



BROWARD HEALTH

201 E. SAMPLE ROAD
DEERFIELD BEACH, FL 33064

REQUEST FOR PROPOSAL

FOR

CONSTRUCTION MANAGER

**FOR CENTRAL ENERGY PLANT EXPANSION AND FACADE
RENOVATIONS AS PART OF THE**

**BROWARD HEALTH NORTH CAPITAL IMPROVEMENT
PROGRAM**

RELEASE DATE: Thursday, March 7, 2013

MANDATORY BIDDER'S CONFERENCE: Thursday, March 14, 2013
Meeting in the BHN Conference Center, 2 -4 p.m., 201 E. Sample
Road, Deerfield Beach, FL 330646. PLEASE ALLOW 30 MINUTES
FOR PARKING. THE MEETING WILL START ON TIME.

RFP WITH ATTACHMENTS MAY BE OBTAINED from
www.browardhealth.org (click on "Business
Opportunities/Corporate Resource & Materials
Management/Formal Construction Opportunities") **AFTER**
11:00 A.M. ON THURSDAY, March 7, 2013

RFP DUE DATE: Prior to 3:00 P.M., Wednesday, April 17, 2013
RFP OPENING, 1:00 P.M., Thursday, April 18, 2013

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INVITATION TO PROPOSE

Notice is hereby given that SEALED PROPOSALS will be received to select a qualified Construction Manager for Broward Health North Capital Improvement Program. **Construction Manager will be referred to as "CM"**. The CM will be required to hold all necessary licenses to perform these services and will be responsible for obtaining required building permits. The successful CM shall provide Pre-Construction and Construction Services to implement the projects associated with this Program.

Broward Health is seeking to Contract for Pre-Construction and Construction services to complete the much needed infrastructure and operation expansions. This project consists of multiple enabling projects and renovation projects in several areas and floors at the Broward Health North Hospital. Broward Health is seeking a single contract with a Construction Manager to provide pre-construction and construction services for various bid packages to be developed in coordination with the Owner's Design Team. The Construction Manager selected must exhibit the highest degree of successful cooperation and coordination with the Owner's Design Team. By working with a qualified Construction Manager, BH is seeking faster delivery of services offering the highest quality of performance levels while working with BH to achieve maximum cost savings.

Qualified Construction Managers with AHCA experience are invited to notify Broward Health of their interest in providing pre-construction and general Construction Manager services. Per Broward Health policy, all Firms must complete a registration form to participate in Broward Health's Request For Proposal (RFP) process.

The Board of Commissioners of Broward Health reserves the right to accept or reject, in whole or in part, for any reason whatsoever, any and all RFP's and to waive any informality in the bidding.

Address all questions and correspondence during the bidding period as follows:

Technical:

Allen Redmon, Program Manager
Heery International Inc.
201 E. Sample Road
Deerfield Beach, FL 33064
(954) 876-2729
aredmon@heery.com

Proposals that are not submitted on time and/or do not conform to the Broward Health's requirements will not be considered. In the event that this Invitation to Propose is withdrawn by the Broward Health for any reason or method of Bidder Selection used, as stated above, the Broward Health shall incur no liability to any Bidder for any cost or expense incurred in connection with this Invitation to Bid or otherwise.

Broward Health is committed to insuring opportunities for construction participation to small, minority, and woman owned businesses. There will be Certified Diverse Vendor subcontracting requirements for these construction projects. **For this Program, the contract with the successful Construction Management firm would require a Certified Diverse Vendor subcontracting participation level of 20% of the total construction dollar amount. Additionally, per the Supplier Diversity policy, a Diverse Vendor Enhancement of 20 evaluation points - RFP Scoring Criteria has been approved for this RFP.**

Broward Health Environmentally Preferred & Sustainable Procurement Practices (EPSPP) – Broward Health is committed to the protection of the environment and providing a safe and healthy environment for our employees, patients and visitors. Recognizing the challenge to reduce the environmental footprint, Broward Health understands its responsibility to minimize waste, to use less toxic products, to improve occupational and patient health, and to reduce the use of hazardous material, while maintaining tight control on expenses and improving community relations. Being a good environmental steward does not end with Broward Health, but also applies to our vendors, as we recognize our impact as a major procurer of goods and services. Broward Health shall consider “green / sustainability initiatives” in its vendor solicitation and selection processes, whenever feasible, supporting environmentally responsible products and services that do not compromise existing sourcing practices and patient care and safety. To aid our efforts to sustain the environment, Broward Health requests all vendors to provide information on their company’s Green / Sustainability / Environmental Protection Policy, Practices and Products. This would include products and services whose environmental impacts have been considered and found to be less damaging to the environment and human health, when compared to competing products and services.

RFP Proposals will be received until Wednesday, **3:00 P.M.**, local time, **April 17, 2013**, in the office of the Bid Coordinator, Broward Health Corporate Resource & Materials Management, 1608 SE 3rd Avenue, Ft. Lauderdale, 33316.

Responses will be opened in the Public RFP Opening will be held in the Broward Health Information Building, Corporate Resource & Materials Management 2nd Floor Conference Rooms A/B, 1608 SE 3rd Avenue, Ft. Lauderdale, Florida 33316 at **1:00 P.M., Thursday, April 18, 2013**.

SECTION I: INSTRUCTIONS FOR SUBMITTING A RESPONSE

1. The North Broward Hospital District ("NBHD") will receive sealed responses ("Response[s]") to this Request for Proposal ("RFP") from persons or entities ("Construction Manager") who wish to provide Construction Management Services for the Broward Health North Capital Program, **prior to 3:00 P.M., Wednesday, April 17, 2013, or any time prior thereto at Broward Health Corporate Resources & Materials Management Department.** **Construction Managers must submit one (1) original and ten (10) copies of the sealed Specification Response with Construction Manager Name clearly printed on the front cover page of each submitted response. Additionally, Construction Manager shall submit two (2) complete responses on virus-free CD-Rom media with Construction Manager Name clearly labeled on each CD.**

There will be a Mandatory Pre-Bidders Conference starting promptly @ 2:00 PM, Thursday, March 14, 2013. Attendees are requested to RSVP @ (954) 876-2728. All Construction Managers will meet at Broward Health North – Conference Center. Attendees should allow 30 minutes to park in the Broward Health North Parking Garage. Responses will not be accepted from Firms who do not attend this pre-proposal conference. Please verify all details for this RFP at www.browardhealth.org prior to attending. Failure to attend shall be cause for disqualification from the bidding process

2. Responses may be delivered in person, by registered mail, by U.S. mail or overnight delivery. All Responses must be directed to Broward Health Corporate Resource & Materials Management, Information Systems Center, 1608 SE 3rd Avenue, Ft. Lauderdale, Florida, 33316. All Responses must arrive in Corporate Resource & Materials Management, Information Systems Center, **prior to 3:00 P.M. on Wednesday, April 17, 2013.** If submitting a Response by mail, Construction Managers must allow sufficient time for mailing. If submitting a Response by registered mail, the registered certification card will be returned to the Construction Manager acknowledging receipt of the Response only if requested.
3. Responses received after the closing time and date, for any reason whatsoever will not be accepted or considered. Any disputes regarding timely receipt of a Response shall be decided in the favor of Broward Health.
4. Firms responding to this RFP may return your RFP response including the correct number of copies by placing your response (s) into a sealed container utilizing the suggested RFP identification label in this formal RFP. Any Response not returned in the appropriate format in a sealed container/envelope with a completed response label taped on the outside of the sealed container may be rejected. Please complete required information on the mailing label, complete company name and address in upper left hand corner, check the appropriate block on the lower left corner indicating a "RFP RESPONSE ENCLOSED".
5. All submitted Responses must be complete. If any part of the required material is not submitted in whole, the Response may be deemed incomplete and not acceptable. Supplemental information may be attached to the Response, but must be designated as such.
6. Under no circumstance may a Construction Manager withdraw or modify a Response after **3:00 P.M. on Wednesday, April 17, 2013.**
7. Broward Health will only consider qualified Construction Managers that can meet the requirements and specifications outlined in this RFP.
8. Employees and Officers not to Benefit - No Broward Health employee or officer shall have any ownership or monetary interest, share, or part of any contract. Nor shall any Broward Health employee or officer personally benefit monetarily or otherwise as a result of the execution of any contract related to this RFP.
9. Conflict of Interest - There shall be no dealings between the Construction Manager and Broward Health that might be construed as a conflict of interest. The Construction Manager shall provide Broward Health with any and all information pertaining to any dealings with Broward Health that might be construed as a conflict of interest.

10. **Diverse Vendor Participation** - Broward Health (BH) is committed to ensuring the participation of Certified Diverse Vendors in its procurement of goods and services. Broward Health's Certified Diverse Vendors include SBEs, MBEs and WBEs approved by one of BH's certification partners:

- State of Florida – Officer of Supplier Diversity
- School Board of Broward County- Office of Supplier Diversity
- National Minority Supplier Development Council (NMSDC)
- Women's Business Enterprise National Council (WBENC)
- Broward County Government –Office of Small Business Development
- Miami Dade County Government – Office of Business Development
- Palm Beach County Government – Office of Small Business Assistance

Pursuant to this commitment, Broward Health, by an act of its Board of Commissioners, has adopted and implemented a Supplier Diversity Program; the provisions for which are coded in its General Administrative Policy No. GA-001-045 and reflected in its Procurement Code. In accordance therewith, Broward Health, at its discretion, applies certain Diverse Vendor Enhancements to ensure the participation of BH Certified Diverse vendors in the procurement process. **For this project, the contract with the successful Construction Management firm would require a Certified Diverse Vendor subcontracting participation level of 20% of the total construction dollar amount. Additionally, per the Supplier Diversity policy, a Diverse Vendor Enhancement of 20 evaluation points - RFP Scoring Criteria has been approved for this RFP.**

Prime Vendors/Construction Managers can obtain a list of BH Certified Diverse Vendors for subcontracting via our [online Certified Diverse Vendor Directory @ www.browardhealth.org/diversity](http://www.browardhealth.org/diversity). Any questions, please contact the Office of Supplier Diversity (OSD) at 954-847-4467.

11. Broward Health Environmentally Preferred & Sustainable Procurement Practices (EPSPP) – Broward Health is committed to the protection of the environment and providing a safe and healthy environment for our employees, patients and visitors. Recognizing the challenge to reduce the environmental footprint, Broward Health understands its responsibility to minimize waste, to use less toxic products, to improve occupational and patient health, and to reduce the use of hazardous material, while maintaining tight control on expenses and improving community relations. Being a good environmental steward does not end with Broward Health, but also applies to our vendors, as we recognize our impact as a major procurer of goods and services. Broward Health shall consider “green / sustainability initiatives” in its vendor solicitation and selection processes, whenever feasible, supporting environmentally responsible products and services that do not compromise existing sourcing practices and patient care and safety. To aid our efforts to sustain the environment, Broward Health requests all vendors to provide information on their company's Green / Sustainability / Environmental Protection Policy, Practices and Products. This would include products and services whose environmental impacts have been considered and found to be less damaging to the environment and human health, when compared to competing products and services.
12. Construction Manager Contact with Broward Health Representatives - Questions regarding Request for Proposal process and protocol should be directed to Mr. Larry Kemp, Bid Coordinator via e-mail only at lkemp@browardhealth.org. Technical questions should be directed to Mr. Allen Redmon, Program Manager, Heery International, Inc., at (954) 876-2729 or at aredmon@heery.com. This RFP is posted on the Broward Health's website www.browardhealth.org (click on: “Business Opportunities/Corporate Resource & Materials Management/Formal Construction Opportunities”).

13. Construction Manager Registration - CM Firm must be a registered vendor with Broward Health to submit a Response to this RFP. If CM Firm is not registered with Broward Health, then any Response submitted will not be accepted and considered until the Construction Manager completes and submits the required registration. Registration can be accessed via Broward Health's website at www.browardhealth.org/registration. All questions regarding the Registration process shall be directed to Broward Health Contracts Administration at (954) 355-5133 or via email address at vendorrelations@browardhealth.org.
14. The submission of a Response shall be prima facie evidence that the Construction Manager is familiar with and agrees to comply with the contents of this RFP.
15. As a political subdivision, Broward Health is subject to the Florida Sunshine Act and Public Records Law. By submitting a Response, Construction Manager acknowledges that the materials submitted with the Response and the results of Broward Health's evaluation are open to public inspection upon proper request. Construction Manager should take special note of this as it relates to proprietary information that might be included in its Response.
16. PUBLIC ENTITY CRIMES: Section 287.133(2)(a) of the Florida Statutes states that a person or affiliate who has been placed on the convicted Construction Manager list following a conviction for a public entity crime may not submit a Response on a contract to provide any goods or services to a public entity, may not submit a Response on a contract with a public entity for the construction or repair of a public building or public work, and may not submit RFPs on leases of real property to a public entity, may not be awarded or perform work as a Construction Manager, supplier, Subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted Construction Manager list. Construction Manager's Response should include a verified certification that it has not been placed on the State's convicted Construction Manager list within the last 36 months. Please complete "Sworn Statement," Section of RFP document.
17. Responses will be opened in the Public RFP Opening to be held in Broward Health Information Systems Building, Corporate Resource & Materials Management 2nd floor Conference Rooms A/B, 1608 S.E. Third Avenue, Fort Lauderdale, Florida 33316 beginning at **1:00 P.M., Thursday, April 18, 2013**.

SECTION II: INFORMATION CONCERNING THE RFP PROCESS

1. This Request for Proposal (RFP) invites Construction Management Firms to provide sealed Proposals to this Request for Proposal ("RFP") who wish to provide pre-construction and construction services for Broward Health North Capital Program. The CM will be required to hold all necessary licenses to perform these services and obtain all required building permits.
2. For scoring this RFP, Broward Health will use a two-part evaluation process for this RFP. In the first part (the Part A evaluation), Broward Health RFP Committee will review all timely submitted Responses with respect to completeness, accuracy and content, at a public scoring/evaluation meeting that will be held at a subsequent time; the particular dates, times and location will be noticed 72 hours prior to the public scoring meeting on Broward Health "Sunshine Board" located on the first floor of Broward Health Information Systems Building, 1608 S. E. Third Avenue, Ft. Lauderdale, FL 33316. The evaluation criteria for this "Part A" evaluation is more fully set forth in Section III below. Broward Health anticipates selecting and inviting approximately three Construction Managers whose scores on the "Part A" evaluation ranked the highest to make in-person oral presentations (the "Part B" Presentation Process) to Broward Health RFP Committee. The evaluation criterion for this "Part B" presentation is more fully set forth in Section III below. Following the "Part B" presentation, the scores from the "Part A" evaluation will be combined with the scores from the "Part B" presentation as detailed in "Part C," which comprises the Construction Manager's total score. Broward Health RFP Committee will then rank the Construction Managers based upon the total scores and submit the ranking to Broward Health Director of Corporate Resource & Materials Management for approval. Upon approval, Broward Health will then negotiate a contract with the highest ranked Construction Manager. If Broward Health is unable to negotiate a satisfactory contract for any reason, Broward Health shall formally terminate negotiations with the highest ranked Construction Manager. Broward Health shall then undertake negotiations with the second highest ranked Construction Manager. Failing to negotiate a satisfactory contract with the second highest ranked Construction Manager, Broward Health shall again formally terminate negotiation and shall undertake negotiations with the third highest ranked Construction Manager. Should Broward Health be unable to negotiate a satisfactory contract with any of the ranked Construction Managers, Broward Health shall either cancel or withdraw this RFP or select additional Construction Managers who submitted Responses in the order of their scoring and continue negotiations in accordance with this paragraph until an agreement is reached.
3. The issuance of this RFP constitutes only an invitation to submit a Response to Broward Health. Broward Health reserves the right to determine, in its sole discretion, whether any aspect of the Response satisfies the criteria established in this RFP.
4. No provision in the RFP is intended as a mandatory restriction or a limitation on the lawful authority and discretion of Broward Health. Broward Health reserves the right to waive, at any time prior to the acceptance of a Response, any RFP procedure or requirement that is not made mandatory by statute.
5. The issuance of this RFP and the receipt of information in response to this document shall not, in any way, cause Broward Health to incur any liability, financial or otherwise. Broward Health assumes no obligation to reimburse and shall have no liability to any Construction Manager for any costs, losses or expenses incurred by Construction Manager in connection with submitting a Response or otherwise. Broward Health reserves the right to use the information contained in any Response in any manner deemed appropriate.
6. Broward Health reserves the right, in its sole and absolute discretion, to change any of the terms and conditions of this RFP at any time.
7. Broward Health reserves the right to accept or reject, in whole or in part, for any reason whatsoever any or all Responses submitted.
8. Broward Health reserves the right to award the contract under this RFP to a Construction Manager based on the complete Response, on any portion of the Response, or on any particular items of the Response, as it deems to be in the best interest of Broward Health.

9. Broward Health reserves the right, in its sole and absolute discretion, to withdraw, postpone or cancel this RFP at any time, including after an award is made and contract negotiations have begun. Broward Health further reserves the right to re-advertise this RFP, which may be also be modified to meet the current needs of Broward Health.
10. Broward Health reserves the right to waive any formalities of or irregularities in the RFP process.
11. RFP Disputes: Administrative Remedy - It is the policy of Broward Health to resolve bid disputes between the CM Firm and Broward Health at the lowest level possible. If a CM Firm disputes any matter arising out of this RFP or the RFP process, including the award of the Contract, CM Firm shall send written notice of dispute to Broward Health Interim Director of Corporate Resource & Materials Management within 5 business days after the issue arises or the Contract is awarded. Within 10 business days from the date of receipt of the CM Firm's dispute, the Director of Corporate Resource & Materials Management will render a written decision on the dispute and forward the decision to the CM Firm via the appropriate chain of command. A CM Firm may appeal this decision by giving written notice of appeal to the Senior Vice President/Chief Financial Officer of Broward Health within 5 business days after receipt of the Interim Director of Corporate Resource & Materials Management written decision. The notice of appeal shall be accompanied with copies of the CM Firm's notice of dispute, the Director of Corporate Resource & Materials Management written decision and any other documents the CM Firm requests are considered. The Senior Vice President/Chief Financial Officer of Broward Health shall render a written decision within 5 business days after receipt of the notice of appeal. This decision shall be a final order on the bid dispute. Until a final order is entered under this administrative remedy procedure, CM Firm shall not be entitled to institute an action contesting this RFP, the RFP process, or the Contract award.
12. Disclaimer – Broward Health reserves the right to conduct site visits to Construction Manager's business location(s) and/or may request that Construction Manager participate in live presentations. The selection of a Construction Manager may be based wholly or in part upon the result of site visits or live presentations.

