Space Management / Tracking	A	Required		X	X	X
Disaster Planning						
Existing Conditions Model						

Section G: BIM Process Design

Define the BIM Process and Workflows that the External Project Team will be implementing on this project as it relates to the BIM Uses that have been selected and contracted for this project. Define a detailed plan for implementing each BIM Use, define the specific exchanges of information and/or BIMs for each activity, the party responsible for each activity, and when in the schedule of the project it should occur. Process maps like those in the Penn State BIM Execution Plan may be included but are optional.

Section H: Model Progression Schedule / LOD

A template Model Progression Schedule/Agent Responsibility Matrix (MPS) template defining minimum requirements for model handover will be provided by the Project Manager and examples are included and referenced in Section 5 of this Attachment 2. The LOD levels and tolerances in the Handover section of the sample MPS define Broward County Construction Management Division's requirements for the Existing Conditions, As-constructed and Record BIMs. The External Project Team is to complete and submit a project specific MPS for this project for all project phases as applicable. The columns pertaining to Existing Conditions, As-Constructed Modeling and Record Modeling along with requirements for tolerances and allowable deviations are to be included in the MPS.

The Model Element Rows in Broward County Construction Management Division's template MPS are high level. The rows in the final project MPS may have a higher level of granularity to be used as required to address the needs of the project and the best practices of the External Project Team.

The executed MPS shall be attached to this BIMPxP.

Section I: BIM and Facility Data Requirements

Shown in	BCAD Preliminary Asset Type List	OmniClass - Products Classification - Table 23
ARCH Model	AUTOMATIC EXTERNAL DEFIBRILATOR (AED)	23-25 21 13
	BAGGAGE HANDLING CONVEYOR	23-23 17 15
	ELEVATOR	23-23 11 11
	ESCALATOR	23-23 11 13
	FIRE DOOR	23-17 11 32
	ICE MACHINE	23-21 21 29
	MOVING WALKWAY	23-23 15 11
	SLIDING DOOR	23-17 11 23
	TICKET COUNTER	23-21 19 15
	WATER COOLER	23-31 31 00
ELECT Model	FIELD CONTROL PANEL	23-35 31 15
	GENERATOR	23-35 11 15
	LINE CONTROL PANEL	23-35 31 15
	MOTOR CONTROL CENTER	23-35 31 23
	MOTOR CONTROL PANEL	23-35 31 15
	VARIABLE FREQUENCY DRIVE	23-35 17 15
VARIABLE SPEED DRIVE	23-35 17 00	
MECH Model	AC UNIT	23-33 39 11
	AIR HANDLER	23-33 25 00
	CHILLER	23-33 21 00
	CONDENSER WATER PUMP	23-27 17 00
	CONDENSING UNIT	23-33 43 00
	COOLING TOWER	23-33 23 00
	EXHAUST FAN	23-33 31 19
	FAN COIL UNITS	23-33 33 11
	FAN POWERED BOX	23-33 41 11
	FAN TERMINAL BOX	23-33 41 11
	FAN VARIABLE VOLUME BOX	23-33 41 11
	OUTSIDE AIR HANDLER UNIT	23-33 25 13
	PACKAGE AIR CONDITIONING UNIT	23-33 39 17
	PRIMARY CHILLED WATER PUMP	23-27 17 00
	ROOF TOP UNIT	23-33 25 17
	SECONDARY CHILLED WATER PUMP	23-27 17 00
SPLIT SYS CONDENSING UNIT	23-33 43 00	
SUPPLY FAN	23-33 31 19	
VARIABLE AIR VOLUME BOX	23-33 41 17	
PLUM Model	AIR COMPRESSOR	23-27 21 00
	CHEMICAL STATION	23-27 55 31
	ELECTRIC HOT WATER BOILER	23-33 11 22
	HEAT EXCHANGER	23-27 23 00
	HEAT PUMPS	23-33 17 00
	HOT WATER PUMP REHEAT	23-27 17 00
	SUMP PUMP	23-27 17 00
	TRASH PUMP	23-27 17 00
WATER CIRCULATING PUMP	23-27 17 00	
These assets types may be found in consultant 3D CAD models with limited information embedded. The information required on these asset types would be manual entered into the COBie deliverable worksheets.		
CIVIL	AIR FIELD LIGHTING RUNWAY	N/A
	AIRFIELD BEACON	N/A
	CRASH GATE	23-11 25 15
	CRASH PERIMETER GATE	23-11 25 15
	ENGINEERED MATERIAL ARRESTING SYSTEM - EMAS	N/A
	PEDESTRIAN GATE	23-11 25 15
	PERIMETER GATE	23-11 25 15
CONSULTANT	ABOVE GROUND STORAGE TANK	23-27 29 19
	BAG MEASUREMENT EQUIPMENT	23-23 17 15
	BAGGAGE DIMENSIONER	23-23 17 15
	BAGGAGE HANDLING CAROUSEL	23-23 17 15
	DIESEL FUEL STORAGE TANK	23-27 29 19
	HIGH SPEED DIVERTER	23-23 17 15
	JETWAY	23-23 15 15
	OVER SIZE BAG DOOR	23-23 17 15
SCALE	N/A	

At a minimum and not limited to, Broward County Construction Management Division will require COBie data sets for all components on the Equipment List per the Construction Documents that require any of the following:

- ✓ Scheduled preventative maintenance i.e. Mechanical, Electrical,
- ✓ Routine maintenance/inspections: i.e. Plumbing
- ✓ Regulatory inspections i.e. life safety related: fire extinguisher, fire dampers, backflow preventers

The list to the right shows Preliminary Asset Type List for Broward County Construction Management Division Projects. This list should be used and further detailed in the BIMPxP Template.

