BOARD OF SCHOOL DIRECTORS FACILITIES/TRANSPORTATION COMMITTEE November 29, 2021 7:00 PM



FACILITIES

- 1. Blue Bell Elementary Enrollment
- 2. Modular Classrooms at Blue Bell Elementary
 - Modular Classroom Costs Attachment A
 - D'Huy Engineering Contract Attachment B
- 3. 2022 Summer Projects
- 4. Middle School Natatorium Conversion: Classroom Option
 - D'Huy Engineering Contract Attachment C
 - Breslin Architects Contract Attachment D
- 5. High School Turf Fields
 - D'Huy Engineering Contract Attachment E
- 6. Shady Grove Elementary Pavilion HSA Building/Donation
- 7. Stony Creek Building Supervisor Job Classification
 - Adjustment from Class "C" to Class "B" (27,000 sf. building addition)
- 8. Other

TRANSPORTATION

- 1. Driver's Area Renovation Godshall Kane O'Rourke Architects Proposal Attachment F
- 2. Purchase 2 vans for \$34,974.00 each from New Holland Auto Group (COSTARS pricing) Attachment G

BLUE BELL ELEMENTARY 2 MODULAR CLASSROOMS

VANGUARD

	ONE YEAR LEASE	THREE YEAR LEASE	FIVE YEAR LEASE
Monthly Building + Ramp Lease Rate		2,900	2,560
Multiplied by # of Months = Estimated Cost per year (does not include all costs)	0	104,400	153,600
Delivery - Installation - Removal	0	73,900	73,900
TOTAL	\$ -	\$ 178,300	\$ 227,500

MOBILEASE

	ONE YEAR LEASE	THREE YEAR LEASE	FIVE YEAR LEASE
Monthly Building + Ramp Lease Rate	5,200	4,075	3,500
Multiplied by # of Months = Estimated Cost per year (does not include all costs)	62,400	146,700	210,000
Delivery - Installation - Removal	79,000	79,000	79,000
TOTAL	\$ 141,400	\$ 225,700	\$ 289,000

WILLSCOT

	ONE YEAR LEASE	THREE YEAR LEASE	FIVE YEAR LEASE
Monthly Building + Ramp Lease Rate	4,299	3,993	3,616
Multiplied by # of Months = Estimated Cost per year (does not include all costs)	51,585	143,739	216,945
Delivery - Installation - Removal	41,618	41,618	41,618
TOTAL	\$ 93,203	\$ 185,357	\$ 258,563

In addition to the above, the following fees are needed:

Engineering Fees - \$25,000

Electrical, Fire, Data & Communication estimated construction costs - \$90,000



D'HUY Engineering, Inc.

CONSULTING ENGINEERS: Project Management Facilities Engineering Structural Design & Analysis Forensic Engineering

October 29, 2021

Mr. Gerry Moore Wissahickon School District 601 Knight Road Ambler, Pennsylvania 19002 Via E-mail: gmoore@wsdweb.org

RE: Proposal for Blue Bell Elementary School Modular Classrooms DEI Project No. 000003

Dear Mr. Moore:

Thank you for taking the time to consider D'Huy Engineering, Inc. and for allowing us to assist the Wissahickon School District to develop electrical and site plan drawings for 2 modular classroom buildings to be located at Blue Bell Elementary School. As requested by WSD, we are pleased to provide the following proposal to develop construction documents for Whitpain Township to facilitate the installation of the modular classrooms and issue the construction documents for bidding.

The scope of engineering services is as follows:

- 1. Meet with WSD to review the proposed project scope and itemize the scope to be documented.
- 2. Research existing building drawings and information provided by WSD.
- 3. Perform a limited site survey, investigation, and research for preparation of bid package for electrical scope. This proposal does not include a boundary and full property topographic survey. If this is required, it will be through a separate proposal.
- 4. Prepare preliminary project budget.
- 5. Assist with development of timelines for the project.
- 6. Prepare design layout of modular buildings and review and include modular manufacturer(s) information.
- 7. Document fire alarm, phone, data, and public-address extensions from the existing elementary school.
- 8. Prepare electrical drawings for bidding, including low voltage systems, data, phone, intercom, and fire alarm to modulars.