SECTION III: SELECTION PROCESS AND CRITERIA & KEY DATES

PART A - REQUEST FOR PROPOSAL EVALUATION PROCESS

Upon receipt of Proposals received prior to **3:00 P.M., Wednesday, April 17, 2013**, a committee within the Broward Health shall review all Responses received with respect to completeness, accuracy and content. The Qualifications shall be evaluated by means of the following criteria regarding the CM:

SELECTION / EVALUATION CRITERIA

<u>Criteria</u>	<u>Percentage Weight</u>
1. Number, type and size of AHCA Renovation Projects	12 %
2. Past performance based on reference checks/Office in South Florida	13 %
3. Strength of Project Team	20 %
4. Diverse Vendor Participation	20 %
5. Approach to Cost Control / Fee % / GC's	25 %
6. BIM Expertise	10 %
	100 %

PART B - EVALUATION OF PRESENTATION PROCESS

Upon completion of Part A - Qualifications Evaluation Process, the Broward Health anticipates that approximately three Firms shall be selected and notified of their participation in Part B - Evaluation of Presentation Process.

Finalist presentations will be scheduled by the Broward Health allowing approximately two weeks for finalists to prepare for this meeting. The order of the presentations shall be at the sole discretion of the Broward Health. Finalists who are unable to make a presentation on the appointed date shall be disqualified.

The finalist shall appear in person before the Committee for their final presentation, which shall consist of the following:

- * The team's proposed organizational structure, including major consultants.
- * Expertise and experience of key project personnel.
- * The team's approach to the planning and programming process.
- * The team's approach to assuring that the construction costs remains within the project budget.

Each presentation shall be limited up to 45 minutes, followed by 15 minutes for questions and answers.

The Committee shall review the presentations of the finalists with respect to criteria and score the presentations based upon the following criteria:

PRESENTATION EVALUATION CRITERIA

<u>Criteria</u>	<u>Percentage Weight</u>
1. Evidence of Construction Management Excellence	25 %
2. Presentation / Approach to Project	25 %
3. Strength of Project Team	25 %
4. Approach to Cost Control / Fee % / GC's	<u>25 %</u>
	100 %

PART C – CALCULATION OF SCORING AND RANKING FOR CONTRACT NEGOTIATIONS

Upon completing the Part B - Presentation scores of Part A - Evaluation Process and the scores from the Part B - Presentation Process shall be combined as follows to arrive at a total score for each Design Firm:

Score from Part A - Evaluation Process	60%
Score from Part B - Presentation Process	<u>40%</u>
Total	100%

The Committee shall then tabulate the RFP scores and rank, in order of preference, the Design Firms deemed to be the most highly qualified to perform the required professional architecture services in accordance with the identified qualifications and selection criteria. In doing so, the Committee shall also consider the volume of work previously awarded to each Design Firm with the object of effecting an equitable distribution of contracts among qualified Design Firms, provided that such distribution does not violate the principle of selecting the most highly qualified Design Firms.

The Committee shall submit its ranking to the Building Committee for review and approval. The Building Committee shall, in order of preference approve the most highly qualified firms to perform the required professional architecture services.

Upon approval by Broward Health Building & Finance Committee, an exhibit shall then be included in Broward Health's Board of Commissioners'("Board") monthly agenda for the Board's review and approval.

Contract Negotiations

The Board will authorize the Executive Vice President/Chief Financial Officer or a designee to negotiate a contract with the Design Firm selected to provide professional architecture services to Broward Health. At this point, Broward Health should request, accept and consider proposals from the Design Firms for the compensation to be paid under the contract which it determines to be fair, competitive and reasonable. In making this determination, Broward Health shall conduct a detailed analysis of the cost of professional services required in addition to considering their scope and complexity. The Board will further authorize the President/CEO, at the successful conclusion of the negotiations, to execute the contract(s) after General Counsel's approval as to legal form.

Should Broward Health be unable to negotiate a satisfactory contract with any of the qualified and ranked Design Firms at a price Broward Health determines to be fair, competitive and reasonable, negotiations with that Design Firm will be formally terminated and Broward Health shall either cancel or withdraw this RFP or select additional Design Firms who submitted Responses in the order of their scoring and continue negotiations in accordance with this paragraph until an agreement is reached.

PART D - RFP PROCESS KEY DATES

1. RFP Advertisement and Submission Date.
 - a. **Thursday, March 7, 2013**- Copies of the RFP will be available.

- b. **Mandatory Pre-Bidder's Conference will be held @ 2:00 PM, Thursday, March 14, 2013 in the Conference Center at Broward Health North Hospital, 201 E. Sample Road, Deerfield Beach, FL 33064. Attendees should allow 30 minutes to park in the Broward Health North Parking Garage.**
 - c. **Prior to 3:00 P.M., Wednesday, April 17, 2013–** Responses must be received.
 - d. **1:00 P.M., Thursday, April 18, 2013–** Public RFP Opening to be held in Broward Health Information Systems Building, Corporate Resources Materials Management 2nd floor Conference Rooms A/B, 1608 S.E. Third Avenue, Fort Lauderdale, Florida 33316.
- 2. Responses shall be evaluated and a maximum of Five-5 Firms will be selected by Consensus of Selection Committee to make Part "B" presentations.
 - 3. Selection Committee will make selection of Construction Manager by Consensus and submit recommendation to the Board for approval.

SECTION IV: DIVERSE VENDOR PARTICIPATION (20%)

Broward Health (BH) is committed to ensuring the participation of Certified Diverse Vendors (CDV) in its procurement of goods and services. Broward Health's Certified Diverse Vendors include SBEs, MBEs, and WBEs approved by one of BH's certification partners.

Pursuant to this commitment, Broward Health, by an act of its Board of Commissioners, has adopted and implemented a Supplier Diversity Program; the provisions for which are coded in its General Administrative Policy No. GA-001-045 and reflected in its Procurement Code. In accordance therewith, Broward Health, at its discretion, applies certain Diverse Vendor Enhancements to ensure the participation of BH Certified Diverse vendors in the procurement process. **Per the Supplier Diversity policy, a Diverse Vendor Enhancement of 20 evaluation points - RFP Scoring Criteria has been approved for this RFP.**

In addition, a Sub-contracting requirement of 20% CDV has been approved for Non-Certified Diverse Vendors. Prime Vendors/Contractors can obtain a list of BH Certified Diverse Vendors for sub-contracting via our online Certified Diverse Vendor Directory @ www.browardhealth.org/diversity. Any questions, please contact the Office of Supplier Diversity (OSD) at 954-847-4467.

The scoring evaluation points will be awarded to respondents who are BH Certified Diverse Vendors and Non-Certified Diverse Vendors, who document Certified Diverse Vendor solicitation and utilization (past and planned for this RFP). *All vendors must respond to each section; if negative or not applicable, please note "NO" or "N/A" accordingly.*

Shown hereunder are the criteria for awarding the RFP Scoring Criteria evaluation points:

- 1) The maximum evaluation points, as approved in this RFP, will be awarded to all BH Certified Diverse Vendors. Certified Diverse Vendors responding to this RFP **MUST** submit a copy of their SBE/MBE/WBE certification from a BH approved certification partner with their RFP response. BH approved certification partners are:
 - State of Florida – Officer of Supplier Diversity
 - School Board of Broward County- Office of Supplier Diversity
 - National Minority Supplier Development Council (NMSDC)
 - Women's Business Enterprise National Council (WBENC)
 - Broward County Government –Office of Small Business Development
 - Miami Dade County Government – Office of Business Development
 - Palm Beach County Government – Office of Small Business Assistance
- 2) Evaluation points will be awarded to Non-Certified Diverse Vendors, who respond in *specific detail* to the following:
 - a. **Solicitation** - Explain how your company solicits, invites, and encourages SBE/MBE/WBE participation in your company's procurement of goods and services. Include relevant sections of your company's policies and procedures on procurement of goods and services with diverse vendors. Documentation **MUST** be submitted with the RFP to receive the evaluation points assigned to this section.
 - b. **Planned Utilization** – Provide a description of the planned utilization of BH's Certified Diverse Vendors, as sub-contractors. Please include the type of work, dollar value, and percentage of work to be performed by the Certified Diverse Vendor(s) on this RFP. Documentation of planned Utilization **MUST** be submitted with the RFP to receive the evaluation points assigned to this section.
 - c. **Past Utilization** – Please provide documentation / reports of your company's past utilization of SBEs/MBEs/WBEs on prior projects/contracts to receive the evaluation points assigned to this section.

DIVERSE VENDOR SUB-CONTRACTOR PARTICIPATION REQUIREMENT

1. **Participation Percentage.** Construction Manager agrees to utilize Certified Diverse Vendor ("CDV") Subcontractors to perform no less than 20% of the total amount invoiced to Broward Health for the Services under the Agreement.
2. **List of Subcontractors.** Prior to issuance of any Notice to Proceed or Purchase Order, Construction Manager shall submit to Broward Health a list confirming the identity of the proposed CDV Subcontractor to participate in this Agreement. Construction Manager shall specify the subcontracted dollar amount for each. Each proposed CDV Subcontractor must be a certified diverse vendor with Broward Health. Construction Manager shall bind each and every subcontractor to the terms stated in this Agreement and shall require the proper licensing of such Subcontractor.
3. **Subcontracts.** Within a reasonable time after issuance of any Notice to Proceed or Purchase Order (not exceeding thirty (30) days), Construction Manager shall submit to Broward Health a copy of all fully executed subcontracts corresponding in all respects to this Agreement. Broward Health will be noticed of all subcontracts which may terminate during the Term of this Agreement.
4. **Monthly and Final Monitoring Report.** Along with the Construction Manager's monthly invoice and billing reconciliation report, the Construction Manager shall also submit a "Certified Diverse Vendor Monthly Utilization Report". The Report shall include the diversity status, the contract value and percent of agreement, current month payments, payments made to date and remaining payments to be paid to each Certified Diverse Vendor Subcontractors. The Construction Manager shall utilize this Report to indicate the amount of monetary CDV participation on a monthly basis. The Monthly Utilization Report submitted by the Construction Manager for the last month of the Construction Manager's performance of the Work under this Agreement shall also set forth the total CDV participation that was achieved during the entire Term of the Agreement.
5. **Liquidated Damages.** If the Construction Manager fails to comply with the subcontracting requirement above (20%), the Construction Manager shall be in default under this Agreement, and such default is considered a material breach of the Agreement. Broward Health and the Construction Manager agree that if the actual total CDV participation is less than the required percentage set forth above, the actual damages for the non-compliance will be impossible to determine. In lieu thereof, the Construction Manager shall pay to Broward Health an amount equal to fifty percent (50%) of the difference between the actual total CDV participation and the required percentage set forth above (20%), as fixed, agreed and liquidated damages, which will be credited against the next and/or final payment due to the Construction Manager by Broward Health.

SECTION V: BROWARD HEALTH GENERAL TERMS AND CONDITIONS

The following terms and conditions shall apply to and become a part of any agreement entered as a result of this RFP process. Broward Health will consider incorporating any of Construction Manager's proposed terms and conditions if they do not conflict with, alter or modify any of the following terms and conditions.

1. **Termination for Default.** If either party defaults in its performance under this Agreement and does not cure the default within 30 days after written notice of default from the non-defaulting party, the non-defaulting party may terminate this Agreement upon written notice to the defaulting party without penalty and without any further liability after the date of termination.
2. **Termination for Convenience.** Broward Health may terminate this Agreement at any time without cause upon 30 days prior written notice to Construction Manager. If this Agreement is for supplies, products, equipment, or software, Broward Health will pay Construction Manager in accordance with the payment provisions of the Agreement through the date of termination. If this Agreement is for services, Broward Health shall compensate the Construction Manager in accordance with the payment provisions of the Agreement for those services rendered prior to the date of termination.
3. **Tax Exempt Status.** Broward Health is a tax-exempt entity (State Tax Exempt Certificate No. 85-8012646292C-5) and is not obligated to pay sales, use or other similar taxes. If Broward Health is not exempt for a particular tax, it will reimburse Construction Manager for those taxes.
4. **Sovereign Immunity.** The parties hereto acknowledge that Broward Health is a political subdivision of the state of Florida and enjoys sovereign immunity. Nothing in this Agreement shall be construed to require Broward Health to indemnify Construction Manager or insure Construction Manager for its negligence or to assume any liability for Construction Manager's negligence. Further, any provision in this Agreement that requires Broward Health to indemnify, hold harmless or defend Construction Manager from liability for any other reason shall not alter Broward Health's waiver of sovereign immunity or extend Broward Health's liability beyond the limits established in section 768.28, Florida Statutes.
5. **Term.** The term of this Agreement shall be for the duration of the project unless otherwise agreed to in writing ("Initial Term").
6. **Warranty and Indemnification.** Construction Manager warrants the performance of the Services to be furnished hereunder and agrees to indemnify, hold harmless and defend Broward Health, and its agents, employees and servants, from any and all claims, demands, actions, costs, expenses (including reasonable attorney's fees), and judgments arising out of or in any way anyway connected with any negligence, wrongful acts or omissions of Construction Manager, or its agents, employees, or independent Construction Managers in the performance of Construction Manager's Services, duties and obligations under this Agreement. If it becomes necessary for Broward Health to defend any action seeking to impose any such liability, Construction Manager will pay Broward Health all costs of court and reasonable attorneys' fees incurred by Broward Health in such defense, in addition to any other sums which Broward Health may be called upon to pay by reason of the entry of a judgment or decree against Broward Health in the litigation in which such claim is asserted. This obligation shall survive termination of this Agreement.
7. **Insurance.** The successful Firm shall provide, pay for, and maintain in force at all times during the services to be performed, such Insurance as Liability Insurance, and 100% Performance and Payment Bond. Such policy or policies shall be issued by United States Treasury or approved companies authorized to do business in the State of Florida, and having agents upon whom service of process may be made in the State of Florida. The Firm shall specifically protect Broward Health by naming it as an additional named insured under the Comprehensive General Liability, Builders Risk and Excess Umbrella Liability. Insurance policy or certificate shall reference the project by endorsement. The limits of liability provided by the Liability Insurance shall be herein stated to assure Broward Health the indemnification specified. The Firm shall provide Broward Health a Certificate of Insurance or a copy of all insurance policies required. Broward Health reserves the right to require a certified copy of such

policies upon request. All endorsements and certificate shall state that Broward Health shall be given thirty (30) days notice prior to expiration or cancellation of the Policies.

- 1) Workers' Compensation
 - a. State \$ Statutory
 - b. Applicable Federal (e.g., Longshoremen's) \$ Statutory
 - c. Employer's Liability \$ Statutory
- 2) Comprehensive General Liability (Including Premises - Operations; Independent Construction Manager's Protective; Products and Completed Operation Broad Form Property Damage)
 - a. Bodily Injury
 1. Each Occurrence \$ 1,000,000
 2. Annual Aggregate \$ 3,000,000
 - b. Property Damage
 1. Each Occurrence \$ 1,000,000
 2. Annual Aggregate \$ 3,000,000
- 3) Personal
 - a. Each Occurrence \$ 1,000,000
 - b. Annual Aggregate \$ 3,000,000
 - c. Completed Operations and Products Liability shall be maintained for One (1) year after final payment.
- 4) Crime/ Third party Liability/Bond \$ 50,000
- 5) Comprehensive Automobile Liability
 - a. Bodily Injury
 1. Each Person \$ 1,000,000
 2. Each Occurrence \$ 3,000,000
 - b. Property Damage
 1. Each Occurrence \$ 1,000,000
 2. Annual Aggregate \$ 3,000,000
- 6) Builder's Risk \$ Total Amount of Construction Manager's Proposal.
- 7) Umbrella \$ 5,000,000

Construction Manager shall provide Broward Health with a certificate of insurance naming Broward Health as an additional insured on the Comprehensive General Liability, Builders Risk and Excess Umbrella Liability prior to the execution of this Agreement. All policies shall contain a provision that the insurer shall give Broward Health at least 30 days written notice prior to canceling, terminating, or reducing the amount of Construction Manager's insurance.

8. **Equal Opportunity Employment.** Construction Manager agrees that it will not discriminate against any employee or applicant for employment for work under this Agreement because of race, color, religion, sex, age or national origin and will take affirmative steps to ensure that applicants are employed and employees are treated during employment without regard to race, color, religion, sex, age or national origin. This provision shall include, but not be limited to the following; employment upgrading, demotion, or transfer, recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeships. Construction Manager further agrees to comply with Executive Order No. 11296 entitled "Equal Employment Opportunity" as amended by Executive Order No. 11375, as supplemented by the Department of Labor Regulations (41 CFR, Part 60).
9. **Compliance with Law.** Construction Manager is familiar with and shall comply with all laws, ordinances and regulations applicable to the supplies, products, equipment, software or services furnished under this Agreement.