Section J: Collaboration Procedures

Collaboration Strategy:

Provide a brief, general description of how the project team will collaborate. Include items such as communication methods, document management and transfer, and record storage, etc.

FILE LOCATION	FILE STRUCTURE/ NAME	FILE TYPE	PASSWORD PROTECT	FILE OWNER	UPDATED
Collaboration SITE: SITE	Root Project Folder	FOLDER	YES	PT Project Mgr	ONCE
Provide Further Information On Structure Of Collaboration Site	Root Project Folder	FOLDER	YES	PMG Project Mgr	ONCE
Provide Further Information On Structure Of Collaboration Site	TBD	RVT	YES	PMG Project Mgr	WEEKLY

Section J.1 - BIM Meeting Procedures:

There will be several types of collaboration and model review meetings needed for the project, including general progress meetings, design coordination meetings, etc. The following table includes, but is not limited to, some of the types of potential meetings necessary for the project, meeting host(s), required attendees, and required technology. Broward County Construction Management Division understands that these meetings may be in-person, virtual and/ or a combination of both. The following table describes the schedule for coordination meetings, clash detection meetings, and model walkthroughs. Items marked in Red will be REQUIRED.

The meetings listed below reflect typical Broward County Construction Management Division expectations for a project and should be customized for the needs of a project.

DESIGN INTENT MODELS				
MEETING TYPE	STAGE	FREQUENCY	LOCATION	COMMENTS / PARTICIPANTS
Design Phase BIM Kick-off		1X within 15 days of start of project	On-site	General discussion to make sure all parties are aligned on BIM Requirements

BIM Project Execution Plan Presentation		1X within 30 days of start of project	On-site	BIM PxP Coordinator presents completed BIM PxP to entire team for final sign-off
Design Authoring Coordination Meetings		Weekly	In-Cloud	Coordination and Federation of Design Team Models.
Design Presentations/ Model Walk-throughs		As Needed	On-site	BIM presentations to Project Team for approval and reviews. Geared towards Owner and User Groups.
Design4Maintenance		DD / CD Phases 1X	On-site	BIMs to review equipment maintainability and "soft clash" for clearances.
Data Meeting		DD / CD Phases 1X	In-Cloud / On-site	Review BIMs for data compliance and test import.
Model Handover Meeting		1X	On-site	Meeting to discuss and test interoperability and file exchange.
Design Close-out		2X	On-site	Meeting to finalize Record BIMs and As-built BIMs for close-out.
Construction Phase	STAGE	FREQUENCY	LOCATION	COMMENTS / PARTICIPANTS
BIM Kick-off Meeting				
Clash / Cord Meetings			On-site	General Guidelines for model laying, area, trade sequencing and reserved zones.
Design4Maintenance			In-Cloud / On-site	
Contractor Handover/ Close-out			On-site	BIMs to review equipment maintainability and "soft clash" for clearances.
Contractor Handover/ Close-out			TBD	Meeting to finalize Record BIMs and As-built BIMs for close-out.

Section J.2 - Model Delivery Schedule of Information Exchange for Submission and Approval:

Document the information exchanges and file transfers that will occur on the project. Modify the DISCIPLINE column to match the way that content is segregated into different models on a project.

DISCIPLINE	FILE TYPE	UPLOAD FREQUENCY	DOWNLOAD FREQUENCY
Architectural (Exterior)			
Architectural (Interior)			
Specialty Equipment			
Furniture			
Structural			
Mechanical			
Electrical			
Plumbing			
Civil			
Landscape			

Section J.3 - Electronic Communication Procedures:

The following document management issues should be resolved, and a procedure should be defined for each: Permissions / access, File Locations, FTP Site Location(s), File Transfer Protocol, File / Folder Maintenance, etc.

Section K: Quality Control

Overall Strategy for Quality Control:

Describe the strategy to control the quality of the model.

Quality Control Checks: The following checks should be performed to assure quality:

CHECKS	DEFINITION	RESPONSIBLE PARTY	SOFTWARE PROGRAM(S)	FREQUENCY
VISUAL CHECK	Ensure there are no unintended model components and that the design intent has been followed	A/E/C	REVIT / NAVIS	Ongoing
INTERFERENCE CHECK	Detect problems in the model where two building components are clashing including soft and hard	A/E/C	NAVIS	Bi-weekly

STANDARDS CHECK	Ensure that the BIM and County Standards have been followed (fonts, dimensions, line styles, family naming, shared coordinates, etc)	A/E/C	REVIT / DATA NORMALIZATION	Weekly
MODEL INTEGRITY CHECKS	Describe the QC validation process used to ensure that the Project Facility Data set has no undefined, incorrectly defined or duplicated elements and the reporting process on non-compliant elements and corrective action plans	A/E/C	REVIT	Ongoing
DATA CONTENT CHECK	Conform to County BIM Requirements	A/E/C	DATA NORMALIZATION / MAXIMO	Weekly then monthly
ERROR / WARNING CHECK	Conform to County BIM Requirements	A/E/C	REVIT	Weekly

Section K.1 - Model Maintenance

The following table describes the recommended process for model maintenance. Each discipline shall be responsible for the maintenance of their models. Broward County Construction Management Division requires that all the below be conducted before submitting model at the completion of each phase of the development of the project. All the below except for removing unused design options shall be conducted before uploading models for exchange with other team members.