- 9. Document power to be provided to the modular classrooms. The modular manufacturer will provide all interior electrical wiring and lighting systems.
- 10. Document grading, ADA accessible route to modulars, and sections of replacement sidewalks for Township approval.
- 11. Provide information needed for obtaining necessary municipal agency approvals including land development waiver, and code conformance (this does not include agency fees necessary for the various approvals required). If full land development, storm water, or other approvals are required, they will be by separate proposal.
- 12. Coordinate information with Modular company to provide ComCheck documents for energy code compliance, if required.
- 13. Provide site drawings and electrical stamped drawings to Whitpain Township for approval and permits. Modular company will provide all building and foundation permit drawings.
- 14. Provide any necessary revisions requested by the Whitpain Township.
- 15. File for prevailing wages and incorporate wage requirements into contract documents.
- 16. Issue the drawings to contractors for bidding for the electrical scope only.
- 17. Conduct a pre-bid conference, respond to contractor questions, and issue necessary addenda.
- 18. Conduct a walk through with prospective bidders.
- 19. Prepare construction contracts and assist with review of bonds and insurance for conformance with contract requirements.
- 20. Provide construction administration services, including conducting pre-construction conference, periodic field observations by the Project Manager and meeting minutes.
- 21. Review and approve contractor's submittals, including shop drawings, applications for payment, etc.
- 22. Process any necessary change orders or allowance adjustments.
- 23. Prepare punchlist and final project close-out documentation including Operation & Maintenance Manuals.

PROPOSED FEE:

We propose to perform the above work on an hourly not to exceed basis of **\$25,000.00** (Twenty-Five Thousand Dollars and Zero Cents). I have attached our hourly rate fee schedule for your reference.

REIMBURSABLE EXPENSES:

Reimbursable expenses are not included with this proposal. Reimbursable expenses will be invoiced at rate of 1.0 times the cost of the expense.



EXCLUSIONS:

In general, the following services are not included in D'Huy Engineering's scope of work and fee proposal:

- 1. Environmental investigations or specifications.
- 2. Certified construction inspections and material testing.
- 3. Detailed construction cost estimates and guaranteed maximum prices.
- 4. Documentation of as-built conditions (available upon request for additional services).
- 5. Testing, detailed field investigations or probes, or additional studies.
- 6. Fees for required municipal permits and meetings with municipalities and/or authorities to obtain permits.
- 7. Boundary and full property topographic survey.
- 8. Land development, storm water, or other approvals.
- 9. Full-time site representation. This can be provided as a separate proposal or done on a time and expense basis.

If you agree with this proposal and the attached terms and conditions, kindly countersign this proposal letter and return one copy to our office as your authorization to proceed with work on this project.

Sincerely,

Mit Sandy

M. Arif Fazil, P.E., CCS, CCCA, LEED AP, CEM President

Mike Sander, P.E. Project Manager

Att.: 2021 Fee Schedule \$100,000 Terms and Conditions



OWNER: WISSAHICKON SCHOOL DISTRICT

By: _____

Printed Name: _____

Title: _____

Date: _____

ENGINEER: D'HUY ENGINEERING, INC.

By: _

Printed Name: M. Arif Fazil

Title: President

Date: October 29,2021



D'HUY ENGINEERING, INC. FEE SCHEDULE

Effective January 1, 2021

Hourly Rate

Research Assistant/Data Processor	\$60.00
CAD Operator	\$85.00
Senior CAD Operator	\$95.00
Engineer in Training	\$100.00
Engineer	\$120.00
Field Representative	\$105.00
Senior Field Representative	\$130.00
Certified Cost Estimator	\$135.00
Technical Specialists	\$135.00
Designer	\$140.00
Project Manager	\$135.00
Licensed Architect	\$155.00
Senior Engineer	\$150.00
Senior Project Manager	\$155.00
Principal	\$185.00
Senior Principal	\$200.00



Terms and Conditions

D'Huy Engineering, Inc. (DEI) shall perform the services outlined in this Agreement for the stated fee agreement.

Access to Site

Unless otherwise stated, DEI will have access to the site for activities necessary for the performance of the services. DEI will take precautions to minimize damage due to these activities, but has not included in the fee the cost of restoration of any resulting damage.

Fee

The total fee, except stated not to exceed or lump sum, shall be understood to be an estimate, based upon Scope of Services, and shall not be exceeded without written approval of the Client. Where the fee arrangement is to be on an hourly basis, the rates shall be those listed in the attached Fee Schedule.

Billings/Payments

Invoices shall be submitted monthly for services and reimbursable expenses and are due when rendered. Invoices shall be considered PAST DUE if not paid within 30 days after the invoice date and DEI may without waiving any claim or right against Client, and without liability whatsoever to the Client, terminate the performance of the service. Retainers shall be credited on the final invoice. In the event any portion or all of an account remains unpaid 90 days after billing, the Client shall pay cost of collection, including reasonable attorneys' fees.