10. **Assignment and Subcontracts.** Construction Manager agrees not to enter into subcontracts, or assign, transfer, convey, sublet, or otherwise dispose of this Agreement, Construction Manager's obligations under this Agreement, or any or all of its right, title or interest herein, without Broward Health's prior written consent.
11. **Public Records Law.** As a political subdivision, Broward Health is subject to the Florida Sunshine Act and Public Records Law. If this Agreement contains a confidentiality provision, it shall have no application when disclosure is required by Florida law or upon court order.
12. **Confidentiality.** Construction Manager recognizes that it must conduct its activities in a manner designed to protect any information concerning Broward Health, its affiliates or clients (such information hereafter referred to collectively as "Broward Health Information") from improper use or disclosure. Construction Manager agrees to treat Broward Health Information on a confidential basis. Construction Manager further agrees that it will not, and Construction Manager's agents, representatives, and employees will not, disclose any Broward Health Information without Broward Health's prior written consent to any person, firm or corporation except: (i) to authorized representatives of Broward Health or (ii) to employees of Construction Manager who have a need to access such Broward Health Information to perform the services contemplated hereunder. Construction Managers shall be subject to all District obligations relating to compliance with confidentiality laws and the confidentiality of protected health information. Construction Manager acknowledges and agrees to comply with the requirements of Health Insurance Portability and Accountability Act ("HIPAA"), which are incorporated herein by reference and made a part of this contract, as if they were printed in full herein. Construction Manager shall not disclose protected health information to any other party without the prior consent of the patient. Construction Manager shall ensure that each affected employee of their company is trained in the substance and importance of complying with the confidentiality laws mentioned above, including the duty to avoid viewing stored materials except as expressly necessary to carry out legitimate job duties.
13. **Governing Law, Jurisdiction and Venue.** This Agreement has been executed and delivered in, and shall be interpreted, governed, construed and enforced pursuant to and in accordance with the laws of the State of Florida without giving effect to the principles of conflict of laws thereof. The parties agree that the sole and exclusive venue for any litigation, mediation, special proceeding or other proceeding as between the parties that may be brought or that arises out of or in connection with or by reason of this Agreement shall be Broward County, Florida.
14. **Attorney's Fees.** In connection with any litigation, mediation, special proceeding or other proceeding arising out of this Agreement, the prevailing party shall be entitled to recover its costs and reasonable attorney's fees through and including any appeals and any post-judgment proceedings. Broward Health's liability for costs and reasonable attorney's fees, however, shall not alter or waive Broward Health's sovereign immunity or extend Broward Health's liability beyond the limits established in section 768.28, Florida Statutes, as amended.
15. **Independent Construction Manager.** It is expressly acknowledged by the parties hereto that the Construction Manager is an independent Construction Manager, and nothing contained in this Agreement will be deemed or construed to create a partnership or joint venture between Broward Health and Construction Manager or any other relationship between the parties. Additionally, nothing in this Agreement is intended nor shall be construed to create an employer/employee relationship, or to allow Broward Health, or its agents, representative, or employees, to exercise control or direction over the manner or method by which the Construction Manager performs any services which are the subject of this Agreement.
16. **Partial Invalidity.** If any provision of this Agreement or the application thereof to any person or circumstance shall to any extent be held invalid, then the remainder of this Agreement or the application of such provision to persons or circumstances other than those as to which it is held invalid shall not be affected thereby, and each provision of this Agreement shall be valid and enforced to the fullest extent permitted by law

17. **Separability.** Each and every covenant and agreement contained in this Agreement shall for all purposes be construed to be a separate and independent covenant and agreement, and the breach of any covenant or agreement contained herein by either party shall in no way or manner discharge or relieve the other party from its obligation to perform all other covenants and agreements herein.
18. **Provisions Binding.** Except as otherwise expressly provided in this Agreement, all covenants, conditions and provisions of this Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors and assigns.
19. **Headings and Terms.** The headings to the various paragraphs of this Agreement have been inserted for convenient reference only and shall not in any manner be construed as modifying, amending or affecting in any way the expressed terms and provisions hereof.
20. **Force Majeure.** Neither party shall be liable nor deemed to be in default for any delay or failure in performance under this Agreement or for other interruption of service deemed resulting, directly or indirectly, from acts of God, civil or military authorities, acts of the public enemy, war (whether or not declared), riots, insurrections, acts of government, accidents, fires, explosions, earthquakes, floods, failure of transportation, strikes or other work interruptions by employees or any similar or dissimilar cause beyond the reasonable control of either party. The time for performance shall be deemed extended for a period equal to the duration of such event.
21. **Non - Waiver.** No inaction upon any breach or waiver of any breach of any provision of this Agreement by any party shall be construed to be a waiver of any prior or subsequent breach of the same or any other provision of this Agreement. Nor will any custom or practice which may grow up between the parties in the administration of the provisions hereof be construed to waive or lessen the right of Broward Health to insist upon the performance by Construction Manager in strict accordance with the terms hereof.
22. **Mutual Representation of Authority.** Construction Manager and Broward Health represent and warrant to each other they have full right, power and authority to enter into this Agreement without the consent or approval, not already obtained. The signatory on behalf of Construction Manager and Broward Health further represents and warrants that they have full right, power and authority to act on behalf of Construction Manager and Broward Health in entering into and executing this Agreement.
23. **Limitation of Liability or Remedy.** Any provisions of this Agreement that tend to limit or eliminate the liability of Construction Manager or the remedies available at law or in equity to Broward Health shall have no application with respect to the warranties set forth herein.
24. **Third Party Beneficiary.** Broward Health and Construction Manager expressly agree and acknowledge that this Agreement does not and is not intended to grant to or create any rights in other persons as third-party beneficiaries or otherwise. Nothing herein shall be construed as consent to be sued by third parties in any matter arising out of this Agreement.
25. **Entire Agreement.** This Agreement consists of the Request for Qualifications and specifically this Section V, Construction Manager's Response and any written agreement entered into by Broward Health and Construction Manager. To the extent that the agreement entered into by Broward Health and Construction Manager conflicts with, modifies, alters or changes any of the terms and conditions contained in Section II of the Request for Qualifications, then Section V of the Request for Qualifications shall control. This Agreement represents the entire understanding and agreement between the parties with respect to the subject matter hereof and supersedes all prior or contemporaneous negotiations, agreements, proposals, responses, understandings and representations, if any, made by and between the parties with respect to the subject matter of this Agreement. This Agreement may be modified only by a written agreement signed by Broward Health and Construction Manager.

26. **Inspection And Acceptance.** Inspection and acceptance of supplies, products, equipment, software or services to be furnished hereunder shall be made by representatives of Broward Health at a point of destination by the receiving facility. Unless a detailed technical inspection is necessary, this inspection will generally consist of a visual examination of the type, kind, quantity, damage, operability, packaging and marking.
27. **Pricing.** Construction Manager represents that the price charged to Broward Health for all purchases made under this Agreement shall be as low as, or lower than; those charged the Construction Manager's most favored customer for comparable quantities under similar terms and conditions in addition to any discounts for prompt payment.
28. **Broward Health Property.** Property owned by Broward Health is the responsibility of Broward Health. Such property furnished to a Construction Manager for repair, modification, study, delivery, etcetera, shall remain the property of Broward Health. Any damage to such property occurring while in the possession of or while in route to the Construction Manager shall be the responsibility of the Construction Manager. In the event that such property is destroyed or declared a total loss, the Construction Manager shall be responsible for the replacement value of the property at the current market value, less depreciation of the property, if any.
29. **Payment.** Invoices shall be submitted to Broward Health, 1608 S. E. 3rd Avenue, Fort Lauderdale, Florida 33316, attention Accounts Payable Department and shall be payable 30 days after receipt of the invoice, unless otherwise set forth in the Agreement. Invoices shall include the following information: contract number, purchase order number, and description of the supplies, products, equipment, software or services to be furnished hereunder as a line item with prices. Transportation when not FOB destination shall appear as a separate itemized item on the invoice.
30. **Gratuities.** Broward Health, may by written notice to the Construction Manager, terminate the right of the Construction Manager to proceed under this Agreement if it is found after notice and hearing by the either the President/Chief Executive Officer or the Senior Vice President/Chief Financial Officer, that gratuities in the form of entertainment, gifts, monies, or ownership were offered or given by the Construction Manager, or any agent or representative of the Construction Manager, to any officer or employee of Broward Health, with a view toward securing a contract or securing favorable treatment with respect to the awarding, or amending, or the making of any determination with respect to the performance of such contract.
31. **Discounts.** In connection with any discount offered by the Construction Manager, discounts will be computed from date of delivery of the supplies, products, equipment, software or services to the point of destination. Where acceptance of the supplies, products, equipment, software or services for compatibility or operability is necessary, discounts will be computed from the date of acceptance.
32. **Travel Expenses.** Any reimbursement of travel expenses under this Agreement is subject at all times to Broward Health's published General Administration and Procedures Manual in effect. A copy will be provided to Construction Manager upon request.

SECTION VI: SCOPE, BASIS OF SELECTION, QUALIFICATIONS

A. SCOPE OF SERVICES

Broward Health is seeking to contract with a qualified experienced Construction Manager to provide pre-construction and construction services for Broward Health North Capital Program. The CM will be required to hold all necessary licenses to perform these services. The successful management firm(s) shall contract and manage various enabling and renovation construction projects on various floors of Broward Health North. Each specific project scope and dollar amount will vary depending on architectural design and construction project specifications.

1. **BIM:** The CM shall provide model coordination and conflict analysis resolution throughout the design process milestone schedule quantity take-offs and cost estimates linked to models.
2. **Pre-construction and Construction Services:** Are being requested for the design and construction phases of this Program. The CM will provide the following services during all phases of the Program as outlined below as a minimum. A team commitment is understood to be in effect for all members at all times during the project. Further, the CM shall provide to the design team design/constructability assistance throughout the preconstruction design process to include input from major subs.
3. **Cost Estimating:** Provide complete cost estimates at the schematic, 50% & 100% design development stage, and at 50% of construction documents with time and material estimates. The CM shall be a collaborative member of the project team, Preconstruction services include budgeting, cost estimating, scheduling constructability reviews and value engineering studies.
4. **Value Analysis:** With all team members, identify, price and analyze the merit of alternatives to reduce construction costs and time while still maintaining the quality and functionality of the project.
5. **Team Meetings:** The CM will attend bi-monthly team meetings during the preconstruction period.
6. **Scheduling:** Prepare project schedules with input from all team members and insure that all information is current. A detailed schedule will be required with each cost estimate.
7. **Constructability Review:** The CM will maintain a complete and working knowledge of the plans and documents that will be reviewed at regular intervals to assist in the elimination of conflicts and changes during the construction phases of the project.
8. **Pre-qualify Subcontractors:** The CM will assist the project team in pre-qualifying Subcontractors
9. **Solicit Subcontractor RFPS:** The CM will package and distribute the Construction Documents for Subcontractor bidding, release the documents, organize pre-bid meetings, receive RFPS and assist the team in evaluating the RFPS. The CM will hold all contracts. Based on 100% completion of Construction Documents, the CM will be authorized for specific projects within Broward Health North.
10. **General Conditions:** The scope of the General Conditions work will be determined by the project team at the completion of Construction Documents and shall include such items as the site office, supervisory personnel, taxes, insurance for the project, employee benefits, material handling costs, testing and other items identified in AIA A121 and in the CM's response to the RFP. The CM should be prepared to set-up a site office at the start of the construction document phase and have sufficient personnel to manage any early release bid packages as determined by the Project Team. On site facilities shall be fully determined with Owner's Rep.
11. **Subcontracts:** The CM will bid the construction work in the form of subcontracts in divisions to be determined by the project team at the completion of construction documents. The CM will hold all contracts

12. **Open Book Policy:** The CM will maintain total financial and transaction transparency. All financial records shall be subject to random independent third party audits.
13. **Team Agreement:** The CM will organize and provide a workshop lead by a person or firm specializing in partnering of construction projects. The Owner, Architect, CM and major Subcontractors will participate in the workshop to establish, document and agree to the common project goals. Conflict resolution and other project activities will be conducted in accordance with the Team Agreement. The team shall function under these roles:
- Owner:
- Provides program information and project funding.
 - Holds all project team contracts.
 - Provides independent vendors separate from construction trades.
- Construction Program Manager:
- Serves as Owner's designated day-to-day representative on-site.
 - Provides overall project management, design reviews, budgeting and scheduling services.
- Design Consultant:
- Provides Architect/Engineering/Interior Design Services.
 - Provides Mechanical, Electrical, Plumbing and Fire Protection Engineering Services.
 - In addition, provides structural engineering, civil engineering and landscape architecture design.
 - Coordination with other team consultants.
- Construction Manager:
- Provides pre-construction services of budgeting, scheduling, constructability and design reviews and organization of bid packages.
 - Provides services to bid and hold awarded trade contracts.
 - Administration of construction.
 - Provides post-construction closeout services.
 - Coordinates with other team consultants.
14. **Preconstruction Conferences:** The CM will conduct preconstruction conferences in coordination with the other Team Members to ensure that all Subcontractors fully understand the project and prepare their RFPS completely.
15. **Bonding:** The CM shall provide Broward Health with a performance and payment bond. The CM will also require bonds from major Subcontractors.

B. BASIS OF SELECTION

1. Based on your firm's response to the RFP and subsequent interview, the Broward Health selection group will either recommend the selection of your firm for this Program or recommend the RFP to other firms. Some factors by which the selection of a CM will be based are as follows:
2. Specific Project Type Experience
- a. Summary Statement- describes the specialized experience and project approach of the project team members.
 - b. Specific Project Type Experience- information on similar projects the project team members have executed.

3. The successful completion of previous projects comparable in design, scope and complexity including references' this will include previous Construction Management experience. Specific detail to your firm's experience to AHCA Renovation projects will be an important benefit.
4. Proposed Project Team/Individual Experience
 - a. Proposed Project Team- a chart which identifies the function (tasks) of the primary individuals on the proposed Project Team during each phase of the work.
 - b. Individual Experience- the purpose of this section is to demonstrate overall background and experience of each individual on the project team.
5. Composition of Firm/Past Performance
 - a. Composition of firm- provides a general background of each firm involved in the project.
 - b. Present Work Load- identifies the current commitments of each firm on the project team. Includes the staff hours available and committed for the duration of the project.
 - c. References- each project team provides references for which work has been performed during the past five years.
6. Firm Location
 - a. The purpose of this information is to identify the primary firm and all firms that will be a part of the project team and the location of their offices. The primary firm office is the firm or office receiving 75% or more of the fees.
7. Your firm should propose a scheduling methodology for effectively managing and executing the work in the optimum time. Indicate your procedure for scheduling.
8. Knowledge of the Site and Local Conditions.
9. Your firm should demonstrate your plan for performing this project, documenting the services to be provided and showing the inter-relationship of all parties including procedures for consulting, estimating and construction. This should include preconstruction services.
10. Demonstrate your knowledge of the building site, local codes, state and AHCA codes, ordinances, local Subcontractors and suppliers as an indication of your ability to deliver quality workmanship in an effective and timely manner.
11. Overall Approach and Methodology.
12. The fee structure for construction services varies from project to project, depending on the scope of the work involved.

Construction fees often are charged on a cost-plus (time and materials) or fixed fee basis. Cost-plus contracts may be used when the scope of work is uncertain, for example, if the exact location of utility lines is uncertain. A fixed fee arrangement may be used if the scope of work can be more precisely determined.
13. Fee: You will be required to submit an anticipated preconstruction service fee, general conditions cost, general Construction Manager's fee, change order fee and a guaranteed maximum contingency. The fees will be based on an estimated construction cost and schedule for a 36 month completion.

C: CONSTRUCTION MANAGEMENT FIRM QUALIFICATIONS

1. GENERAL EXPERIENCE

- a. Annual total number of CM projects completed over the last three (3) years. For each line provide the number of projects and the total value (construction costs).

	2009	2010	2011
Total Projects			
Emergency Department / OR			
Other Medical Facility projects located in Florida			
Broward County Projects			
Total Florida Projects			

- b. Can representatives from the Broward Health tour an Emergency Department / OR Facility where your firm has provided turnkey CM services? If so, please indicate the site location and a contact person and telephone number.

2. EXAMPLE PROJECTS

- a. Using the following format, describe up to seven (7) representative Ambulatory Urgent Care/Medical Office Healthcare Facility projects, your firm has provided CM services in the last five (5) years. At least two projects should be located in Florida. Allow one page for each project, followed by up to three pages of project photos and/or plans.

Facility Name and Address	
Size of Project	
Project Status and Completion Date or Percentage Completed to Date	
Type of Project (new, renovation, addition)	
Major Components of Project	
Construction Cost (estimated and actual)	
Project Manager	
Project Architect	
Owner's Representative (Name, Position and Current Telephone Number)	

General Construction Manager (Name, Address and Current Telephone Number)	
--	--

- b. Provide a matrix illustrating the involvement of personnel proposal for this project in the up to seven (7) example projects provided. Use the format below as a general guide.

	Project 1	Project 2	Project 3	Project 4	Project 5
Principal in Charge John Doe 1					
Project Manager John Doe 2					
Project Architect John Doe 3					
Planner					
Programmer					
Structural Engineer					

- c. Provide a performance record for up to seven (7) example projects and detail whether your firm was able to meet project budgets and schedules. Specifically, address schedules, construction and occupancy schedules, estimated versus actual cost and change orders as a percentage of construction cost, distinguishing between owner-generated change orders and change orders due to issues or other factors.

3. Background of firm(s): Provide the following information for each prime and consulting firm listed in Part a (include firm responding to this RFP).

a Name of firm.

b. Location of principal office and office designated to work with Broward Health.

c. Length of time in business under the name listed in Part a. above.

d. Firm ownership structure (individual, partnership, corporation, joint venture, other).

e. Number of employees, including designation by specialty

f. Provide a copy of audited financial statement or bank credit report.

g. Describe the circumstances and outcome of any substantial litigation (over \$50,000 and all instances of breach of contract) in which your firm has been involved during the last five (5) years.

h. BIM Project Experience

4. PERSONNEL

- a. Provide a project organization chart, illustrating roles and reporting structures of firms and individual proposed. For each individual, note the person's firm and office location.
- b. Provide resumes of staff (for key representatives that will work directly with Broward Health).
 - Role in this project
 - Educational background.
 - Professional credentials
 - Years of experience with your firm.
 - Related project experience.
 - Responsibilities on other major projects during the time frame for this project.
 - Registration number / PE number (if applicable).
 - Personal references from previous projects or jobs, including name, title, role and current contract address and phone number

Note: Personnel qualifications will be a material factor in the selection. Any substitution must be approved in writing by the Broward Health. Failure to provide acceptable substitute personnel may result in rejection of a firm or termination of the project agreement.

- c. What particularly relevant experience does your Project Management bring to this project?

5. PROJECT APPROACH

Briefly describe your experience and capabilities in the following area:

- a. Consulting

- b. Preconstruction Design Assist with B.I.M.

- c. Construction

- d. B.I.M./Cost Efficiency Design/Value Engineering

- e. What type of planning capabilities does your firm use in the Programming phase?

- f. The owner will require e-Builder for all communication. How often are status and other reports written? Describe the typical communication that occurs between the project members and firm management.

- g. What regular verbal and written communication will your firm have with the Broward Health?

- h. Do you represent any product? Please specify.

- i. How do you ensure continuity of project activities?

- j. Describe your firm's method of controlling project costs.

- k. Describe your firm's method of quality control / quality assurance.

- I. Describe your normal process and efforts on behalf of the owner regarding claims by the Construction Manager.