PROCESS	FREQUENCY (MINIMUM)
Auditing Central Files	
Compacting	
Removal of Unused Design Options	
Correcting Warning Messages where applicable	On-going (Warnings that have significance shall be resolved. Warnings shall be kept to a reasonable number. An export of warnings in the model shall accompany major milestone deliverables.)
Purging unused objects	
Purging DWG links/imports	
Deletion of unused Sheets & Views	
Resolve duplicate elements	

Section K.2 - Document Revisions

Revisions to documents will be tracked as follows:

DESCRIPTION	DESIGN/ RECORD	AS-CONSTRUCTED MODEL	DESCRIPTION
RFI's			
Revit Model			
Navisworks			
CCD'S			
ASI'S			
CO'S			

Section K.3 - Model Accuracy and Tolerances:

Models should include all appropriate dimensioning as needed for design intent, analysis, and construction.

PHASE	DISCIPLINE	TOLERANCE
EXISTING CONDITIONS MODEL	CIVIL (UNDERGROUND)	ACCURATE TO +/- (6") OF ACTUAL SIZE ACCURATE TO +/- (12") OF ACTUAL LOCATION
EXISTING CONDITIONS MODEL (ACCESSIBLE ITEMS)	ARCHITECTURAL STRUCTURAL MEPFP	ACCURATE TO +/- (1/8") OF DESIGN INTENT SIZE ACCURATE TO +/- (2") OF DESIGN INTENT LOCATION
DESIGN DOCUMENT MODELS	CIVIL ARCHITECTURAL STRUCTURAL MEP FP	ACCURATE TO +/- (1/8") OF DESIGN INTENT SIZE ACCURATE TO +/- (2") OF DESIGN INTENT LOCATION
SHOP DRAWINGS MODELS	CIVIL INTERIORS ENVELOPE STRUCTURAL MEPFP	ACCURATE TO +/- (1/16") OF ACTUAL SIZE ACCURATE TO +/- (1") OF ACTUAL LOCATION
AS-BUILT MODELS	INTERIORS NOT RELATED TO CODE	ACCURATE TO +/- (1/8") OF ACTUAL SIZE ACCURATE TO +/- (2") OF ACTUAL LOCATION

PHASE	DISCIPLINE	TOLERANCE
AS-BUILT MODELS	INTERIORS RELATED TO CODE	ACCURATE TO +/- (1/8") OF ACTUAL SIZE ACCURATE TO +/- (1/4") OF ACTUAL LOCATION
AS-BUILT MODELS	CIVIL INTERIORS ENVELOPE STRUCTURAL MEP FP	ACCURATE TO +/- (1/16") OF ACTUAL SIZE ACCURATE TO +/- (1") OF ACTUAL LOCATION

Section K.4 - BIM Folder Structure for Deliverables:

The following folder structure is the standard folder structure for BIM-related files that will be used on Broward County Construction Management Division projects. No deviations from this folder structure will be permitted without a Proposed Variance Request. However, if desired, each project team may add subfolders where necessary, as defined in the BIMPxP and approved by Broward County Construction Management Division.

Project Documents for Design BIMs

- Design BIM Execution Plan (Owner, AE)
- Design BIM Analysis Reports (Owner, AE)
- Coordination Logs and Reports
- Design Model Deliverables (Public)
 - Models Used to Produce Schematic Design
 - Models Used to Produce Design Development
 - Models Used to Produce Construction Documents
 - Models Used to Produce Agency Submittals
 - Models for Permitting/ Conformance
 - Models for Construction Manager
- COBie Data Deliverables
- BIM Project Close-out
 - Record Floor Plans
 - Record BIMs
 - Federated Record BIM
 - COBie Data Final Deliverable
- Other

Project Documents for Construction BIMs

- Owner BIM Execution Plan (Owner, CM, BIM Subs)
- Construction BIM Analysis Reports (Owner, GC)
- Coordination Logs and Reports

- Coordination Models
- Trade Models
 - Models Used to Produce Final Shop Drawings
 - Models Used to Produce 4D
 - Schedule Data Used to Produce 4D
 - Models Used to Produce 5D
 - Model Quantities Used to Produce 5D
- COBie Data Deliverables
- BIM Project Close-Out
 - As-Built Models
 - Federated As-Built Models
 - Record Models
 - Federated Record Models
 - COBie Data Final Deliverable
- Other

Section L: Technological Infrastructure Needs

1. Software:

Broward County Construction Management Division uses Autodesk Revit for projects. Use of other IFC Compatible software than what is listed in the Broward County Construction Management Division BIM Standard requires approval by Broward County Construction Management Division.

List software used to deliver BIM. List any add-on software that is required to open, read or manipulate files as well. Indicate the 2D export deliverable file format for each software. The lines listed below are a sample and shall be modified for a project.

BIM USE	DISCIPLINE(S)	SOFTWARE	VERSION / BUILD	2D FILE FORMAT DELIVERABLE
Authoring				
Authoring				
Authoring				
Authoring				
Authoring				
Clash Detection				
Energy Analysis				
Cost Analysis				

Section M: Model Structure

Section M.1 - File Naming Structure:

Determine and list the structure for model file names. Design Team CAD File names shall be listed in the Drawing List with Authoring Company and File Names attachment.

FILE NAMES (Design Intent Models)	
Architectural Model	
Civil Model	
Mechanical Model	
Plumbing Model	
Electrical Model	
Structural Model	
Energy Model	
Coordination Model	

FILE NAMES (Construction Models)	
Steel Model	
Mechanical Model	
Plumbing Model	
Electrical Model	
Construction Model	
Coordination Model	

Section M.2 - Model Structure:

Describe how the Model is separated, e.g., by building, by floors, by zone, by areas, and/or discipline. Indicate the connections and hierarchy of linked files, including CAD files. Broward County Construction Management Division requires that all paths in Revit files be relative and that files be overlayed instead of attached unless the project team makes a strong case for alternate strategies.