Indemnifications

The client shall indemnify and hold harmless DEI and all of its personnel from and against any and all claims, damages, losses and expenses (including reasonable attorneys' fees) arising out of or resulting from the performance of the services, provided that any such claims, damage, loss or expense is caused in whole or in part by the negligent act of omission, and/or strict liability of the Client, anyone directly or indirectly employed by the Client (except DEI), or anyone for whose acts any of them may be liable.

Contractor Responsibility

ENGINEER shall not, as a result of performance of services, or site visits, or as a result of such observations of Contractor(s)' work in progress, supervise, direct or have control over Contractor(s)' work nor shall ENGINEER have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by Contractor(s), for safety precautions and programs incidental to the work of Contractor(s) or for any failure of Contractor(s) to comply with laws, rules, regulations, ordinances, codes or orders applicable to Contractor(s) furnishing and performing their work. ENGINEER will not be responsible for any Contractor or other personnel safety or security operations or practices. Any safety or security program issues shall not create any liability for ENGINEER.

Hidden Conditions

A condition is hidden if concealed by existing finishes or is not capable of investigation by reasonable visual observation. If DEI has reason to believe that such a condition may exist, the Client shall authorize and pay for all costs associated with the investigation of such a condition and, if necessary, all costs necessary to correct said condition. If (1) the Client fails to authorize such investigation or correction after due notification, or (2) DEI has no reason to believe that such a condition exists, the Client is responsible for all risks associated with this condition, and DEI shall not be responsible for the existing condition nor any resulting damages to persons or property.

Risk Allocations

In recognition of the relative risks, rewards and benefits of the project to both the Client and DEI, the risks have been allocated so that the Client agrees that, to the fullest extent permitted by law, DEI's total liability to the Client, for any and all injuries, claims, losses, expenses, damages or claim expenses arising out of this Agreement, from any cause or causes, shall not exceed the total amount of \$100,000, the amount of DEI's fee (whichever is greater) or other amount agreed upon when added under special conditions. Such causes include, but are not limited to DEI's negligence, errors, omissions, strict liability, breach of contract or breach of warranty.

Termination of Services

This Agreement may be terminated upon 10 days written notice by either party should the other fail to perform his obligations hereunder. In the event of a termination, the Client shall pay DEI for all services rendered to the date of termination, all reimbursable expenses, and reimbursable termination expenses.

Ownership of Documents

All documents produced by DEI under this Agreement shall remain the property of DEI and may not be used by this Client for any other endeavor without the written consent of DEI.

Applicable Law

Unless otherwise specified, this Agreement shall be governed by the laws of the principal place of business of DEI.

Wissahickon School District Capital Project Fund Plan												
	Year of Original	Current Yr * 2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	5 Year TOTAL				
High School	1961	-	170,000	-	1,600,000	250,000	-	2,020,000				
Middle School	1974	117,617	110,000	550,000	750,000	-	-	1,410,000				
Blue Bell	1955	-	-	535,000	-	-	3,500,000	4,035,000				
Lower Gwynedd	1996	-	-	-	84,000	450,000	-	534,000				
Shady Grove	1956	-	-	185,000	-	3,150,000	-	3,335,000				
Stony Creek	1963	-	703,400	1,300,000	-	-	-	2,003,400				
Central Office/District/Bus Depot	1966	-	210,000	405,000	-	-	1,100,000	1,715,000				
Facilities		117,617	1,193,400	2,975,000	2,434,000	3,850,000	4,600,000	15,052,400				
Technology Items		89,608	114,407	220,000	279,999	200,000	200,000	1,014,406				
Facilities Master Plan: Short Term Pro	iects											
MS Performing Arts Center/Additional Cl	-			5,200,000				5,200,000				
HS Square Gym				250,000				250,000				
HS Library Conversion					2,500,000			2,500,000				
Capacity Needs at Elem		?	?	?	?	?	?	-				
Athletic Turf Field - \$5M Partnership			5,000,000	-				5,000,000				
Capital Project Fund Needs		207,225	6,307,807	8,645,000	5,213,999	4,050,000	4,800,000	29,016,806				
Annual Budgeted Transfer In		1,900,000	1,450,000	1,650,000	1,850,000	2,050,000	2,250,000					
Debt 2022-SC \$10 mill debt placement (Redu	uce transfer in) **	650,000										
Net		1,250,000										
Stony Creek Project Amounts Paid		9,500,000										
Projected End-of-Year Transfer In		1,500,000	500,000	500,000	500,000	500,000	500,000					
Investment Income		32,000	32,000	22,000	10,000	4,000	1,000					
Capital Fund Balance (Cash) End of	{ Voor***	17,462,775	13,136,968	6,663,968	3,809,969	2,313,969	264,969					