6. CONSTRUCTION MANAGER'S QUALIFICATION STATEMENT

- a. Provide a complete AIA Document A305 Construction Manager's Qualification Statement with any necessary attachments to completely describe the professional and financial qualifications of your firm.

7. LIABILITY INSURANCE AND LABOR & MATERIALS PAYMENT & PERFORMANCE BONDS

The successful Firm shall provide, pay for, and maintain in force at all times during the services to be performed, insurance as detailed in this RFP and 100% performance and payment bond. The Owner shall, prior to the execution of the Contract, require the Bidder to furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising hereunder in such form and amount as the Owner may prescribe and with such sureties secured through the Bidder's usual sources as may be agreeable to the parties. The furnishing of such bonds is required and the premiums shall be paid by the Bidder. The bond shall be 100% of the amount of the Contract.

8. CONSTRUCTION MANAGER'S MANAGEMENT FEE PROPOSAL

Construction Manager shall provide in the form of a fee percentage that covers the CM's home office overhead, profit. On site overhead will be reimbursed at CM's cost to include the CM's full-time on-site management staff, the cost of an on-site office and office equipment, utilities and communications.

CM Fee: Construction Manager will be required to submit an anticipated preconstruction service fee, general conditions cost, general Construction Manager's fee, change order fee and a guaranteed maximum contingency. The fees will be based on an estimated construction cost and schedule (36 month completion). For the purpose of this engagement, please provide CM's fee as a percentage broken down into the following parts:

Pre-Construction Service:	_____ %
General Conditions Design Assist:	_____ %
General Construction Manager's Fee:	_____ %
Change Order Fee:	_____ %

**SECTION VII: SIGNATURE AUTHORIZATION AND SWORN STATEMENT/
RFP RESPONSE LABEL**

A. SIGNATURE AUTHORIZATION

This signature authorization must be signed by an individual who has authority to bind Construction Manager Construction Manager to the submitted Response to be considered. Please include this section in each of your response copies.

DATE: _____

CONSTRUCTION MANAGER: _____

ADDRESS: _____

CITY AND STATE: _____ **ZIP:** _____

TELEPHONE: _____ **FAX:** _____

E-MAIL ADDRESS: _____

SIGNATURE: _____

NAME: _____

TITLE: _____

CONSTRUCTION MANAGERCONSTRUCTION MANAGER SHALL INCLUDE WITH RESPONSE TO RFP:

1. Construction Manager Construction Managers must submit one (1) original and ten (10) copies of the sealed Specification Response with Construction Manager Construction Manager Name clearly printed on the front cover page of each submitted response. Additionally, Construction Manager Construction Manager shall submit two (2) complete responses on virus-free Flash Drive media with Construction Manager Construction Manager Name clearly labeled on each Flash Drive.
2. Construction Manager must submit one (1) Original of Signed Signature Authorization
3. Construction Manager must submit one (1) Original signed and notarized completed copy of "Sworn Statement Pursuant to Section 287.133 (3) (a), Florida Statutes, on Public Entity Crimes;
4. Construction Manager must submit proof of current liability insurance coverage.

B. SWORN STATEMENT (MUST BE NOTARIZED)



SWORN CERTIFICATE UNDER SECTION 287.133
OF THE FLORIDA STATUTES, PUBLIC ENTITY CRIME PROVISION

STATE OF _____

COUNTY _____

Before me, the undersigned notary public, personally appeared _____,
in his/her capacity as _____
_____ of _____
_____ ("Construction Manager") who, having taken an oath deposes and says:

1. Construction Manager has personal knowledge of all matters set forth in this certificate and all matters are true and correct.
2. Construction Manager's business address:

and the Construction Manager's Federal Employee Identification Number (FEIN) is

_____.

3. Construction Manager is familiar with and understands all of the provisions contained in Section 287.133 of the Florida Statutes concerning a public entity crime.
4. Construction Manager certifies that one of the following is true and correct:

_____ Neither Construction Manager nor any affiliate of Construction Manager has been placed on the state's Convicted Construction Manager List following a conviction within 36 months prior to executing this Certificate; or

_____ Although Construction Manager or an affiliate of Construction Manager was placed on the Convicted Vendor List within the last 36 months, the Construction Manager or its affiliate has been removed from the List pursuant to Section 287.133 (3) (f) of the Florida Statutes.

5. Construction Manager acknowledges that the North Broward Hospital District is a public entity as defined in Section 287.133 (1) (f) of the Florida Statutes and that the North Broward District is relying upon this Certificate in accepting Construction Manager's BID with a potential for awarding the contract to Construction Manager.
6. This Certificate is made and given by Construction Manager with full knowledge of applicable Florida laws regarding sworn affidavits and the penalties and liabilities resulting from false statements and misrepresentation therein.

CONSTRUCTION MANAGER:

BY: _____

Name: _____

Title: _____

Sworn to and subscribed before me this _____

Day of _____, 2013 by

_____ in his/her capacity as _____

_____ of _____,

who is personally known to me or who has produced _____ as
identification, and who did take an oath.

Notary Public

Printed Name
(printed, typed or stamped)

My Commission Expires:

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**BROWARD HEALTH
CORPORATE RESOURE MATERIAL MANAGEMENT
1608 S.E. 3RD AVENUE
FORT LAUDERDALE, FL 33316**

RFP LABEL

() CEP / FAÇADE RFP RESPONSE ENCLOSED

RFP TITLE: BROWARD HEALTH NORTH CAPITAL IMPROVEMENT PROGRAM – PART A SUBMISSION

RETURN TIME & DATE: PRIOR TO 3:00 P.M., Wednesday, April 17, 2013

Attachment A

PROGRAM NARRATIVE

In December 2011, Broward Health North (BHN) received approval from the North Broward Hospital District Board of Commissioners to proceed with plans for an estimated \$70 million construction project that would address key facility needs that included:

- Construction of a new Central Energy Plant
- Development of a new building façade that would serve to modernize the appearance of the facility
 - rectify water intrusion problems
 - provide pathway for new mechanical systems
 - and harden the building to meet the current wind code of 180 MPH
- Expansion and redesign of the current Emergency Department
- Renovation/Construction of new Surgical Suites
- Renovation of the Cardiac Critical Care Unit and
- General refurbishment of patient care and public areas

The first step in the project was to release an RFP to identify and select a program manager to assist with the oversight and efficient management of the project and Heery International was selected through the RFP process in March 2012. Heery International placed their Senior Project Manager on site in June 2012.

The Board of Commissioners also requested that a validation of the projected expenses as well as a return on investment (ROI) be developed prior to moving forward with the project. As part of that analysis, Heery International utilized a competitive process and selected Freeman White working together with Synergy Health Planners to perform the Emergency Department and Operating Suite validation analysis.

ACTION / PROJECT DESCRIPTION

CEP/Building Façade

In June of 2012, Heery International began to conduct a facility assessment validation of Broward Health North. The scope of this assessment effort included an orientation and discovery phase, data collection and assessment, data analysis, and ultimately recommendations related to a prior assessment. The scope focused on the following items:

- General Building Systems
- Functional Assessment
- Mechanical Building Systems
- Electrical Building Systems

The findings from the prior assessment identified many issues with the facility infrastructure and building envelope.

Heery International (Heery Group) was selected to provide Program Management Services in addition to Design Concept visioning and validation, and ROI analyses for the facility renovation.

The proposed project was required to include:

- Create a new building infrastructure pathway to upper floors of patient tower.
- Harden the existing facility for future catastrophic events, recognizing the location of the campus and the evolution of building codes, while meeting financial pro-forma and budget goals.
- Validate and plan a constructible relocation and / or modernization of the existing central plant to support the institution with energy savings, enhanced reliability, campus sustainability, and the replacement of equipment which is at or nearing the end of its service life.
- Develop transition plans to minimize or eliminate disruption for these major capital programs.
- Development of concepts and an implementation process which allows for timely delivery of the building program. This implementation will occur upon confirmation of leadership, budget validation, program and expansion concept development and return on investment calculations.
- Efficiently utilize capital, meeting overarching budget goals, while providing constructible, flexible and efficient solutions.
- Demonstrate a positive return on investment for the Façade, Central Plant and Energy Modeling analyses, understanding that the ROI on a building which is severely damaged and out of service following a catastrophic event or loss of building systems is incalculable.

Heery International has utilized the prior report as well as their own assessment to determine the best path forward with regards to the building envelope and infrastructure needs.

Central Energy Plant

Heery International considered and tested multiple options for a Central Energy Plant (CEP) solution including different equipment configurations and CEP locations. The recommended scheme is to develop a more central plant adjacent to the hospital. In considering this plant location, considerable cost and operational savings are expected for several reasons, including the following:

- Reduced cost in primary electrical feeds
- Operational savings as noted above, with a “central” solution
- Enhanced energy savings
- Expanded emergency power generation to support planned expansion and additional redundancy

In summary, Heery is recommending an approximately 10,000 square foot two-story structure with state of the art mechanical, electrical, plumbing and Building Automation Systems. There will be a combination of interior and exterior mounted equipment, hardening of medical gas tank farm, and exterior hardened cooling towers. The CEP will be located at the south side of the campus, with appropriate screening and planting planned to screen the “offstage” elements from Sample Road.

Building Envelope

The Building Envelope which includes the façade and roof has experienced significant problems over the last several years. The current façade is a combination of stucco and EFIS. Much of the stucco is failing with large visible cracks throughout the surface of the building, and large sections of stucco cleaving off causing a hazard for employees and visitors as well as causing major water intrusion problems. The water intrusion problems have increased significantly over the last few years, with patient rooms needing to be taken out of service for continual stop gap repairs, especially on 3NE (Orthopedic Trauma Unit) and 3SE (Med/Surg Oncology Unit).

In addition to solving the water intrusion and appearance issues, there are several other benefits that will occur because of the new building envelope:

- The water and electrical risers that service the 9-story patient tower are over 50 years old. As was outlined in the AECOM report as well as failures that have occurred, we need to begin replacing these risers. Because of the current structure it would be extremely difficult and costly to replace the risers in place. The new building envelope will provide the ability to create service piping chases from the new CEP to all patient floors and the roof of the current patient tower. This will allow for future mechanical improvements within the inpatient facility as well as energy savings (derived from higher efficiency glazing and materials).
- During the process, several options were developed with a focus on no loss of patient rooms. Three options were studied – (1) simple window replacement, (2) “laminated” window with screening, and (3) “curtain wall” system.

The recommended Building Envelope option, No. (2), of a “laminated” window with screening generated a total project price based on the following estimated components:

Elevator Tower:

- Stucco Repair

Patient Tower:

- 25,000 square feet of estimated window installation (high efficiency glazing)
- 12,000 square feet of miscellaneous metal panels
- 22,547 square feet of shading elements

In summary, the recommendation for the Building Envelope solution is the laminated window with screening (Laminated Scrim) along with replacement of the tower roofs. Heery International believes this option to be preferred for the following reasons:

- Concealment of vertical building services
- Constructability while minimizing current inpatient room downtime
- Projected energy savings
- Modern aesthetic
- Energy savings

Attachment B

BIM Standards

Version 1.0
December 26, 2012

FOR:



DEVELOPED BY:



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1. INTRODUCTION

Nothing in this BIM Standards document shall supersede or replace the standard of care and requirements in the Broward Health Agreement between either Owner and Architect or Owner and General Contractor / Construction Manager. The intention of this BIM (Building Information Modeling) Standards document is to identify and formalize the BIM process for all future Broward Health projects. When BIM expectations are clearly defined and understood by all project team members, everyone benefits, and we, the Owner, are able to realize more value from the BIM process being utilized on our projects. This document is not intended to supersede any other Broward Health standards, but rather to supplement and clarify in more detail our BIM expectations for Broward Health projects.

2. BIM-RELATED PROJECT PLANNING

A. PROJECT BIM EXECUTION PLANNING

A formal BIM Execution Plan (BIMEP) for each Broward Health project will be created using some modified format of the Penn State BIM Project Execution Plan (download at www.engr.psu.edu/bim). The BIM project execution planning process will be lead by Broward Health, and will include collaborative input from both the Design and Construction Teams. Each Project BIM Execution Plan will be specific to the unique aspects of that project, but will remain within the guidelines of the BIM Standards set forth within this document.

B. BIM-RELATED DESIGN MILESTONE PLANNING

Each Broward Health project will utilize a Lean Scheduling process (pull planning) to define design milestones in relationship to construction coordination milestones. This pull planning process will occur through one or several meetings that involve Broward Health and the decision maker for each Design and Construction Team member (including Trade Contractors if possible). The process will be collaborative, requiring input and concessions from all participants, with the ultimate goal of defining a milestone schedule that meets the Owner's requirements for design and construction, and is achievable by each team member.

The pull planning session(s) will address, at a minimum, project substantial completion, start of MEPFP rough-in per area, start of MEPFP prefabrication per area, start of MEPFP construction coordination per area, completion of MEPFP design per area, completion of architectural design per area, completion of structural design, completion of design packages (SD, DD, CD etc.), permitting, completion of specific Owner decisions in order to support completion of design.

This milestone schedule shall be coordinated with and considered part of the Project Schedule as defined in the Broward Health Agreement between Owner and Architect and the Construction Schedule as defined in the Broward Health Agreement between Owner and General Contractor / Construction Manager. The Design Team shall be responsible to update their portion of the schedule and incorporate it into the master design schedule, and the General Contractor shall be responsible to update their portion of the schedule and incorporate it, along with the Design Team's updates, into their master construction schedule.

3. MODEL USES

A. DESIGN AUTHORIZING

See Section 4 (Model and Data Requirements)

B. MODELS TO COMMUNICATE WITH STAKEHOLDERS AND END-USERS

The Design Team shall utilize Revit models to communicate with stakeholders and end-users on a regular basis, as defined by Broward Health, throughout the project. BIM uses for such communication shall include, but not be limited to:

- 3D models developed for Schematic Design (or earlier) through Construction Documents (SketchUp models permitted during Schematic Design phase only)
- 3D design review, including model walk-throughs
- 3D design mockups

C. EXISTING CONDITIONS MODELING

For all Broward Health projects, the site utilities, existing structures, and existing conditions at project interface points (between old and new construction) shall be validated and modeled by the Design Team. Depending upon the project, a model of the site may be obtained from Broward Health or commissioned by an external consultant using an approved 3D site and utility modeling BIM tool.

For all projects, the modeling of existing buildings shall be performed based upon Broward Health-provided as-built information and the Design Team shall conduct field verification or electronic measurements to validate and document the accuracy of the as-built information. Accuracy and tolerances are defined in Section 4K (Model Accuracy and Tolerances).

Per the Broward Health Agreement between Owner and General Contractor / Construction Manager, the General Contractor shall verify and accept the Design Team's existing conditions model(s) in writing. If the Design Team's existing conditions model(s) is not deemed accurate by the General Contractor, the General Contractor shall convey to the Design Team in writing the inaccuracies. The Design Team shall adjust the model to the required accuracy and the General contractor shall verify and provide written acceptance of the Design Team's existing conditions model(s).

D. 3D SITE LOGISTICS PLANNING

The General Contractor shall provide Broward Health with a 3D site logistics planning model that illustrates how the site will be utilized, including cranes, lay down areas, traffic routing etc. All elements within the model, such as cranes, shall be 3D parametric objects. 2D site logistics plans shall be created from a Revit model.

E. 3D COORDINATION

See Section 5 (BIM Coordination)

F. 4D SCHEDULING

The General Contractor shall propose at least two uses of 4D scheduling for aspects of the project where schedule visualization would help reduce project risk. These uses do not include site logistics planning, but could include items such as steel erection, typical interior rough-in to finish out sequencing in a particular area, Owner move-in sequencing, etc. Once the proposed

areas for 4D scheduling are accepted by Broward Health, the General Contractor shall execute the 4D scheduling and subsequent 4D schedule updating from the start to the completion of that particular aspect of the work.

G. 5D QUANTITY VERIFICATION

The General Contractor shall use the Design Models (and Construction Models, if available) to validate the material quantities it uses in creating the project estimate. The General Contractor shall provide Broward Health with the quantities extracted from the models, along with a comparison to their manually generated takeoff quantities, each time it provides a project estimate to Broward Health. Quantities taken from the 2D contract documents shall govern over quantities taken from models (traditional contract requirements will continue to apply).

In order to facilitate the use of the Design Models by the General Contractor for quantity extraction, Design Models shall:

- Have components that are assigned a standard Revit Category when modeled.
- Have a standard Family naming convention which shall be shared with the General Contractor and included in the Project BIM Execution Plan.
- Have components that are assigned correct assembly codes.

In order for the General Contractor to understand the Level of Development for various quantities being generated, the Design Team shall update the Model Definition and Progression Specification (MDPS – see Section 4E) at each model submission and submit the MDPS within e-Builder at the same time the Design Models are uploaded. The MDPS need only be populated to the third depth of the hierarchy (ie. in Attachment 1, D2010 Plumbing Fixtures need not include subcategories Water Closet, Urinals, etc.).

H. FACILITY MAINTENANCE MODELING

See Section 7 (BIM Facility Maintenance Models and Data)

I. NON-REQUIRED BIM USES

Broward Health encourages, but does not require, the Design and Construction Teams to utilize BIM beyond the scope of what is defined in this BIM Standards document, including but not limited to the following:

- Energy, lighting, mechanical, structural design analysis
- Code verification analysis (Solibri)
- 3D pre-fabrication mockups
- 5D cost estimating (NOT 5D quantity verification, which is required)

If Broward Health decides to require any of these BIM uses, beyond what is specifically defined in this BIM Standards document, Broward Health will clearly define the requirements in the RFP. Whether required by this document or through project specific RFP, each BIM use will be clearly defined in the BIM Project Execution Plan.

4. MODEL AND DATA REQUIREMENTS

A. DESIGN MODEL REQUIREMENTS

All designers shall use Autodesk software for design. Architects will use Revit Architecture, structural designers will use Revit Structure, and mechanical, electrical, plumbing, and fire protection designers will use Revit MEP – all of which have been combined in the current version into a package called “Revit”. Civil designers shall use Civil 3D.

Parametric links should be maintained within the models at all times to enable automatic generation of all plans, sections, elevations, details, and schedules as well as 3D views. As such, the expectation shall be that all 2D representations of the design are fully coordinated with the concurrent building model.