1. DESIGN PHASE MODEL STRUCTURE:

2. CONSTRUCTION PHASE MODEL STRUCTURE:

Section M.3 - Measurement and Coordinate Systems:

Broward County Construction Management Division will provide a CAD file indicating the Broward County Construction Management Division Site Origin Point and the footprints of the buildings on the campus. Broward County Construction Management Division will also provide 2D and 3D AutoCAD blocks and a 3D generic model family to be placed at the origin of ALL Design Intent BIMs, Construction BIMs and CAD files to confirm that files are aligned.

All Revit files shall have their project base point at the Revit project startup location. All CAD and Revit files that are to be linked to the Revit file using the "Origin to Origin" option. All plan-based CAD files shall use the Broward County Construction Management Division Site Origin Point as well as their 0,0 WCS origin. The 0 level in the "Z" coordinate shall match the survey datum of "0" used by the Civil Engineer in their surveys. This will ensure that all files for all buildings across the Broward County Construction Management Division campus will align to a single origin and that Revit level tags will report the true elevations of the floors.

Civil AutoCAD 2D and Civil 3D files will need to be modified prior to linking because they use an origin point that is different than the Broward County Construction Management Division Site Origin Point. It is typically outside the distance allowed by Revit. Broward County Construction Management Division's CAD-BIM Manager can provide instructions on this.

Units shall be Imperial units. Civil 2D AutoCAD or Civil 3D files may be set with 1 unit equals 1 foot. Revit files will be set with 1 unit equals 1 foot. All other AutoCAD files including Revit exports shall be set with 1 unit equals 1 inch.

Section M.4 - Worksets:

Each discipline shall be responsible for the naming of the worksets within their files. The only required worksets are LinkCAD-Description and LinkBIM-Description. Any linked CAD files or BIM files shall be placed on these worksets so that Revit files can be opened without loading these worksets for ease of upgrading the files.

List Worksets used by discipline below:

DISCIPLINE	WORKSET	DESCRIPTION
Arch, M, E, P, Struct	LinkCAD-All	Workset for all CAD links
M, E, P, Struct	LinkBIM-Arch	Workset for Architectural Revit file
Arch, E, P, Struct	LinkBIM-Mech	Workset for Mechanical Revit file
Arch, M, P, Struct	LinkBIM-Elec	Workset for Electrical Revit file
Arch, M, E, Struct	LinkBIM-Plumb	Workset for Plumbing Revit file
Arch, M, E, P	LinkBIM-Struct	Workset for Structural Revit file
Arch, M, E, P, Struct	Levels and Grids	Levels, Grids
Arch	Shell	Building Shell
Arch	Core	Elevators, Stairs
Arch	Interior-B	Basement Interior Fit-out
Arch	Interior-1	1 st floor Interior Fit-out

Section M.5 - Color Coding:

Federated models shall adhere to Exhibit "A" – Scope of Work Attachment 2, Section 2.2.12. If approved by the Contract Administrator, a modified color coding may be revised to follow the agreed upon trade colors listed below:

(insert any modified, Contract Administrator approved, color coding selections for this project below)

- a. Architecture: White
- b. Structural Steel: Maroon
- c. Concrete and Masonry: Gray
- d. HVAC Equipment: Gold
- e. HVAC Supply Duct/Diffuser: Blue
- f. HVAC Return Duct/Diffuser: Magenta
- g. HVAC Exhaust Ventilation Ductwork: Medium Orchid
- h. HVAC Piping Supply: Gold
- i. HVAC Piping Return: Violet
- j. Electrical Equipment: Dark Yellow
- k. Electrical Conduits: Light Yellow
- l. Communication Conduit: Light Blue
- m. Electrical Cable Tray: Dark Orange

- n. Electrical Lighting: Light Golden Rod Yellow
- o. Plumbing Domestic Water: Lime
- p. Plumbing Sewer Waste / Vent: Olive
- q. Plumbing Storm/Roof Drain: Dark Green
- r. Fire Protection: Red
- s. Fire Alarm: Golden Rod
- t. Pneumatic Tube: Dark Slate Gray
- u. Equipment: Burly Wood
- v. Specialty Gas: Light Green
- w. Steel: Rust
- x. Security Systems: Orange

Section N: Attachments

1. *List any project specific BIMPxP Attachments here*
- 2.

(REMAINDER OF PAGE IS INTENTIONALLY LEFT BLANK)

Approvals:

By signing below, this BIM Project Execution Plan is adopted and agreed upon between the signed companies.

DISCIPLINE	NAME	SIGNATURE	DATE
Broward County Construction Management			
Architect			
Mechanical Engineer			
Electrical Engineer			
Plumbing Engineer			
Fire Protection Engineer			
Structural Engineer			
Civil Engineer			
Surveyor			
Geotech/ Soil borings			
BIM Consultant			
Construction Manager			
Construction Consultants			
Other			

End of Section 4 BIM Execution Plan

Section 5 BIM Model Progression Schedule (Example of "Overview" Tab)

The MPS will be distributed by the Project Manager in an electronic format for use



Model Progression Schedule (MPS) Agent Responsible Matrix (ARM)

Overview and Intent of this Document.

Broward County Public Works Department and the Construction Management Division have created this Model Progression Schedule (MPS) and Agent Responsible Matrix (ARM) for use in the planning and procurement of BIM projects. This Matrix is based upon BIMForum's 2017 LOD (Level of Development) Specification and serves as a reference document. The BIMForum Specification reference enables practitioners to specify and articulate with a high level of clarity the content and reliability of BIMs at various stages in the design and construction process.