June 2022

* Current Year Balance not included in 5 Year Total

** Assume \$650,000 = \$10,000,000 Debt annual principal and interest payment for 25 year term

*** Includes \$2.2 million held in Escrow by Whitpain for the Stony Creek Project which will be returned when completed.

Capital Project Fund Plan

	Wissahickon Original Building: 1961	-	-	-		000		
Project Description		Current Year 2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total
Repave Stadium Parking Lot		-	170,000	-	-	-	-	170,000
Replace Stadium Bleachers		-	-	-	1,600,000	-	-	1,600,000
Fire Alarm Replacement		-	-	-	-	250,000	-	250,000
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
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		-	-	-	-	-	-	-
		-	-	-	_	-	-	-
		-	-	-	-	-	-	-
TOTAL		-	170,000	-	1,600,000	250,000	-	2,020,000



Wissahickon Middle School - Capital Project Fund Plan Original Building: 1974 Addition: 1991 HVAC: 2005 - Except Boilers

Project Description	Current Year 2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total
Bleachers - Gym II	32,000	-	-	-	-	· · ·	-
Carpet to VCT - Classrooms	85,617	110,000	-	-	-		110,00
Replace Main Electrical Switch Gear & Transformer	-	-	550,000	-	-		550,00
Central Plant Heating Boiler Replacement	-	-	-	750,000	-	I	750,00
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TOTAL	117,617	110,000	550,000	750,000	-		1,410,00

Amounts in bold indicate funds that are committed.



Blue Bell Elementary School - Capital Project Fund Plan Original Building: 1955 Additions: 1957, 1988 HVAC: 2000

	Current Year						
Project Description	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total
Replace Corridor Wall & Floor Tile	-	-	160,000	-	-		160,000
Central Cooling Plant Mechanical Replacement	-	-	375,000	-	-		375,000
Full Roof Replacement	-	-	-	-	-	2,300,000	2,300,000
Unit Ventilator & Controls Replacement	-	-	-	-	-	1,200,000	1,200,000
	-	-	-	-	-		-
	-	-	-	-	-		-
	-	-	-	-	-		-
	-	-	-	-	-		-
	-	-	-	-	-		-
	-	-	-	-	-		-
TOTAL	-	-	535,000	-	-	3,500,000	4,035,000

Amounts in bold indicate funds that are committed.

Lowe	Lower Gwynedd Elementary - Capital Project Fund Plan Original Building: 1996							
Project Description	Current Year 2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total	
Emergency Generator Replacement	-	-	-	84,000	-	· ·	84,000	
HVAC Chiller Replacement	-	-	-	-	450,000	-	450,000	
	-	-	-	-	-	· · ·	-	
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TOTAL	-	-	-	84,000	450,000	•	534,000	

	Shady Grove	Elementary -	Capital Pr	oject Fund Pla	n			
o	riginal Building: 1956	-	-	Renovations:				
		Current Year						
Project Description		2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total
Emergency Generator Replacemer	nt	-	-	185,000	-	-	-	185,000
Fire Alarm Replacement		-	-	-	-	200,000	-	200,000
HVAC Unit Replacement		-	-	-	-	2,200,000	-	2,200,000
Ceiling & Lighting Replacement		-	-	-	-	750,000	-	750,000
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
TOTAL		-	-	185,000	-	3,150,000	-	3,335,000

	Stony C	Stony Creek Elementary - Capital Project Fund Plan									
	Original Building:			-	HVAC: 2	001					
		Current Year									
Project Description		2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total			
Full Roof Replacement		-	-	1,300,000	-	-	-	1,300,000			
Unit Ventilator + Controls	Replacement	-	703,400	-	-	-	-	703,400			
		-	-	-	-	-	-	-			
		-	-	-	-	-	-	-			
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		-	-	-	-	-	-	-			
TOTAL		-	703,400	1,300,000	-	-	-	2,003,400			