Designers shall not insert 2D CAD based content into the models because this degrades model performance. If DWGs are absolutely required, link them to the Revit model only – do not insert them into the model. DWGs and other CAD formats should be excluded from Revit families brought into the model.

All information needed to describe the detailed design will be graphically or alphanumerically included in and derived from these design models only, except for the Specifications. Engineering details or other schematic diagrams (controls, wiring, flow diagrams, etc.) that cannot be derived from the model must still be included within the Revit model. 2D project drawings and documentation shall not be created outside of the BIM authoring software (Revit). However, this does not imply that the model itself is a contract document.

B. REVIT MODELING PROTOCOLS

The following modeling protocols shall be applied:

- Civil
 - Parametric links should also be maintained within the Civil Design Models at all times to enable automatic generation of all plans, sections, elevations, details, and schedules as well as 3D views. This means that when the Civil 3D Design Model is updated, all the related objects and annotations should be linked and automatically updated, without manual intervention, including but not limited to contours, spot elevations, building finished floor elevations, utility profiles, pond volumes, and earthwork volumes.
 - Direct linking between Revit and Civil 3D is not currently possible, so a DWG file format shall be used by the Civil Design Team to allow for interoperability with the rest of the Design Team (all object enablers must be shared with the Design and Construction Team).
- Rooms
 - Rooms will be accurately bounded, completely enclosed, and not overlapping with other rooms. All “not placed” rooms shall be removed from the model.
 - Rooms will contain property data with the correct name and number.
 - Rooms will contain property data assigning it to the correct space, department, area, and level, such that accurate square footages can be obtained for rooms, spaces, areas, departments, levels, and entire building.
 - Rooms shall be a continuous cube with the height of the cube corresponding to the ceiling height.
- Walls
 - Walls shall contain the correct wall types (not generic)
 - Walls shall contain any fire rating and sound rating data.
 - Walls shall be modeled to the correct height based on wall type.

- Studs shall be distinct within walls.
- Doors
 - Doors shall be associated with the correct level.
 - Doors shall contain the correct door type, hardware set type, and fire rating as property data.
- Closure and Adjacency
 - Rooms, spaces, departments etc. shall be properly enclosed using floors, walls, and ceilings that are touching, but not overlapped.
 - Adjacent model elements shall be touching but not overlapped.
 - The building envelope shall be “air tight” (ie. no space(s) between adjacent elements).
- MEPFP Models
 - Sloped pipe is difficult to model in Revit. If the MEPFP engineers choose to model the sloped pipe as a flat pipe, a clearance box must be placed around the slope pipe such that the top of the box is at the highest designed point of the pipe and the bottom of the box is at the lowest designed point of the pipe. This clearance box will then represent the area that the sloped pipe will occupy.
 - For items like pneumatic tubing that are not modeled during design, the Design Team shall add a clearance zone to represent the space required for the system that will be designed in the future.
 - Medical equipment supports shall be modeled by the Design Team to the level of detail required by the Project BIM Execution Plan.
 - Distinct Types shall be created for MEPFP systems. For example, Pipe Types for Chilled Water, Heating Hot Water, Copper, Steel, etc. shall all be distinct.
- Miscellaneous
 - Model elements shall not be duplicated. For example, columns should not be in both the Architect’s and Structural Engineer’s model, but should only be in one model. Models should then be linked to view other elements.
 - All model elements shall be parametric with intelligence (not generic) so that they can be quantified.
 - Objects, spaces, etc. shall use Broward Health defined nomenclature, or if none exists, then industry standard nomenclature shall be applied.
 - Object shall be correctly defined: ie. use a table object for a table – do not “fudge it” with slab commands. It may look right but it will not be right for scheduling, analysis, as-built model or interoperability with other software.

C. REVIT WARNINGS

The Design Team shall correct the following Revit warnings, following these additional protocols:

- There shall be no overlapping of design elements, especially walls and room boundaries
- Walls shall be connected to the top of slab at the bottom of the wall and bottom of the slab at the top (if full height)
- Floors shall be subdivided by room
- Space enclosures shall be bounded by walls and floors
- Spaces shall have a name and a room number
- There shall be only one space instance per space, no duplicates
- Orphans shall be resolved (resulting from using copy/paste)
- Mechanical spaces shall be defined floor to floor, unless there is a plenum
- Plenums shall be defined as a separate space
- Mechanical systems shall be defined – every element shall belong to a system. This can be verified using the Revit MEP system browser.
- Sidewall diffusers shall be placed in a defined space and attached to corresponding walls.

- The Revit MEP file shall be linked to the Revit architectural file – This can be checked by using the Revit System Browser and verifying that the space name and space number columns are populated
- System components within a workset shall belong to that workset
- Mechanical zones shall be defined
- There shall be no unassigned components (View/User Interface/System Browser)
- MEP space names shall be mapped to Architectural room names

D. MODEL ORIGIN

All Design and Construction Models shall have a 0,0,0 origin point that is referenced against a single fixed real-world benchmark for all Broward Health campuses. As the various Broward Health campuses are remodeled, each new BIM model shall become part of a Master Campus Model. (Note: This Master Campus Model (created and maintained by Broward Health) shall be linked to Google Earth in order for the individual BIM models to have accurate GPS coordinates relative to the Master Campus Model and its surroundings within a 1 mile radius.)

E. Z-DIMENSION ACCURACY

All elements within the design and construction models will be accurately depicted in the “Z” dimension, including, but not limited to, wall partitions and ceilings. For walls, the studs shall be represented accurately and the drywall on both sides represented to the height of the highest drywall on either side of the wall. For instance, if a drywall partition has drywall on one side that is 6” above the ceiling and on the other side the drywall extends to the bottom of deck, the drywall shall be represented to bottom of deck in the Revit model.

F. MODEL DEFINITION AND PROGRESSION SPECIFICATION

During the Project BIM Execution Planning process, a Model Definition and Progression Specification (MDPS) will be collaboratively created by the Project Team and will include the detailed Unifomat Classifications and LOD as defined and represented in the example MDPS at Attachment 1. The elements within the Design and Construction Models will reflect the LOD and geometric properties of the materials and/or systems in the model as defined in the project MDPS at each stage of the project.

G. COMPLETENESS OF MODELS

Physical building elements within the project will be modeled (except those clearly defined and excluded in the project MDPS) and will represent the complete design intent for each level and element of the building. For example, even if a single level of a new hospital patient tower is exactly the same as another level, each level will still be distinctly and completely represented in the design and construction models. This requirement will not allow the “short-cut” practice of using one part of the 3D model to represent a different part of the building on the 2D drawings.

H. MODEL PROPERTY AND PARAMETER DATA

Both the Design and Construction Models will accurately represent the geometric properties of the materials and/or systems in the model to the LOD defined in the project MDPS. All equipment schedules must be generated from the parameters embedded in the Revit model objects. Parameter fields shall be populated either centrally in the model or applied to individual Architectural and/or MEPFP system families.

I. REVIT MODEL MATRIX

The Design Team, in collaboration with the Construction Team, shall create a Revit Model Matrix that defines worksets, links, annotation, and copy monitoring, all of which shall be fully defined in the Project BIMEP. See Attachment 2 for an example Revit Model Matrix.

J. TRACKING MODEL REVISIONS FROM THE CONSTRUCTION DOCUMENTS STAGE FORWARD

After the start of the Construction Documents stage of the project through final project closeout, the Design Team shall track changes to the model using a Model Revisions Log for each discipline. The intent of this log is to effectively and comprehensively communicate model changes to other Design or Construction team members who may be affected by the changes, such that those team members do not have to spend trying to figure out what changed. This Log shall contain, at a minimum, a revision number, a general description of the model revision, date of revision, person who made the revision, and 2D sheet numbers of sheets affected by the revision.

K. 2D SUPPLEMENTAL DRAWINGS DURING CONSTRUCTION ADMINISTRATION

During construction administration, after 100% CD deliverables have been produced, Broward Health requires that all supplemental 2D documentation in drawing form for RFIs, ASIs, change orders, etc. be produced within the Revit design models. This will ensure that all the relevant drawing data is in one place (ie. the Revit file) and has been captured in electronic format, not hand-sketched.

L. MODEL ACCURACY AND TOLERANCES

The following tolerances apply to elements that require LOD 300 or higher:

PHASE	DISCIPLINE	TOLERANCE
EXISTING CONDITIONS MODELS	CIVIL (UNDERGROUND)	ACCURATE TO +/- [6"] OF ACTUAL SIZE ACCURATE TO +/- [12"] OF ACTUAL LOCATION
EXISTING CONDITIONS MODELS (ACCESSIBLE ITEMS)	ARCHITECTURAL STRUCTURAL M/E/P/FP	ACCURATE TO +/- [1/8"] OF DESIGN INTENT SIZE ACCURATE TO +/- [2"] OF DESIGN INTENT LOCATION
DESIGN DOCUMENT MODELS	CIVIL ARCHITECTURAL STRUCTURAL MEPFP	ACCURATE TO +/- [1/8"] OF DESIGN INTENT SIZE ACCURATE TO +/- [2"] OF DESIGN INTENT LOCATION
SHOP DRAWING 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
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 ENVELOPE STRUCTURAL MEPFP	ACCURATE TO +/- [1/16"] OF ACTUAL SIZE ACCURATE TO +/- [1"] OF ACTUAL LOCATION

M. MODEL QUALITY CONTROL

The Design Team shall establish and use in-house model quality control guidelines and exchange protocols. Good BIM practices include but are not limited to:

- Adherence to the AIA standards (required)
- Use of industry accepted nomenclature for objects and spaces (required)
- Use of viewing, checking, and standard output file formats as needed (required)
- Use of open standards and IFC compliance for file transfers (required)
- Performance of weekly model cleanup and family integrity checks (required)
- Use of model checking software such as Solibri (not required)
- Use of Navisworks (or equivalent) clash detection software (required)

CHECKS	DEFINITION	RESP PARTY	RECOMMENDED SOFTWARE	FRE-QUENCY	DELIVER-ABLE
VISUAL CHECKS	Ensure there are no unintended model components and the design intent has been followed	Design Team	Revit	Weekly or More	
INTERFERENCE CHECKS	Detect problems in the model where two building components are clashing including soft and hard clashes	Design / Construction Teams	Navisworks (Required)	Bi-Weekly / Weekly or More	Clash Report
STANDARDS CHECKS	Ensure that the BIM and CAD Standard have been followed (fonts, dimensions, line styles, levels/layers, etc)	Design Team	Solibri	Prior to Deliverables	Solibri Report
IFC MODELING COMPLIANCE	Ensure that the BIM has been modeled accurately, without shortcuts, and that parametric content is IFC compliant so that an accurate record IFC file can be produced	Design / Construction Teams	Solibri	Prior to Deliverables	Solibri Report
CODE COMPLIANCE	Ensure that the design is compliant with applicable codes	Design Team	Solibri	Prior to Deliverables	Solibri Report
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	Design Team	Solibri	Prior to Deliverables	Solibri Report

N. OBJECT / EQUIPMENT STRIPPING

In order to keep Design or Construction Model file sizes from becoming unmanageable, Broward Health allows “stripping” an object within the model by replacing, for instance, a manufacturer’s equipment product model with a simpler object of accurate dimensions that includes connections / tie-in points. However, the required property data from the original product model must be maintained within the stripped product model so that the data can be retrieved and quantified from the model as defined in Section 4G (Model Property and Parameter Data) Section 7C (Trade Contractor As-Built Models), and Section 7D (Design Team Record Models).

5. BIM COORDINATION

A. EARLY DESIGN COORDINATION

During the early stages of design (no later than initial DD):

- The Design Team shall submit to Broward Health a hierarchy of MEPFP systems, including system precedence and elevations that will be generally applied in designing the project systems. This hierarchy shall take into account both constructability and operations and maintenance accessibility. This hierarchy will be reviewed and approved by both Broward Health and the General Contractor (if engaged at that point).
- The Design Team shall create (and revise as necessary) a 3D grid file and separate 3D room number file to be used by the Design and Construction Teams during the coordination process, as well as record model submission. The 3D files are the 2D grids and room numbers that have been given a small z dimension so that they can be seen from angles other than plan view.

B. DESIGN COORDINATION

The Design Team shall produce a design in which all MEPFP 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.

This spatial analysis and clash resolution process shall include regularly scheduled clash review meetings, the use of Navisworks clash detection software (or equivalent), an area by area and discipline by discipline clash review approach, and a 3D coordination log that includes fields for, at a minimum, clash tolerance, clash name, clash group #, area, level, description, x-y coordinates, responsibility, date identified, open/closed status, date closed, priority, and resolution. The clash name and clash group # shall correspond to saved viewpoints within the model such that clashes can be quickly and easily identified within the model.

Broward Health does not expect a “clash free” design. Broward Health does, however, expect a design that has been spatially analyzed and validated such that all systems are constructible and will fit within the spaces in which they have been designed. To confirm that this spatial validation process has occurred, Broward Health requires that prior to the completion of each design deliverable (SD, DD, CD), the Design Team shall publish a clash resolution report that shows that each area of the model with clashes has been validated.

C. DESIGN COORDINATION COLLABORATION

Broward Health has taken the approach on many projects of bringing the General Contractor and MEPFP Trade Contractors onto the project during the design stage with the purpose of collaborating with the Design Team for the coordination process, constructability reviews, and value engineering. This approach varies from project to project, and will be clearly defined in the BIM project execution planning process in order to achieve maximum collaboration while maintaining design efficiency. If Broward Health decides to take this approach on a project, the Construction Team will collaborate with the Design Team to provide support for the design coordination process, ultimately resulting in the signoff described in Section 5D (General Contractor Design Model Acceptance).

If engaged during design, the Construction Team shall also provide a Design Priority List to the Design Team that clearly specifies what systems need to be designed first in order to support construction (this will occur within the parameters defined in the BIM-Related Design Milestone Planning described in Section 2B). Once the Design Priority List is agreed upon, the Design

Team, with the support of the Construction Team, will make every reasonable effort to complete the design as defined by the design priority list.

D. GENERAL CONTRACTOR DESIGN MODEL ACCEPTANCE

If the General Contractor has been engaged prior to completion of design, the General Contractor shall review the design deliverable models at the 50% Design Development, 100% Design Development, 50% Construction Documents, 75% Construction Documents, and 100% Construction Documents stages and validate that all systems will fit within the spaces in which they have been designed. If the General Contractor is engaged after completion of design, the General Contractor shall review the 100% CD design models and validate that all systems will fit within the spaces in which they have been designed within 31 calendar days of engagement. If the General Contractor finds, during any review of design deliverable models at any stage, that systems will not fit into the spaces provided, the General Contractor will notify the Design Team through a 3D coordination log – as defined in Sections 5B (Design Coordination) and 5E (Construction Coordination) – within 21 calendar days of the Design Team upload of the design deliverable models, and collaboratively convey the results of their findings along with recommended solutions to each issue. The Design Team will then be responsible to make the necessary revisions to the design so that the systems will fit.

After revisions have been made to the design models, the General Contractor will verify in writing its acceptance of the design models as follows:

_____ (General Contractor) has received the following design model files _____ (list file names), dated _____ from _____ (list design author(s)), which we have reviewed and, by our signature below, verify that the design intent represented in these models is constructible and will fit in the spaces provided, including necessary and required clearances.

If the General Contractor does not notify the Design Team of constructability or space issues with the design, using a 3D coordination log, within 21 calendar days of the upload of design deliverable models, then the design will be automatically considered accepted by the General Contractor, per the language in the acceptance paragraph above.

Broward Health recommends that the General Contractor involves the relevant Trade Contractors in the review of the design models and also gets them to accept the design models, but the General Contractor's acceptance of the design models will suffice for Broward Health's purposes.

E. CONSTRUCTION COORDINATION

The Construction Team shall provide the following, at a minimum, for construction coordination:

- Trade Contractors shall use intelligent 3D modeling software such as Revit, or DWG based software such as TSI, Cadpipe, Quickpen etc. to create models and produce shop drawings
- Construction Models shall have an origin as defined in Section 4D (Model Origin).
- The General Contractor shall require Trade Contractors to model, at a minimum, structural steel, envelope connections, secondary framing, any element that requires seismic bracing, studs, drywall, ceilings, mechanical, electrical, data, plumbing, gas, fire protection, pneumatic tube, and any racked elements. Envelope connections, secondary framing, elements that require seismic bracing, studs, drywall, and ceilings can be modeled by the General Contractor in lieu of the Trade Contractor if necessary.
- All Trade Contractor modeling of steel, connections, and MEPFP systems shall be to a fabrication level of detail. All other Trade Contractor modeling shall be as detailed as necessary to accurately represent the major construction elements being modeled (ie.

- curtainwall should not be modeled as a solid wall, but should have separate elements for mullions and glass).
- All models must include clearances, egress zones, and access zones for code requirements and for anything requiring a human hand to touch it for operating or maintaining the facility.
 - Clash detection and coordination shall be done using Navisworks software (or equivalent).
 - The General Contractor shall track clash resolution using a 3D coordination log that includes fields for, at a minimum, clash tolerance, clash name, clash group #, area, level, description, x-y coordinates, responsibility, date identified, open/closed status, date closed, priority, and resolution.
 - Trade Contractors shall apply the following model standards for models used for clash detection and coordination:
 - Purge model files of any extraneous 2D references and/or 3D rogue elements prior to submission.
 - Keep file size to minimum for application speeds.
 - Keep text and line work on different layers from 3D components where possible.
 - Cleanup drawings, remove items drawn off to the sides of drawings.
 - Use separate layers for space constraints.
 - Detach x-ref's from drawings.
 - Do not draw on the "0" layer.
 - Change view settings to 2D wireframe.
 - Place model in top view.
 - Zoom extents.
 - For Trade Contractors using a DWG based modeling program, layer names do not have to be changed, but can remain according to the Trade Contractor's internal format. Trade Contractors shall provide the General Contractor (who shall provide Design Team and Broward Health) a layering list with a brief description of each.
 - The combined coordination model for a particular area/zone must be clash free prior to the submission of Trade Contractor shop drawings. Both the combined coordination models and combined shop drawings shall be signed off by all Trade Contractors.
 - For projects where structure is being installed in an area before coordination is complete in that area, all sleeve and penetration coordination must be complete prior to full construction coordination, and in time to support the structural installation.
 - The General Contractor shall provide sufficient manpower to meet the construction coordination schedule and design coordination schedule.