The County has prescribed minimum LOD's that are required at project milestones, but does not dictate workflow to achieve these requirements leaving the completion of the Model Progressions to the users in consultation with the County and project team.

This matrix defines Broward County's priorities for the development of project BIMs, the responsibilities of the External Team Members, and the phases to which the BIMs will be delivered and the LOD expected. The "Model Element Table" Tab includes the BIM Elements that are to be defined and the "LOD Definitions" tab includes example Level of Development definitions. This chart will be included in RFP's that require BIM and is a tool to be used for contract negotiation upon project award.

Instructions for completing this Document.

1. This MPS/ ARM will be included in the RFP for all BIM Projects. Upon Contract award, your team shall complete the MPS as part of the contract negotiation process, and be prepared to discuss "hand-off" & coordination of the BIM's.
2. Click on the "Model Element Table" Tab below to complete the MPS as is applicable to your project.
3. Insert the Level of Development (LOD) and the Agent Responsible and contracted to deliver that element.
- 4.
5. Once agreed upon, this document will become a contract document and will be attached to the teams BIMXP. When completing the MPS, Please check the box on the top of the MPS to show the stage of the MPS submittal i.e. RFP, Proposed, Approved as described below:

RFP: Required for this Project by Broward County, the initial stage of review.

Proposed: The Design or Construction Professional changes the status to "Proposed" for all elements that are to be included in the project models.

Approved: The Model Elements and Progression Schedule that is contracted by the Design Consultants and Contractors to be included in their Team's scope of work.

Please Note:

Questions, suggestions or concerns with completing this document during the RFP selection process should be directed to the BC-PurchasingAgent listed on the RFP. The Broward County Project Manager will serve as the primary contact and address all discussions or concerns during negotiations and subsequent Project Phases.

Model Progression Schedule/Agent Responsible Matrix ("Model Element Table" Tab - Partial Example)

Phase	Task	Start	End
Program	Program Conditions	10/1/00	10/1/00
	Program	10/1/00	10/1/00
	Program	10/1/00	10/1/00
	Program	10/1/00	10/1/00
	Program	10/1/00	10/1/00
	Program	Program	10/1/00
Design	Pre-Design Meeting	10/1/00	10/1/00
	ID	10/1/00	10/1/00
	60% CD	10/1/00	10/1/00
	100% CD	10/1/00	10/1/00
	30% Construction	10/1/00	10/1/00
	Headwork	10/1/00	10/1/00
Construction	30% Construction	10/1/00	10/1/00
	Headwork	10/1/00	10/1/00
	Headwork	10/1/00	10/1/00
	Headwork	10/1/00	10/1/00
	Headwork	10/1/00	10/1/00
	Headwork	10/1/00	10/1/00

BRUWARD

Model Element Table

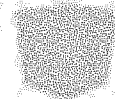
BIMForum Level of Development (LOD) Definitions ("LOD Definitions" Tab - Example)

Fundamental LOD Definitions

LOD 100 - Massing / Planning Level

The Model Element may be graphically represented in the Model with a symbol or other generic representation, but does not satisfy the requirements for LOD 200. Information related to the Model Element (i.e. cost per square foot, tonnage of HVAC, etc.) can be derived from other Model Elements.

BIMForum Interpretation: LOD 100 elements are not geometric representations. Examples are information attached to other model elements or symbols showing the existence of a component but not its shape, size, or precise location. Any information derived from LOD 100 elements must be considered approximate.



LOD 200 - Generic Design Level

The Model Element is graphically represented within the Model as a generic system, object, or assembly with approximate quantities, size, shape, location, and orientation. Non-graphic information may also be attached to the Model Element.

BIMForum Interpretation: At this LOD elements are generic placeholders. They may be recognizable as the components they represent, or they may be volumes for space reservation. Any information derived from LOD 200 elements must be considered



LOD 300 - Design Coordination Level

The Model Element is graphically represented within the Model as a specific system, object or assembly in terms of quantity, size, shape, location, and orientation. Non-graphic information may also be attached to the Model Element.

BIMForum Interpretation: The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs. The project origin is defined and the element is located accurately with respect to the project origin.



LOD 350 - Construction Coordination Level

The Model Element is graphically represented within the Model as a specific system, object, or assembly in terms of quantity, size, shape, location, orientation, and interfaces with other building systems. Non-graphic information may also be attached to the Model Element.

BIMForum Interpretation: Parts necessary for coordination of the element with nearby or attached elements are modeled. These parts will include such items as supports and connections. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs.



LOD 400 - Fabrication Level

The Model Element is graphically represented within the Model as a specific system, object or assembly in terms of size, shape, location, quantity, and orientation with detailing, fabrication, assembly, and installation information. Non-graphic information may also be attached to the Model Element.

BIMForum Interpretation: An LOD 400 element is modeled at sufficient detail and accuracy for fabrication of the represented component. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs.



Definition from the "Level of Development Specification Part 1," November 2017 BIMFORUM.

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End of Attachment 2: BIM and Electronic Media Submittal Requirements

Professional Services Agreement

EXHIBIT A, SCOPE OF WORK

ATTACHMENT 4:

Preliminary Project Budget

RFP No: GEN2116591P1
Project Title: Main Jail Exterior Glazing Systems Remediation
Facility Name: Broward County Main Jail

The Contract Administrator's preliminary Project budget for this Project is outlined below. Consultant's use of this budget is described within the Professional Services Agreement and its Exhibit A, Scope of Work, for this Project. Preliminary Project Budget is subject to change at the Contract Administrator's discretion.