F. STREAMLINING MEPFP DESIGN AND COORDINATION

In an effort to streamline MEPFP design and coordination, reduce inefficiency, and remove modeling redundancy between the MEPFP Design Team and the MEPFP Construction Team, Broward Health shall work with the Design and Construction Teams to clearly define where the MEPFP designers' scope of modeling work shall end and where the MEPFP Trade Contractors' scope of modeling work shall begin. For instance, it is not efficient for the plumbing designer to model 1" copper pipe when, in all likelihood, the plumbing contractor will both model and install the 1" line differently than shown in the design model. In this case, it would be sufficient for the plumbing designer to provide 2D schematic representation of the 1" pipe. This modeling scope distinction will be clearly defined in the BIM Project Execution Plan Model Development and Progression Specification.

G. COORDINATION-ENABLED PRE-FABRICATION

Broward Health sees great benefit in BIM-enabled pre-fabrication and pre-assembly of systems, including increased labor efficiency, quality, and safety. Broward Health strongly encourages general contractors and Trade Contractors to pre-fabricate and pre-assemble (including racking multiple MEPFP systems) key components of the work off site such as:

- Mechanical System Ductwork
- Mechanical System Piping
- Plumbing (including medical gas)
- Electrical (including low voltage)
- Fire Protection
- Equipment (e.g., chillers, boilers, pumps, etc)
- Drywall
- Modular Head Wall Units
- Modular Restrooms
- Curtain Wall
- Building Envelope
- FF&E

6. TECHNICAL INFRASTRUCTURE FOR BIM PROCESS

A. E-BUILDER AS THE SOLE BIM DOCUMENT MANAGEMENT TOOL

The Broward Health web-based project management site, e-Builder, will be used as the sole document management tool for all BIM-related communication and collaboration for the project for the Design and Construction Teams, including for Sub-consultants and Trade Contractors. No other ftp sites or document management tools shall be used to transfer or share BIM data for the project. Design and Construction Teams may be required to purchase licenses on a project by project basis (will be defined in RFP).

B. BIM INFORMATION MANAGERS

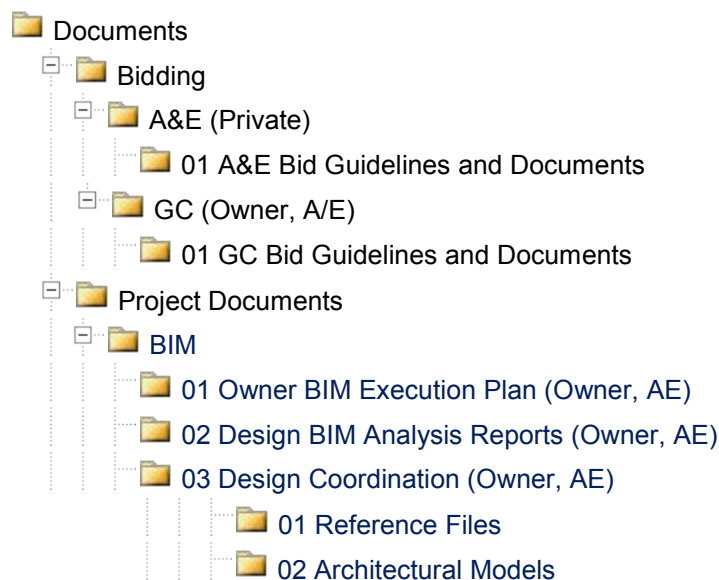
All BIM design data transfer, including BIM data from all Sub-consultants, will be overseen by a designated Design Team BIM Information Manager (IM). All BIM construction data transfer, including BIM data from Trade Contractors, will be overseen by a designated Construction Team BIM IM.

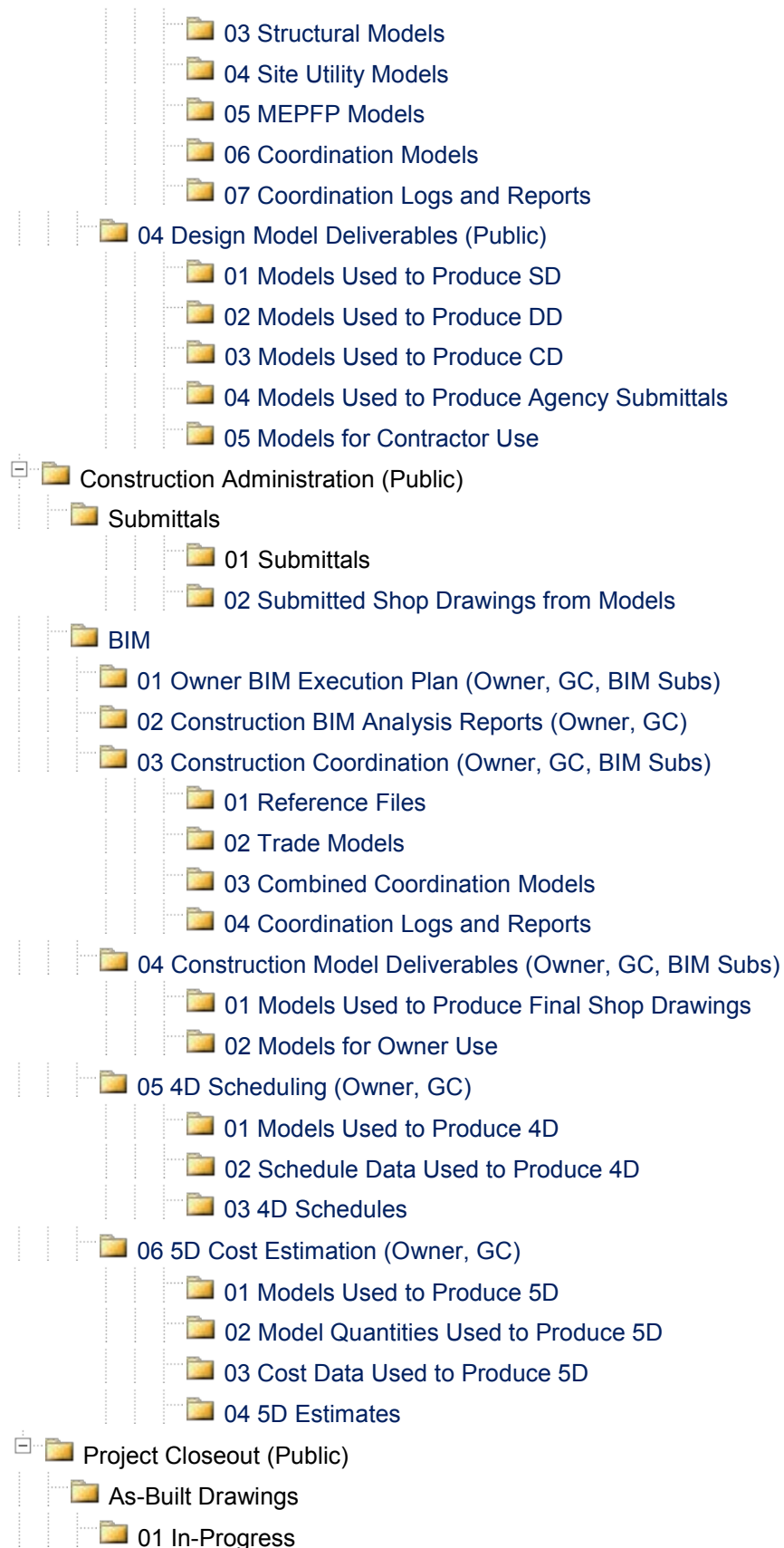
In addition to the Design Team and Construction Team BIM IMs, each Sub-consultant and Trade Contractor that is involved with the BIM process will also provide a BIM IM who will report to either the Design Team or Construction Team BIM IM. The Sub-consultant and Trade Contractor BIM IMs will have upload/download capabilities for specific folders to which the Design Team or Construction Team BIM IM grants them access, and Sub-consultants and Trade Contractors will be required to purchase an e-Builder license for their BIM IM as part of the cost of their work.

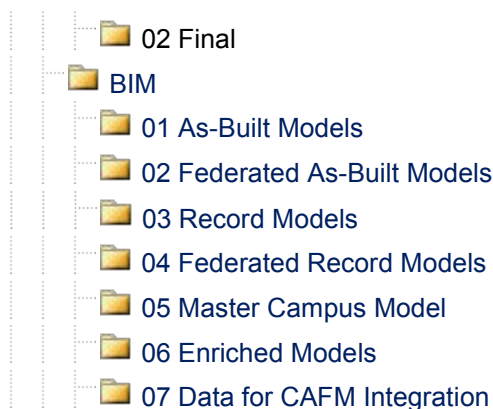
Each BIM IM shall have experience with relevant BIM software (ie. Revit, Navisworks, DWG based software etc.), BIM data sharing and file transfer, and BIM coordination. Resumes for BIM IM's shall be provided to Broward Health upon request.

C. BIM FOLDER STRUCTURE

The following folder structure is the standard folder structure for BIM-related files that will be used on Broward Health projects (BIM-specific folders are blue). No deviations from this folder structure will be permitted, with the exception of 07.03.03, which the General Contractor can customize as necessary. However, if desired, each project team may add subfolders where necessary, which will be defined in the Project BIM Execution Plan.





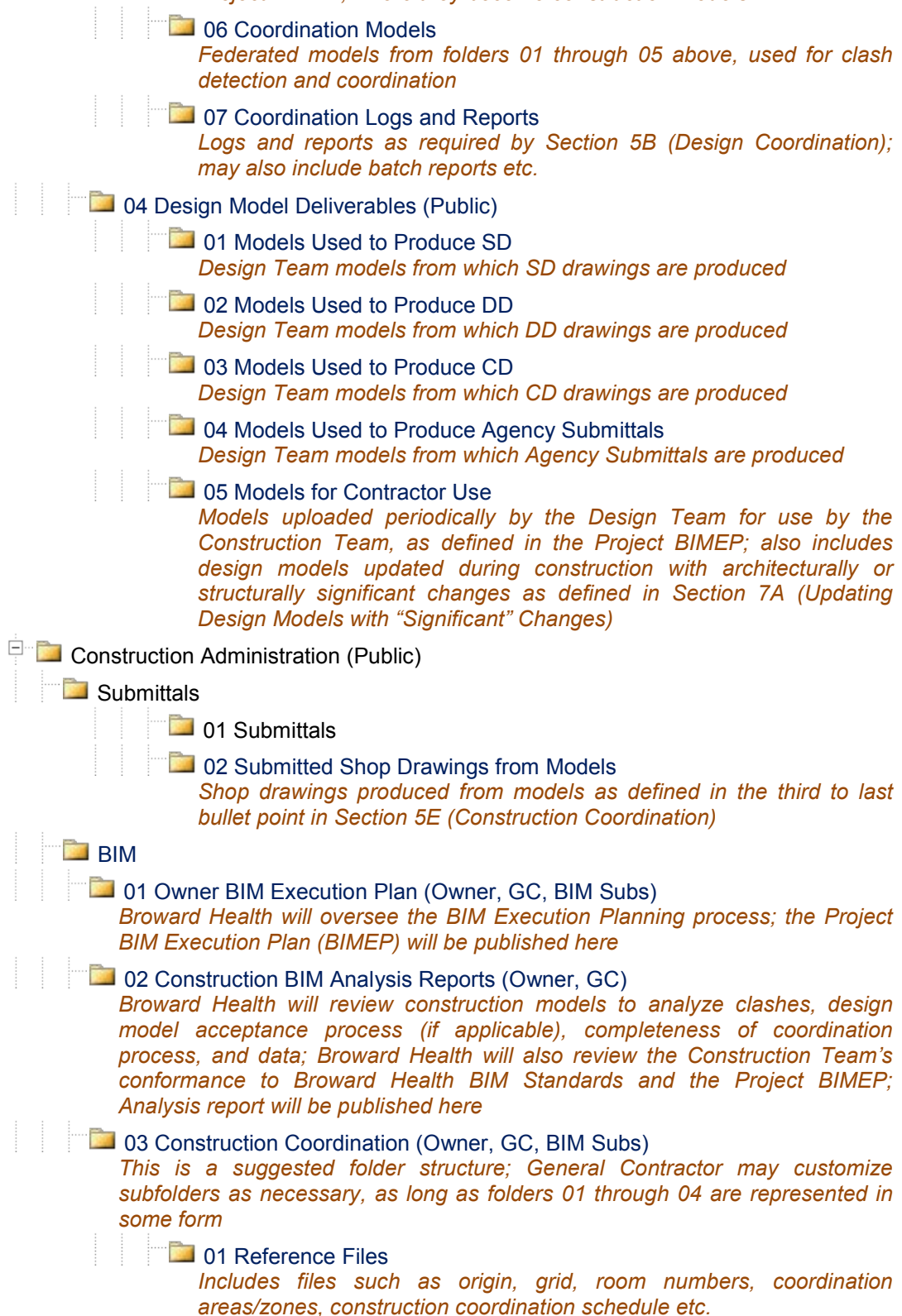























D. BIM FOLDER STRUCTURE DESCRIPTIONS







The descriptions below each folder indicate how each folder is to be used for the BIM process:



Design Team MEPFP models; For Design Assist projects, Trade Contractor models would be located here up to the point, defined in the Project BIMEP, where they become construction models



-  **02 Trade Models**
Subfolders by trade; files by area/zone
 -  **03 Combined Coordination Models**
Federated models from folders 01 and 02 above, used for clash detection and coordination
 -  **04 Coordination Logs and Reports**
Logs and reports as required by Section 5E (Construction Coordination); may also include batch reports etc.
 -  **04 Construction Model Deliverables (Owner, GC, BIM Subs)**
 -  **01 Models Used to Produce Final Shop Drawings**
Models used to produce final shop drawings (stored in folder 07.02.02) as defined in the third to last bullet point in Section 5E (Construction Coordination)
 -  **02 Models for Owner Use**
Federated models (may be by floor as defined in the Project BIMEP), uploaded by General Contractor weekly for Owner and A/E use; these models will also likely be used by Broward Health inspectors
 -  **05 4D Scheduling (Owner, GC)**
 -  **01 Models Used to Produce 4D**
Native model files and federated models
 -  **02 Schedule Data Used to Produce 4D**
Suretrak, Primavera, MS Project, or other schedules used to link to models
 -  **03 4D Schedules**
Model(s) linked to schedule(s) to produce 4D schedule(s)
 -  **06 5D Cost Estimation (Owner, GC)**
 -  **01 Models Used to Produce 5D**
Native model files and federated models; also includes updated MDPs
 -  **02 Model Quantities Used to Produce 5D**
Quantities extracted from models
 -  **03 Cost Data Used to Produce 5D**
Cost data used to produce 5D estimates
 -  **04 5D Estimates**
Model(s) with quantities linked to cost data to produce 5D estimate(s)
-  **Project Closeout (Public)**
-  **As-Built Drawings**
 -  **01 In-Progress**
Trade contractor 2D In-Progress As-Built Drawings in pdf format
 -  **02 Final**
Trade contractor 2D Final As-Built Drawings in pdf format
 -  **BIM**
 -  **01 As-Built Models**
Native model files by trade (with all necessary object enablers) and any native Record Models (with corresponding nwc's) by discipline for scopes not modeled by trades

- ||| ||| |||  **02 Federated As-Built Models**
Federated Navisworks nwf (targeting native files and/or nwc's from 01 above) and nwd model files, along with final grid and room number files
- ||| ||| |||  **03 Record Models**
Native model files by discipline (with all necessary object enablers, if applicable), corresponding nwc's, corresponding ifc's, shared parameters rvt file
- ||| ||| |||  **04 Federated Record Models**
Federated Navisworks nwf (targeting nwc's from 03 above) and nwd model files, along with final grid and room number files
- ||| ||| |||  **05 Master Campus Model**
Federated Navisworks model of all Broward Health campuses; model created and maintained by Broward Health as described in Section 4D (Model Origin)
- ||| ||| |||  **06 Enriched Models**
Federated models with linked additional data such as O&M electronic documentation; both models and linked documents shall be put in this folder, even if duplicative of files in other folders
- ||| ||| |||  **07 Data for CAFM Integration**
Data for integration with Computerized Maintenance Management System (CMMS) / Computer-Aided Facility Maintenance (CAFM) software etc.; may include COBie files or other data as defined in Section 7 (BIM Facility Maintenance Models and Data)

E. BIM FILE NAMING CONVENTION – DESIGN MODELS

All design models used for any purpose shall conform to the following naming conventions:

DESIGN MODELS			
DESIGN MODEL FILE NAME FORMAT: LOCATIONPROJECT_DISCIPLINE_FUNCTION_LEVEL			
File	Name	Revit (.rvt) LEVEL	Navisworks Import (.nwc, .dwg, .ifc) LEVEL
ORIGIN FILE	LOCPROJ_ORIGIN_LEVEL	ALL	ALL
GRID/ROOM FILE	LOCPROJ_GRID_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
ARCHITECTURAL EXTERIOR MODEL	LOCPROJ_ARCH_EXT_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
ARCHITECTURAL INTERIOR MODEL	LOCPROJ_ARCH_INT_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
FOOD SERVICE MODEL	LOCPROJ_FOOD_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
STRUCTURAL MODEL	LOCPROJ_STRUC_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
MECHANICAL PIPING SITE UTILITY MODEL	LOCPROJ_MECHPIPEUTIL_LEVEL	00	00
ELECTRICAL SITE UTILITY MODEL	LOCPROJ_ELECUTIL_LEVEL	00	00
PLUMBING SITE UTILITY MODEL	LOCPROJ_PLUMBUTIL_LEVEL	00	00
MEPFP MODEL (IF COMBINED)	LOCPROJ_MEPFP_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
MECHANICAL PIPING MODEL	LOCPROJ_MECHPIPE_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
MECHANICAL DUCTWORK MODEL	LOCPROJ_MECHDUCT_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
ELECTRICAL MODEL (IF COMBINED)	LOCPROJ_ELEC_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
ELECTRICAL CONDUIT MODEL	LOCPROJ_ELEC_COND_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
ELECTRICAL POWER MODEL	LOCPROJ_ELEC_POWR_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
ELECTRICAL LIGHTING MODEL	LOCPROJ_ELEC_LGHT_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
PLUMBING MODEL	LOCPROJ_PLUMB_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
MEDICAL GAS MODEL	LOCPROJ_MEDGAS_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
TECHNOLOGY MODEL	LOCPROJ_TECH_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
FIRE PROTECTION MODEL	LOCPROJ_FIRE_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
TRASH/LINEN CHUTE MODEL	LOCPROJ_TRASHLIN_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
PNEUMATIC TUBE MODEL	LOCPROJ_PNEUM_LEVEL	00, 01, 02, ...PH, ALL	00, 01, 02, ...PH, ALL
ENERGY MODEL	LOCPROJ_ENERGY_LEVEL	00, 01, 02, ...PH, ALL	NA
COORDINATION MODEL	LOCPROJ_COORD_LEVEL	00, 01, 02, ...	NA
COORDINATION LOG	LOCPROJ_COORDLOG_LEVEL	00, 01, 02, ...	NA
COORDINATION BATCH REPORT	LOCPROJ_BATCH_LEVEL	00, 01, 02, ...	NA
Note: Models highlighted blue above are also often used for construction coordination			
Note: L00 is everything below top of 1st floor slab (including underground, tunnel, and crawl space), Level 01 is from top of 1st floor slab to top of 2nd floor slab, etc.			
Example Design Model File Name: Broward Health Fort Lauderdale Medical Office Building Mechanical Piping Level 4 Navisworks Model -> BFLMOB_MECHPIPE_04.nwc			