1. Budget:

The budget is expected to be between \$10 million to \$12 million dollars.

**EXHIBIT B
MAXIMUM BILLING RATES**

RFP No: GEN2116591P1
 Agreement Title: Main Jail Exterior Glazing Systems Remediation
 Consultant/
 Subconsultant Name: Saltz Michelson Architects, Inc.

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE (\$/HR)
Principal	\$87.98		2.99		\$263.06
Senior Project Manager	\$56.25		2.99		\$168.19
Project Manager	\$45.67		2.99		\$136.55
Project Architect	\$37.50		2.99		\$112.13
Project Specialist III	\$37.50		2.99		\$112.13
Project Specialist II	\$29.81		2.99		\$89.13
Project Specialist I	\$23.08		2.99		\$69.01
Designer	\$56.74		2.99		\$169.65
Project Designer	\$37.50		2.99		\$112.13
Clerk (Clerk of Work)	\$34.62		2.99		\$103.51
Administrative Assistant	\$20.19		2.99		\$60.37

Multiplier of 2.99 is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (114.56%)

FRINGE = HOURLY RATE X FRINGE (56.98%)

PROFIT = (HOURLY RATE + OVERHEAD + FRINGE) X PROFIT (10%)

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + PROFIT) / HOURLY RATE

2.99

**EXHIBIT B
MAXIMUM BILLING RATES**

RFP No: GEN2116591P1
 Agreement Title: Main Jail Exterior Glazing Systems Remediation
 Consultant/
 Subconsultant Name: Delta G Consulting Engineers, Inc.

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE (\$/HR)
Principal	\$120.56		2.31		\$278.49
Project Manager	\$62.88		2.31		\$145.25
Senior Engineer	\$62.88		2.31		\$145.25
Senior Technician	\$45.79		2.31		\$105.77
Junior Technician	\$42.62		2.31		\$98.45
Drafter	\$34.58		2.31		\$79.88
Administrative Assistant	\$30.29		2.31		\$69.97

Multiplier of 2.31 is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (100%)
 FRINGE = HOURLY RATE X FRINGE (10%)
 PROFIT = (HOURLY RATE + OVERHEAD + FRINGE) X PROFIT (10%)
 MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + PROFIT) / HOURLY RATE

2.31

Notes:

Consultant has elected to use "Safe Harbor" combined fringe benefit and overhead rate of 110% in accordance with Section 5.2.5.

**EXHIBIT B
MAXIMUM BILLING RATES**

RFP No: GEN2116591P1
Agreement Title: Main Jail Exterior Glazing Systems Remediation
Consultant/
Subconsultant Name: DVS, a Division of Ross and Baruzzini

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE (\$/HR)
Principal	\$99.52		2.69		\$267.71
Project Manager	\$57.45		2.69		\$154.54
Senior Consultant	\$65.24		2.69		\$175.50
Senior Engineer	\$87.07		2.69		\$234.22
Drafter/BIM	\$29.33		2.69		\$78.90
Administrative Assistant	\$26.96		2.69		\$72.52

Multiplier of 2.69* is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (149.50%)
FRINGE = HOURLY RATE X FRINGE (Included in Overhead)
PROFIT = (HOURLY RATE + OVERHEAD + FRINGE) X PROFIT (10%)
MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + PROFIT) / HOURLY RATE

2.69*

*Negotiated Multiplier

**EXHIBIT B
MAXIMUM BILLING RATES**

RFP No: GEN2116591P1
Project Title: Main Jail Exterior Glazing Systems Remediation
Consultant/
Sub Consultant Name: IBA Consultants, Inc.

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE (\$/HR)
Principal	\$100.00		2.31		\$231.00
Senior Consultant	\$75.00		2.31		\$173.25
Project Manager	\$50.00		2.31		\$115.50
Inspector	\$34.00		2.31		\$78.54
Senior Technician	\$25.00		2.31		\$57.75

Multiplier of 2.31 is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (100%)
FRINGE = HOURLY RATE X FRINGE (10%)
PROFIT = (HOURLY RATE + OVERHEAD + FRINGE) X PROFIT (10%)
MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + PROFIT) / HOURLY RATE

2.31

Notes:

Consultant has elected to use “Safe Harbor” combined fringe benefit and overhead rate of 110% in accordance with Section 5.2.5.

**EXHIBIT B
MAXIMUM BILLING RATES**

RFP No: GEN2116591P1
 Agreement Title: Main Jail Exterior Glazing Systems Remediation
 Consultant/
 Subconsultant Name: Johnson Structural Group, Inc.

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE (\$/HR)
Principal	\$73.00		2.31		\$168.63
Professional Engineer, Licensed	\$50.70		2.31		\$117.12
Project Engineer	\$48.13		2.31		\$111.18
CADD Technician	\$45.22		2.31		\$104.46
Administration/Clerk	\$19.00		2.31		\$43.89

Multiplier of 2.31 is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (100%)
 FRINGE = HOURLY RATE X FRINGE (10%)
 PROFIT = (HOURLY RATE + OVERHEAD + FRINGE) X PROFIT (10%)
 MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + PROFIT) / HOURLY RATE

2.31

Notes:
 Consultant has elected to use "Safe Harbor" combined fringe benefit and overhead rate of 110% in accordance with Section 5.2.5.

**EXHIBIT B-1
SCHEDULE OF TESTING UNIT COST**

RFP No: GEN2116591P1
 Agreement Title: Main Jail Exterior Glazing Systems Remediation
 Consultant/
 Sub Consultant Name: IBA Consultants, Inc.