F. BIM FILE NAMING CONVENTION – CONSTRUCTION MODELS

All construction models used for any purpose shall conform to the following naming conventions:

CONSTRUCTION MODELS			
CONSTRUCTION MODEL FILE NAME FORMAT: LOCATIONPROJECT_TRADE_LEVEL_AREA			
File	Name	Model File LEVEL (.dwg, ...)	Model File AREA (.dwg, ...)
CONCRETE MODEL	LOCPROJ_SC_LEVEL	00, 01, 02, ...PH, ALL	NA
PRECAST MODEL	LOCPROJ_PC_LEVEL	00, 01, 02, ...PH, ALL	NA
STRUCTURAL STEEL MODEL	LOCPROJ_SS_LEVEL	00, 01, 02, ...PH, ALL	NA
MISCELLANEOUS METALS MODEL	LOCPROJ_MM_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
CURTAINWALL/CLADDING MODEL	LOCPROJ_CLAD_LEVEL	00, 01, 02, ...PH, ALL	NA
ROOF MODEL	LOCPROJ_R_LEVEL	LEVEL ROOF ABOVE, ALL	NA
CASEWORK MODEL	LOCPROJ_CSW_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
DRYWALL/ACT MODEL	LOCPROJ_DRW_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
MECHANICAL PIPING SITE UTILITY MODEL	LOCPROJ_MPUTIL_LEVEL_AREA	00	A, B, C...
ELECTRICAL SITE UTILITY MODEL	LOCPROJ_EUTIL_LEVEL_AREA	00	A, B, C...
PLUMBING SITE UTILITY MODEL	LOCPROJ_PUTIL_LEVEL_AREA	00	A, B, C...
MECHANICAL DUCTWORK MODEL	LOCPROJ_MD_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
MECHANICAL PIPING MODEL	LOCPROJ_MP_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
ELECTRICAL MODEL	LOCPROJ_E_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
ELECTRICAL POWER CONDUITS MODEL	LOCPROJ_PWR_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
ELECTRICAL LIGHTING MODEL	LOCPROJ_LGT_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
ELECTRICAL FIRE ALARM MODEL	LOCPROJ_FA_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
ELECTRICAL TECHNOLOGY MODEL	LOCPROJ_TECH_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
PLUMBING MODEL	LOCPROJ_P_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
MEDICAL GAS MODEL	LOCPROJ_MG_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
FIRE PROTECTION MODEL	LOCPROJ_FP_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
PNEUMATIC TUBE MODEL	LOCPROJ_PT_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
TRASH/LINEN CHUTE MODEL	LOCPROJ_TL_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
COORDINATION MODEL	LOCPROJ_COORD_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
COORDINATION LOG	LOCPROJ_COOORDLOG_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
COORDINATION BATCH REPORT	LOCPROJ_BATCH_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
FINAL COORDINATED MODEL	LOCPROJ_FINALCOORD_LEVEL_AREA	00, 01, 02, ...PH, ALL	A, B, C...
FEDERATED RECORD MODEL	LOCPROJ_FEDREC_LEVEL_AREA	00, 01, 02, ...PH, ALL	NA
Example Construction Model File Name: Broward Health Fort Lauderdale Medical Office Building Mechanical Ductwork Level 2 Area C Shop Drawing Model -> BFLMOB_MD_02_C.dwg			

G. MODEL STRUCTURE

Separate models shall be created for each discipline and shall represent portions of the building such that they are not too large for other team members to utilize efficiently for visualization and

coordination. Design Models shall have worksets by floor and Construction Models shall be created by area/zone. Model structure shall be fully defined in the Project BIMEP.

H. COLOR CODING OF MODEL ELEMENTS

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

Architectural Models

Architectural	White (255,255,255)
Envelope (Curtainwall, Precast, Other)	Gray (211,211,211)
Masonry	Gray (128,128,128)

Structural Models

Steel	Maroon (128,0,0)
Concrete	Gray (128,128,128)
Masonry	Gray (128,128,128)

MEPFP Models

Mechanical Ductwork Supply	Blue (0,0,255)
Mechanical Ductwork Return	Blue (153,204,255)
Mechanical Ductwork Exhaust	Blue (105,105,255)
Mechanical Piping Supply	Cyan (0,160,155)
Mechanical Piping Return	Cyan (0,255,255)
Electrical Conduit / Cable Tray	Yellow (255,255,0)
Electrical Lighting	Gold (218,165,32)
Plumbing Domestic Water	Green (124,252,0)
Plumbing Storm / Roof Drain	Green (0,100,0)
Plumbing Waste / Vent	Green (154,205,50)
Medical Gas	Green (0,155,0)
Fire Protection	Red (255,0,0)
Fire Alarm / Data/IT / Controls	Coral (255,127,80)
Pneumatic Tubing	Magenta (139,0,139)

Miscellaneous Models

Framing	Orange (255,110,0)
Medical Supports	Brown (105,51,0)
Medical Equipment Models (by Equipment Planners)	Brown (105,51,0)
Clearances	Dark Red (139,0,0)

I. COMPUTER HARDWARE

Design and Construction Team members shall utilize computer hardware that is sufficient to efficiently handle single model files of up to 500MB and federated/combined models of up to 1.5GB.

J. COLLABORATION

During the Project BIM Execution Planning process, the Design and Construction Teams shall collaboratively define protocols and frequency for BIM file sharing, BIM coordination meetings, and model deliverables. Broward Health shall determine if any BIM coordination Design and Construction Team co-location shall be required for the project.

7. BIM FACILITY MAINTENANCE MODELS AND DATA

A. UPDATING DESIGN MODELS WITH "SIGNIFICANT" CHANGES

During construction, the Design Team shall maintain and update the Architectural Design Model(s) and Structural Design Model(s) with all "architecturally and structurally significant" changes made through RFIs, ASIs, Change Orders, etc. A good rule of thumb to determine whether a change is "significant" is that if the 3D geometry of the model changes, it will likely be deemed significant (Broward Health will be the final say on whether a change is significant or not). These Architectural and Structural Design Update Models shall be updated each time a significant change occurs and shall be uploaded to e-Builder within 21 calendar days of the significant change. Each upload shall include the full model(s) with all necessary objects and reference drawings. These model updating services shall be provided by the Design Team to Broward Health at no additional cost, except in the case of a change in which Broward Health adds scope.

Equipment in MEPFP Design Models shall be updated by the Design Team during the construction shop drawing process once the Trade Contractor selects each specific piece of equipment, and relevant Design Update Models uploaded to e-Builder within 21 calendar days of the final shop drawing submission with the approved equipment selection. MEPFP Design Models shall also be updated as necessary by the Design Team to produce drawings in response to RFIs, ASIs, Change Orders, etc. as required by Section 4G (Model Property and Parameter Data), with relevant Design Update Models uploaded to e-Builder within 21 calendar days of the RFI, ASI, Change Order etc. Final revisions to MEPFP Design Models shall be made according to the Record Modeling process defined in Section 7D (Design Team Record Models).

B. TRADE CONTRACTOR AS-BUILT MODELS

Within 31 calendar days of each Trade Contractor completing installation of their scope of work in any given area or level of the project (as defined by the Project BIMEP), Trade Contractors will update their Construction Models (used for shop drawings and fabrication) into As-Built Models. These As-Built Models shall capture all as-built differences between what was actually installed in the field and what was originally represented in the Construction Models, and shall contain final accurate Broward Health room numbers and Broward Health asset/equipment IDs. Trade Contractors shall upload all redlined In-Progress 2D As-Built Drawings to e-Builder every 14 calendar days throughout construction. Within 14 calendar days of completing installation of their scope of work in any given area or level of the project, Trade Contractors shall upload all redlined Final 2D As-Built Drawings to e-Builder. The General Contractor shall verify the accuracy of the Trade Contractor 2D As-Built Drawings and 3D As-Built Models, and shall submit to Broward Health in writing that Trade Contractor As-Built Models accurately represent what was installed in the field within the tolerances defined in Section 4K (Model Accuracy and Tolerances).

For each asset within the Construction models Trade Contractors shall input property information (which shall correspond to the Asset Matrix provided by the General Contractor as defined in Section 7C) for asset type, asset name, asset equipment tag ID number, manufacturer, material (should already be in the model parametric data), size (should already be in the model parametric data), model number, and serial number.

As-Built Models shall be uploaded by the Construction Team to e-Builder for use by the Design Team within 31 calendar days of each Trade Contractor completing installation of their scope of work in any given area or level of the project (as defined by the Project BIMEP), and shall include models in native file format, along with all necessary object enablers, as well as Federated As-Built Models in Navisworks nwf (targeting native files and Design Team Record Model nwc's if no Trade Contractor Model exists) and nwd file format. The General Contractor shall include a full description of how to assemble the Federated As-Built Model from each native As-Built Model.

C. ASSET MATRIX

Within 31 calendar days of completion of installation of each project asset, the General Contractor shall provide the Design Team, via e-Builder, with an (updated) Asset Matrix for each asset on the project which shall include the following:

- Facility
- Room number (must be final Broward Health approved room number)
- Asset type
- Asset name
- Asset equipment tag ID number (must conform to Broward Health Equipment Class List)
- Manufacturer
- Manufacturer contact info (address, email, phone, website)
- Material
- Size
- Model number
- Serial number

Broward Health will specifically define assets requiring this data during the Project BIM Execution Planning process, and may include specialty items, MEPFP assets that require maintenance (VAVs, chillers etc.), MEPFP assets that are required for maintaining the building (valves, dampers etc.), and other project-specific assets.

The General Contractor shall link up to seven (7) electronic documents or data, as defined by Broward Health, to the Asset Matrix. These documents may include, but are not limited to, items such as submittals, operations and maintenance manuals, warranty information, cut sheets, manufacturer websites, commissioning reports, testing and balancing reports etc.

D. DESIGN TEAM RECORD MODELS

Within 31 calendar days of project substantial completion the Design Team shall submit to Broward Health, via e-Builder, the Record Models as follows:

- Architectural Record Models
 - The Architect shall use the final Trade Contractor As-Built Models, submitted per Section 7B (Trade Contractor As-Built Models), to determine if there are any differences in geometry between the models (not including differences due to the lower level of development of the Architect's models as compared to the Trade Contractor models). This can be done by overlaying models in Navisworks, Revit, or other model merging software. If differences in the models exist, the Architect shall confirm that the as-built condition in the Trade Contractor model is accurately represented, and then revise the Architect's Revit model accordingly.
 - The Architect shall create parameters for asset type, asset name, asset equipment tag ID number, manufacturer, material (should already be in the Revit parametric data), size (should already be in the Revit parametric data), model number, and serial number for each architectural asset within the Revit model, and shall input the asset data for each asset per the Asset Matrix provided by the General Contractor as defined in Section 7C (Asset Matrix).
 - These final revised Revit models shall be the Architectural Record Models.
- Structural Record Models
 - The Structural Engineer shall use the final Trade Contractor As-Built Models, submitted per Section 7B (Trade Contractor As-Built Models), to determine if there are any differences in geometry between the models (not including differences due to

the lower level of development of the Structural Engineer's models as compared to the Trade Contractor models). This can be done by overlaying models in Navisworks, Revit, or other model merging software. If differences in the models exist, the Structural Engineer shall confirm that the as-built condition in the Trade Contractor model is accurately represented, and then revise the Structural Engineer's Revit model accordingly.

- These final revised Revit models shall be the Structural Record Models.
- **MEPFP Record Models**
 - The MEPFP Engineer shall use the final Trade Contractor As-Built Models, submitted per Section 7B (Trade Contractor As-Built Models), to determine if there are any differences in geometry between the models (not including differences due to the lower level of development of the MEPFP Engineer's models as compared to the Trade Contractor models). This can be done by overlaying models in Navisworks, Revit, or other model merging software. It is likely that there will be significant differences in the MEPFP Design Models as compared to the Trade Contractor As-Built models. In any case, all differences in geometry shall be revised in the Engineer's Revit models accordingly.
 - In the absence of an initial design model (ie. if, for instance, fire protection design was performed by the Trade Contractor or system hangers/supports), the MEPFP engineer shall use the Trade Contractor model to create an equivalent Revit model. Revit may not be able to provide a fabrication level of detail, but the model should be as accurate in size and location as the Trade Contractor model.
 - The MEPFP Engineer shall create parameters for asset type, asset name, asset equipment tag ID number, manufacturer, material (should already be in the Revit parametric data), size (should already be in the Revit parametric data), model number, and serial number for each architectural asset within the Revit model, and shall input the asset data for each asset per the Asset Matrix provided by the General Contractor as defined in Section 7C (Asset Matrix).
 - These final revised Revit models shall be the MEPFP Record Models.
- **Federated Record Model**
 - The Architect shall combine all Record Models into a single Federated Record Model using Navisworks.
- **Record Model Files**
 - Record Model formats: rvt, nwc, ifc (latest version)
 - Federated Record Model formats: nwf (targeting nwc files), nwd
 - Include all associated and linked files
 - Include shared parameters Revit file
 - Include full model(s) with all necessary objects and all reference drawings
 - Include all necessary object enablers
- **Record Model Utilization Instructions**
 - The Architect shall include a full description of how to assemble the Federated Record Model from each native Record Model, including the Revit Model Matrix (see example at Attachment 2) as defined in Section 4H (Revit Model Matrix), along with final software and version numbers of all source files in the Federated Record Model.
 - The Architect shall provide a detailed set of instructions for extracting all 2D documentation from the Record (Revit) Models.
- **Room Numbers**
 - All As-Built Record Models shall contain accurate room numbers according to final Broward Health-approved room names.

E. RECORD DRAWINGS

Record Drawings shall be produced directly from the Record Models described in Section 7D (Design Team Record Models) and thus should be an accurate representation of as-built conditions. All Record Drawings shall contain accurate room numbers according to final Broward Health-approved room names.

8. OWNERSHIP OF MODELS AND LIABILITY

A. OWNERSHIP AND RIGHTS OF DATA

Broward Health shall have ownership and corresponding rights to all project data, including Building Information Models, CAD files, drawings, documents, and any other data developed for any Broward Health project, per the terms of the **Broward Health Agreement between Owner and Architect or Owner and General Contractor / Construction Manager**.

B. LIABILITY FOR MODELS – CONTRACTUAL LANGUAGE

Nothing in this BIM Standards document shall supersede or replace the standard of care and requirements in the **Broward Health Agreement between Owner and Architect or Owner and General Contractor / Construction Manager**.

The Design and Construction Teams represent that the dimensions in their Models are accurate to the extent that this BIM Standards specifies. Building Information Models are not considered Contract Drawings, therefore all dimensions must be verified with the Contract Drawings, and if ever there is a discrepancy the Contract Drawings will take precedence over the Models.

Design Models are intended to provide only the level of detail specified in the Project BIMEP, and therefore any material or object quantities extracted from Design Models by the Construction Team are not guaranteed to be accurate.

Each Party waives claims against the other Parties to the **Governing Contract** for consequential damages arising out of or relating to the use of or access to a Model, including but not limited to damages for loss of use of the Project, rental expenses, loss of income or profit, costs of financing, loss of business, principal office overhead and expenses, loss of reputation or insolvency.

APPENDIX – GLOSSARY OF TERMS**4D Schedule**

4D = 3D + schedule (time). 4D schedules are created in various software programs by linking a 3D model to a project schedule, allowing a 3D time-based visual animation of the progression of the project schedule.

5D Quantity Verification

5D = 3D + cost information. Building Information Models allow automated quantity extraction due to the parametric and information-rich elements within models. 5D quantity verification is the process of utilizing model-extracted quantities to verify traditional take-off quantities in a cost estimate.

5D Cost Estimating

5D = 3D + cost information. Building Information Models allow automated quantity extraction due to the parametric and information-rich elements within models. 5D cost estimates are created by linking model generated quantities to a cost database to produce a cost estimate.

As-Built Model

A Contractor model that accurately represents as-constructed building elements.

Asset Matrix

A spreadsheet or database containing information related to project assets and equipment.

BIM

Building Information Model / Modeling (BIM). A three-dimensional (3D) information-rich digital representation of the physical and functional characteristics of a facility; a shared knowledge resource for information about a facility, forming a reliable basis for decisions during its life-cycle. The term BIM may be used as a noun to describe a single model or multiple models used in the aggregate. The term BIM may also be used as a verb in the context of Building Information Modeling, the process of creating, modifying, and maintaining the model. (Adapted from multiple industry sources)

COBie

Construction Operations Building Information Exchange (COBie). A data format for a subset of building information that can be generated from the data within a Building Information Model. COBie helps capture and record important project data, essential for operations, maintenance, space management, and asset management, at the point of its development, including equipment lists, product data sheets, warranties, spare parts lists, and preventive maintenance schedules. COBie enables automated integration of this data with CAFM and CMMS software. (Adapted from "Construction Operation Building Information Exchange", June 2007, William E. East, USACE ERDC)

CAFM

Computer-Aided Facility Maintenance (CAFM). A software package that supports facility management. CAFM software may have modules that can be utilized for space management, asset management, real estate portfolio administration, lease administration, move management, project management, facility maintenance, and sustainability. CAFM programs are closely related to CMMS programs, and some people use the terms interchangeably. (Adapted from Wikipedia definition)

CMMS

Computerized Maintenance Management System. A software package that maintains a computer database of information about an organization's maintenance operations. This information is intended to help maintenance workers do their jobs more effectively (for example, determining which machines require maintenance and which storerooms contain the spare parts they need) and to help management make informed decisions (for example, calculating the cost of machine breakdown repair versus preventive maintenance for each machine, possibly leading to better allocation of resources). CMMS data may also be used to verify regulatory compliance. CMMS programs are closely related to CAFM programs, and some people use the terms interchangeably. (Adapted from Wikipedia definition)

Combined Coordination Model

A federated model comprised of more than one design or construction model (ie. structural steel, mechanical ductwork plumbing, electrical, etc.) that is created for the purpose of spatially coordinating building elements.

DWG

An Autodesk file format for 2D and 3D AutoCAD based files.

e-Builder

An Owner-centric web-based Program / Project Management Information System (PMIS) that enables management of all program / project-related electronic documentation, workflows (RFIs, change orders etc.), schedule, and budget.

Enriched Model

A model to which additional operations and maintenance-related electronic documentation has been added.

Federated Model

An aggregate model comprised of more than one Trade Contractor As-Built Model or Designer Record Model. A Federated Model is typically created in Navisworks software, but can be created by any software that is able to combine models of different file formats.

LOD

Level of Development (LOD). Levels of model development include the following:

- 100 – Schematic Design; overall building massing; whole building analysis (volume, orientation, square footage costs)
- 200 – Design Development; generalized systems/assemblies (approximate quantities, size, shape, location, orientation); selected system performance analysis
- 300 – Construction Documentation; generation of traditional CDs; analysis and simulation of detailed elements/systems; includes attributes and parameters defined by Owner
- 400 – Construction Administration / Shop Drawings; includes specific assemblies which are accurate in terms of quantity, size, shape, location, and orientation; virtual representations of the proposed elements, suitable for construction, fabrication, and assembly
- 500 – Project Completion / Record Drawings / As-Built Conditions; model is configured to be the central data storage for integration into the building maintenance and operations systems; includes completed parameters and attributes as specified by Owner.

Although people often refer to LOD as “level of detail”, “detail” is a misnomer. A model may have a significant amount of geometry detail, and yet be very conceptual as it relates to the maturity of design intent. Level of development addresses both the required level of model detail as well as the maturity of the design, or how close to a finalized design that component of the model is.

MDPS

Model Definition and Progression Specification (MDPS). The MDPS is also known as a Model Element Table in the AIA E202 document, and is a matrix that defines specific model elements by Unifomat classification and their required Level of Development and model component author for that stage of the project.

Navisworks

An Autodesk software program that can be used to combine almost any model of any file type, navigate models, perform clash detection, and link models to project schedules (4D).

NWC

A Navisworks file format that is a cache version of a source model file. This cache file is automatically generated by Navisworks when a federated working model (NWF) is created, and is a compressed version of the source model files, allowing “light”, easy-to-manipulate working model.

NWD

A Navisworks file format that is a static snapshot of a federated working model; similar in concept to a static PDF of a working file.

NWF

A Navisworks file format that is a federated working model targeting the source model files that comprise the federated working model

MEPFP

Mechanical, electrical, plumbing, and fire protection.

Parametric

An element that is defined by parameters such as size, material, type etc. If the object’s parameters are changed, the object automatically changes to represent the new parameters.

Project BIM Execution Plan (BIMEP)

A document created, based on and in conformance with the Owner’s BIM standards, that defines how the BIM requirements will be executed based on that specific project.

Record Model

An Architect or Engineer model that captures significant changes to the architectural, structural, or MEPFP building elements based on RFIs, ASIs, change orders, and as-constructed information.

Revit

An Autodesk software tool for designers. The software allows users to produce Building Information Models, corresponding 2D drawings, which are “snapshots” of the model, and access the building information from a model database. (Adapted from Wikipedia definition)

Revit Family

The parametric Revit objects used to create building elements such as walls, doors, windows etc. (Adapted from Wikipedia definition)

Solibri

A rule-based software tool that analyzes Building Information Models for things such as code compliance, data integrity, material quantities, and clashes.

SD, DD, CD

Schematic Design (SD), Design Development (DD), Construction Documentation (CD). Traditional stages of the development of the building design.

Z-Dimension

The third dimension of a model, adding height to an object / model, assuming the X-dimension is length and the Y-dimension is width.

ATTACHMENT 1

ATTACHMENT 2

GC BIM RFP Questions

February 18, 2013

FOR:



For the following questions please provide responses based on what your company locally has performed (not based on other non-local divisions of your company):

1. On how many projects has your firm used BIM for 3D coordination?
 - a. 0-3
 - b. 4-6
 - c. 5-9
 - d. 10+
2. On how many AHCA healthcare projects has your firm used BIM for 3D coordination?
 - a. 0-2
 - b. 3-4
 - c. 5-6
 - d. 7+
3. What software does your firm use for 3D design coordination?
 - a. Manual 3D coordination without software
 - b. Revit or Archicad
 - c. Navisworks or Tekla BIMsight
 - d. Autodesk BIM 360 or Vico
4. On how many projects have all your MEPFP subcontractors used 3D modeling for MEPFP coordination?
 - a. 0-3
 - b. 4-6
 - c. 5-9
 - d. 10+
5. On how many AHCA healthcare projects have all your MEPFP subcontractors used 3D modeling for MEPFP coordination?
 - a. 0-2
 - b. 3-4
 - c. 5-6
 - d. 7+
6. On how many projects has your firm worked with a Design Team during the design stage of a project for 3D design coordination?
 - a. 0-1
 - b. 2-3
 - c. 4-5
 - d. 6+
7. On how many projects has your firm used Revit or other 3D modeling programs to plan site logistics, not including site logistics plans created for marketing presentations or bids?
 - a. 0-3
 - b. 4-6
 - c. 5-9
 - d. 10+
8. On how many projects has your firm created a 4D schedule/model?
 - a. 0-3
 - b. 4-6
 - c. 5-9
 - d. 10+

9. What software does your firm use for 4D scheduling/modeling?
 - a. Primavera
 - b. Navisworks
 - c. Synchro
 - d. Vico
10. On how many projects has your firm generated quantities from a 5D model?
 - e. 0-3
 - f. 4-6
 - g. 5-9
 - h. 10+
11. What software does your firm use for 5D scheduling/modeling?
 - e. Timberline
 - f. Navisworks
 - g. Innovaya or QTO
 - h. Vico
12. On how many projects has your firm produced a project BIM execution plan?
 - a. 0-3
 - b. 4-6
 - c. 5-9
 - d. 10+
13. On how many projects has your firm produced an E202 Level of Development matrix or equivalent?
 - a. 0-3
 - b. 4-6
 - c. 5-9
 - d. 10+
14. How would you describe your firm's approach to BIM file naming and folder structures?
 - a. We do not have BIM file naming and folder structure standards
 - b. We use the BIM file naming and folder structures that are given to us by the General Contractor
 - c. We use the BIM file naming and folder structures that we developed for each separate project
 - d. We have standard BIM file naming and folder structures across all our BIM projects
15. On how many projects has your firm added Facility Maintenance data to models?
 - a. 0-1
 - b. 2-3
 - c. 4-5
 - d. 6+

Broward Health Scoring System:

For each answer above, give the answer “a” a score of 1, the answer “b” a score of 2, the answer “c” a score of 3, the answer “d” a score of 4. Add up the total score for each respondent.

Rank the GC respondents as follows (the minimum total is 15 points and the maximum total is 60 points):

- 15 to 30 points – BIM beginner
- 31 to 45 points – BIM intermediate
- 46 to 60 points – BIM advanced

Attachment C

ELECTRONIC DATA REQUIREMENTS

General Requirements:

- a. Contractor and Subcontractors shall provide at a minimum, the following to its staff:
 - i. **Computer:** Minimum Intel Pentium® 4 Processor 2.4 GHz or equivalent processor with 512MB of RAM; recommended Centrino Duo® Processors 1.6 GHz or equivalent with 2GB of RAM, or higher.
 - ii. **Computer Operation System:** Windows XP, Windows Vista, or Windows 7
 - iii. **Web Browser:** Microsoft Internet Explorer 9
 - iv. **Work and Spreadsheet Processors:** Microsoft Office Word, Excel and Outlook
 - v. **Scheduling Software:** Microsoft Project or Primavera
 - vi. **Internet Service Provider:** A reliable ISP in the area of the Project
 - vii. **Connection Speed/Minimum Bandwidth:** DSL, ADSL or T1 Line for transferring a minimum of 3 Mbps Downstream and 512 Kbps Upstream
- b. Contractor and Subcontractors shall provide its management personnel assigned to this Project with access to personal computers and the Internet on a daily basis.

Project Web Requirements:

- a. This project will utilize a web based project management tool called e-Builder Enterprise™. This web based application is a collaboration tool, which will allow all project team members continuous access through the Internet to important project data as well as up to the minute decision and approval status information.
- b. Contractor and Subcontractors shall conduct Project controls, outlined by the Owner, Development Manager, and Construction Manager, utilizing e-Builder Enterprise™. **This designated web based application will be provided by the Contractor to the Subcontractors.** No additional software will be required. Furthermore, the Development Manager will assist Contractor in providing training of Subcontractor's personnel.
- c. Contractor and Subcontractors shall have the responsibility for visiting the Project web site on a daily basis, and as necessary to be kept fully apprised of Project developments, for correspondence, assigned tasks and other matters that transpire on the site. These may include but are not limited to: Contracts, Contract Exhibits, Contract Amendments, Drawing Issuances, Addenda, Bulletins, Permits, Insurance & Bonds, Safety Program Procedures, Safety Notices, Accident Reports, Personnel Injury Reports, Schedules, Site Logistics, Progress Reports, Daily Logs, Non-Conformance Notices, Quality Control Notices, Punch Lists, Meeting Minutes, Requests for Information, Submittal Packages, Substitution Requests, Monthly Payment Request Applications, Supplemental Instructions, Construction Variation Directives, Potential Variation Orders, Variation Order Requests, Variation Orders, and the like. All supporting data including but not limited to shop drawings, product data sheets, manufacturer data sheets and instructions, method statements, safety MSDS sheets, Substitution Requests and the like will be submitted in digital format via e-Builder Enterprise™.

Electronic File Requirements:

- a. In addition to the standard closeout submittal requirements detailed elsewhere in the Contract Documents, the Contractor and Subcontractors shall also submit all closeout documents including all "As-Built Drawings", catalog cuts and Owner's Operation and Maintenance manuals in digital format. All documents (including as-built drawings) shall be converted or scanned into the Adobe Acrobat (.PDF) file format and uploaded to e-Builder Enterprise™.

E-BUILDER IMPLEMENTATION REQUIREMENTS

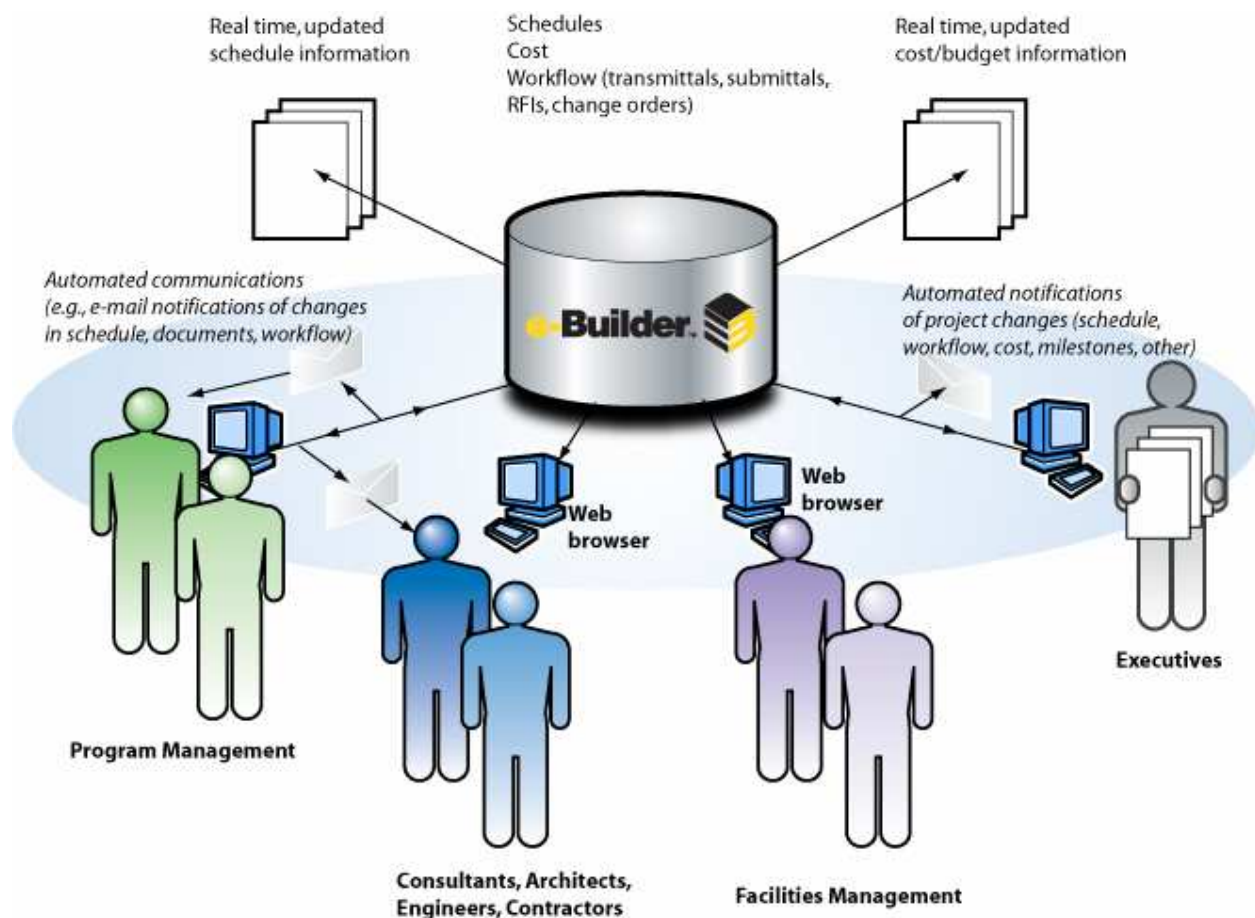
e-Builder Enterprise™ is a comprehensive Project and Program Management system that **xxx** will be implementing for managing documents, communications and costs between the Contractor, Subcontractors, Design Consultants and Owner. e-Builder Enterprise™ includes extensive reporting capabilities to facilitate detailed project reporting in a web-based environment that is accessible to all parties and easy to use.

Central Document Vault: e-Builder Enterprise™ system includes a central database that maintains all project information and manages project communications amongst team members.

Communication/Correspondence: e-Builder provides electronic routable communication forms that provide historical tracking, documentation, and increased accountability of project members.

Project Calendars: Meetings will be scheduled and maintained centrally on e-Builder Enterprise™

Reporting: All of the project and program data including documents, communications and costs are accessible through integrated online reports. These reporting tools are completely configurable by each user. All reports can be exported to Excel for added flexibility.



E-BUILDER LICENSING REQUIRMENTS

e-Builder Enterprise™ User Licenses: Each user license is for access to the **xxx** site consisting of unlimited data storage. Users can be direct employees of the Contractor as well as its Subcontractors and/or Suppliers.

Each user license includes full access to e-Builder Enterprise™ including all of the documents and reports mentioned above. Furthermore, each user license provides the e-Builder software as a service (SaS) including:

- All hosting, operation, maintenance and data back up of the e-Builder Enterprise™ software and documents which are maintained in state-of-the-art data centers located throughout the United States.
- Quarterly e-Builder Enterprise™ software enhancements
- Unlimited phone, email and web based support 24-hours:

e-Builder Enterprise™ user licenses shall be obtained by the Owner, Development Manger, Construction Manager, Design Consultants, QA/QC Agencies, and Project Management staff in which the Contractor is not responsible.

The Contractor is required to obtain e-Builder Enterprise™ user licenses for its employees and major Subcontractors as required to facilitate the communication and document flow process between the Owner, Development Manger, Construction Manager, Design Consultants, and its Subcontractors and/or major Suppliers.

e-Builder Enterprise™ User License Fee: \$xxx / per user / per year
(To be paid by the Contractor and included in the Contract Fee)*

Attachment D



Bidders Information

Project: Broward Health

Bid Package:

Broward Health (Project Owner) is a member of the MedAssets Supply Chain, Group Purchasing Organization (GPO). Intent on leveraging its access to discounted GPO buying agreements, the Project Owner requires that bidders use applicable MedAssets suppliers for any specified product, good or service that is under a MedAssets contract – except where an approved non-MedAssets supplier costs the Project Owner less.

Each MedAssets vendor and supplier is responsible to ensure that member bidders receive the discounted MedAssets project price plus additional discounts or incentives needed to be competitive with local markets.

Bidders are to follow these steps:

1. Refer to the attached MedAssets Construction Program Vendor Contact list.
2. Contact the appropriate listed representative, regionally or local contact if available.
Vendor national account representatives are responsible to see you receive correct pricing from their local outlets.
3. Indicate on the bid form "YES" or "NO" whether MedAssets vendor pricing was utilized in your bid.
4. Complete a Material Price Data Sheet (copy attached) for each Product Type by CSI number and submit it prior to your post-bid scope review
5. Your GPO-related purchases will be direct with the supplier by your purchase order – using normal channels.
6. Reference the "MedAssets Contract Number" on all GPO-related PO's & Contracts

If you or your suppliers have questions, please contact **Theresa Brigden, Project Director, MedAssets Capital & Construction Services** (tbrigden@medassets.com)

MATERIAL PRICE DATA SHEET

PROJECT: _____

REGARDING BID SUBMITTED BY:

BID PACKAGE # _____

(FIRM NAME) _____

WORK CATEGORY # _____

PRODUCT TYPE _____

	Product Manufacturer Price Comparison				
Manufacturer Name					
MedAssets Vendor	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Bid Based On (check one)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Manufacturer Material Price for Product	\$	\$	\$	\$	\$
Comments (Explain why - if checked manufacturer is not the lowest Total Manufacturer Material Price for Product Type)					