STANDARDS	FEE PER/DAY	FEE PER/HOUR
TAS 124 – Testing application for field uplift resistance of existing membrane roof systems and in situ testing for reroof and new construction applications. (Bell Chamber Test)	\$3,500	
TAS 124 – Testing application for field uplift resistance of existing membrane roof systems and in situ testing for reroof and new construction applications. (Bonded Pull Test) (2-Day Process)	\$1,500	
ASTM C1060 – Standard practice for thermographic inspection of insulation installations in envelope cavities of frame buildings.	\$1,848	
ASTM D4541 – Standard test method for pull-off strength of coatings using portable adhesion.		Mobilization \$1,000 Per/Test \$800
ASTM D5957 – Standard guide for flood testing horizontal waterproofing installation. (Witness/Certify)	\$2,500/SF of area required	
ASTM E330 – Standard test method for structural performance of exterior windows, doors, skylight and curtain walls by uniform static air pressure difference.	\$4,000	
ASTM E783 – Standard test method for field measurement of air leakage through installed exterior windows and doors.	\$3,000 E1105	
ASTM E935 – Performance of permanent metal railings system and rails for buildings.	\$3,000	
ASTM E1105 – Field determination of water penetration of installed exterior windows, skylight, doors and curtain walls, by uniform or cyclic static air pressure difference.	\$3,000	
ASTM E1186 – Air leakage site detection in building envelopes and air barrier systems.	\$3,000	
Florida Building Code Section 1403 – Exterior wall weather-resistant testing.	\$3,000	
AAMA 501.2 – Quality assurance and diagnostic water leakage field check of installed storefront, curtain walls and sloped glazing systems.	\$2,500	
AAMA 502 – Voluntary specification for field testing of windows and sliding glass doors.	\$3,000	

AAMA 503 – Voluntary specification for field testing of storefronts, curtain walls and sloped glazing systems.	\$3,000	
AAMA 511 – Voluntary guideline for forensic water penetration testing of fenestration products.	\$3,000	

ADDITIONAL NOTES:

- IBA Consultant’s Testing Services include up to two (2) IBA qualified Inspector/Staff, Test Equipment/Material, and Reporting.
- Fees do not include any access equipment that may be required to conduct testing above second floor. Additional access to be negotiated on Project by Project basis.
- Re-testing fees not included and will be negotiated on Project by Project basis.

EXHIBIT C
SCHEDULE OF SUBCONSULTANT PARTICIPATION

RFP No: GEN2116591P1
Agreement Title: Main Jail Exterior Glazing Systems Remediation

No.	Firm Name	Discipline
1.	Delta G Consulting Engineers, Inc.	MEP & Fire Protection
2.	DVS, a Division of Ross & Baruzzini	Security Consulting
3.	IBA Consultants, Inc.	Glass/Glazing and Waterproofing
4.	Johnson Structural Group, Inc.	Structural Engineering

EXHIBIT D
SCHEDULE OF CBE PARTICIPATION

RFP No: GEN2116591P1
Agreement Title: Main Jail Exterior Glazing Systems Remediation

CBE/Firm	CBE Category	Description	Fees	% of Basic Service Fees
Saltz Michelson Architects, Inc.	CBE	Architect	\$715,265.07	58.9%
Delta G Consulting Engineers, Inc.	CBE	MEP & Fire Protection	\$57,086.50	4.7%
Total CBE Participation			\$772,351.57	63.6%



**LETTER OF INTENT
BETWEEN BIDDER/OFFEROR AND
COUNTY BUSINESS ENTERPRISE (CBE) FIRM/SUPPLIER**

This form is to be completed and signed for each CBE firm. If the PRIME is a CBE firm, please indicate the percentage performing with your own forces.

Solicitation No.: GEN2116591P1

Project Title: Main Jail Exterior Glazing System Remediation

Bidder/Offeror Name: Saltz Michelson Architects, Inc

Address: 3501 Griffin Road City: Ft. Lauderdale State: FL Zip: 33312

Authorized Representative: Charles A. Michelson Phone: 954-266-2700

CBE Firm/Supplier Name: Saltz Michelson Architects, Inc

Address: 3501 Griffin Road City: Fort Lauderdale State: FL Zip: 33312

Authorized Representative: Charles A. Michelson Phone: 954-266-2700

- A. This is a letter of intent between the bidder/offeror on this project and a CBE firm for the CBE to perform work on this project.
- B. By signing below, the bidder/offeror is committing to utilize the above-named CBE to perform the work described below.
- C. By signing below, the above-named CBE is committing to perform the work described below.
- D. By signing below, the bidder/offeror and CBE affirm that if the CBE subcontracts any of the work described below, it may only subcontract that work to another CBE.

Work to be performed by CBE Firm

Description	NAICS ¹	CBE Contract Amount ²	CBE Percentage of Total Project Value
Architectural Services	541310	\$ 715,265.07	58.90 %
			%
			%

AFFIRMATION: I hereby affirm that the information above is true and correct.

CBE Firm/Supplier Authorized Representative

Signature: [Signature] Title: President Date: 05/02/19

Bidder/Offeror Authorized Representative

Signature: [Signature] Title: President Date: 05/02/19

¹ Visit Census.gov and select NAICS to search and identify the correct codes. Match type of work with NAICS code as closely as possible.

² To be provided only when the solicitation requires that bidder/offeror include a dollar amount in its bid/offer.

In the event the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

Rev.: June 2018

Compliance Form No. 004



**LETTER OF INTENT
BETWEEN BIDDER/OFFEROR AND
COUNTY BUSINESS ENTERPRISE (CBE) FIRM/SUPPLIER**

This form is to be completed and signed for each CBE firm. If the PRIME is a CBE firm, please indicate the percentage performing with your own forces.

Solicitation No.: GEN2116591P1

Project Title: Main Jail Exterior Glazing System Remediation

Bidder/Offeror Name: Saltz Michelson Architects, Inc

Address: 3501 Griffin Road City: Ft. Lauderdale State: FL Zip: 33312

Authorized Representative: Charles A. Michelson Phone: 954-266-2700

CBE Firm/Supplier Name: Delta G Consulting, Inc.

Address: 707 NE 3rd Avenue - Ste 200 City: Fort Lauderdale State: FL Zip: 33304

Authorized Representative: George SanJuan Phone: 954-527-1112

- A. This is a letter of intent between the bidder/offeror on this project and a CBE firm for the CBE to perform work on this project.
- B. By signing below, the bidder/offeror is committing to utilize the above-named CBE to perform the work described below.
- C. By signing below, the above-named CBE is committing to perform the work described below.
- D. By signing below, the bidder/offeror and CBE affirm that if the CBE subcontracts any of the work described below, it may only subcontract that work to another CBE.

Work to be performed by CBE Firm

Description	NAICS ¹	CBE Contract Amount ²	CBE Percentage of Total Project Value
MEP and Fire Protection Engineering	541330, 922160	\$ 57,086.50	4.70 %
			%
			%

AFFIRMATION: I hereby affirm that the information above is true and correct.

CBE Firm/Supplier Authorized Representative

Signature: [Signature] Title: President Date: 5/02/2019

Bidder/Offeror Authorized Representative

Signature: [Signature] Title: President Date: 05/02/19

¹ Visit Census.gov and select **NAICS** to search and identify the correct codes. Match type of work with NAICS code as closely as possible.

² To be provided only when the solicitation requires that bidder/offeror include a dollar amount in its bid/offer.

In the event the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.


Rev.: June 2018

Compliance Form No. 004

EXHIBIT E MINIMUM INSURANCE COVERAGES

INSURANCE REQUIREMENTS

Project: **Consult Services for Broward County Main Jail Glazing Systems Remediation**
Division: **Construction Management Division**

TYPE OF INSURANCE	Auto Risk	Other Risk	MINIMUM LIABILITY LIMITS		
				Each Occurrence	Aggregate
GENERAL LIABILITY - Broad form <input checked="" type="checkbox"/> Commercial General Liability <input checked="" type="checkbox"/> Pollution-Operations <input type="checkbox"/> ECU/Explosion/Collapse/Underground <input checked="" type="checkbox"/> Products/Completed Operations Hazard <input checked="" type="checkbox"/> Contractual Insurance <input checked="" type="checkbox"/> Broad Form Property Damage <input checked="" type="checkbox"/> Independent Contractors <input checked="" type="checkbox"/> Personal Injury Per Occurrence or Claim-Made: <input checked="" type="checkbox"/> Per Occurrence <input type="checkbox"/> Claims-Made Gen'l Aggregate Limit Applies per: <input type="checkbox"/> Project <input type="checkbox"/> Policy <input type="checkbox"/> Loc. <input type="checkbox"/> Other _____	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Bodily Injury Property Damage Combined Bodily Injury and Property Damage Personal Injury Products & Completed Operations	\$1,000,000	\$1,000,000
AUTO LIABILITY <input checked="" type="checkbox"/> Comprehensive Form <input checked="" type="checkbox"/> Owned <input checked="" type="checkbox"/> Hired <input checked="" type="checkbox"/> Non-owned <input checked="" type="checkbox"/> Any Auto, If applicable Note: May be waived if no driving will be done in performance of services/project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Bodily Injury (each person) Bodily Injury (each accident) Property Damage Combined Bodily Injury and Property Damage	\$500,000	
<input type="checkbox"/> EXCESS LIABILITY / UMBRELLA Per Occurrence or Claim-Made: <input type="checkbox"/> Per Occurrence <input type="checkbox"/> Claim-Made Note: May be used to supplement minimum liability coverage requirements.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<input checked="" type="checkbox"/> WORKER'S COMPENSATION Note: U.S. Longshoremen & Harbor Workers' Act & Jones Act is required for any activities on or about navigable water.	N/A	<input checked="" type="checkbox"/>	Each Accident	STATUTORY LIMITS	
<input checked="" type="checkbox"/> EMPLOYER'S LIABILITY			Each Accident	\$100,000	
<input type="checkbox"/> CRIME AND EMPLOYEE DISHONESTY	<input checked="" type="checkbox"/>				
<input type="checkbox"/> Liquor Liability *If elected to be covered, Applicant shall provide evidence of coverage.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Each Accident		
<input checked="" type="checkbox"/> PROFESSIONAL LIABILITY (ERRORS & OMISSIONS) All engineering, surveying and design professions.	N/A	<input checked="" type="checkbox"/>	If claim-made form:	\$1,000,000	
			Extended Reporting Period of:	2 years	
			*Maximum Deductible:	\$100,000	
<input type="checkbox"/> Installation thereof is required if Builder's Risk or Property are not carried. Note: Coverage must be "All Risk", Completed Value.			*Maximum Deductible (Wind and/or Flood):		Completed Value
Description of Operations: "Broward County" shall be listed as Certificate Holder and endorsed as an additional insured for liability. Policies shall be endorsed to provide 30 days written notice of cancellation to Certificate Holder, 30 days' notice of cancellation for non-payment. Construction insurance shall provide primary coverage and shall not require contribution from Certificate Holder. *Vendor is responsible for all Deductibles.					
CERTIFICATE HOLDER: Broward County 115 South Andrews Avenue Fort Lauderdale, Florida 33301			 Risk Management Division		