	Central Office/District/Bus Depot - Capital Project Fund Plan Original Building: 1966 Renovations: 2005								
Project Description	Current Year 2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total		
HVAC Chiller Replacement	-	210,000	-	-	-	-	210,000		
Exterior Façade Restoration	-	-	75,000	-	-	-	75,000		
Full Roof Replacement	-	-	-	-	-	1,100,000	1,100,000		
DW - Asphalt Crack/Sealing (Campus Parking Lots)	-	-	70,000	-	-	-	70,000		
Bus Depot Roof Restoration	-	-	85,000	-	-	-	85,000		
Bus Depot Fuel Tank + Dispensing System Replacement	-	-	175,000	-	-	-	175,000		
	-	-	-	-	-	-	-		
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	-	-	-	-	-	-	-		
	_	-	-	-	-	-	-		
TOTAL	-	210,000	405,000	-	-	1,100,000	1,715,000		

THIS IS AN AGREEMENT made as of this __day of ____, ___, between THE WISSAHICKON SCHOOL DISTRICT, referred to as "OWNER," and D'HUY ENGINEERING, INC., referred to as "PROJECT MANAGER". OWNER intends to plan, design and construct certain capital improvements at their facilities located in Montgomery County Pennsylvania. OWNER and PROJECT MANAGER in consideration of their mutual covenants herein agree in respect of the performance of professional services by PROJECT MANAGER and the payment for those services by OWNER as set forth below.

SECTION 1 - BASIC SERVICES (RESIDENT PROJECT MANAGEMENT SERVICES)

1.1 <u>General</u>

PROJECT MANAGER will serve as OWNER's professional project management representative for the Project and provide professional project management consultation and advice through completion of the Project. PROJECT MANAGER by the execution of this Agreement represents that it has managed construction of educational facilities and public projects and that it is possessed of the reasonable degree of care, learning, skill, and ability for construction project management of educational facilities and public projects and acknowledges that OWNER has retained the services of PROJECT MANAGER on the basis of these representations. PROJECT MANAGER agrees that in the performance of its duties under this Agreement it will exercise such reasonable degree of care, learning, skill and ability.

- 1.1.1 PROJECT MANAGER agrees to notify the OWNER in writing (a) of any separate consulting and testing arrangements which need to be entered into by either PROJECT MANAGER or OWNER in connection with the design and construction of the Project and (b) if, in PROJECT MANAGER's best judgment, the obligations of Architect under the Architect's Agreement do not provide for all services necessary to design and coordinate construction of the Project. PROJECT MANAGER further undertakes generally to provide its services hereunder with a view towards the development of the Project in accordance with the Project Schedule in a continuous manner without interruption or delay caused by PROJECT MANAGER, and with a view towards the development of the Project so that the actual costs will not exceed OWNER's budget.
- 1.1.3 Clearances. PROJECT MANAGER will provide the OWNER with state and federal criminal history reports, Pennsylvania Child Abuse clearances all dated no earlier than one year from the date of presentation to the OWNER, and executed PDE-6004 forms for all employees, consultants, agents or representatives who may perform work on or near the OWNER's property prior to such employees, consultants, agents or representatives coming onto the OWNER's property.
- 1.1.4 Right to Know. PROJECT MANAGER agrees that it will cooperate with the OWNER in complying with the Pennsylvania Right-to-Know Law, 65 P.S. §67.101 et seq., in complying with requests for public records made under the Law. PROJECT MANAGER's cooperation shall include prompt communication with the OWNER

regarding the existence of a record, the length of the record and other information requested by the OWNER, adherence to the fee schedule issued by the OWNER for any costs associated with producing or providing access to the record and promptly providing access to or copies of the record. If PROJECT MANAGER fails to cooperate with the OWNER in response to a request for a public record, then PROJECT MANAGER shall indemnify the OWNER for any and all costs incurred, including attorneys' fees of the OWNER, as well as any costs, including any attorneys' fees of the requester, fines or other penalties imposed upon the OWNER by a court of competent jurisdiction in any way relating to the failure to cooperate with the OWNER.

- 1.1.5 PROJECT MANAGER acknowledges that time is of the essence to the successful completion of the Project. PROJECT MANAGER agrees to perform all of its obligations promptly and without delay in accordance with the Project schedule.
- 1.1.6 In the performance of this Agreement, PROJECT MANAGER will not discriminate or permit discrimination against any person because of race, color, religion, age, sex, or national origin.
- 1.2 <u>Concept Design Phase Services</u>

During this phase, PROJECT MANAGER will work closely with OWNER's personnel to assist with planning and developing Project criteria and program requirements and budgets for the Middle School Natatorium Repurposing including site improvements.

- 1.2.1 Assist with the development and verification of the scope and budget for the Project.
- 1.2.2 Assist with coordination and attend meetings to identify the scope of the Project with OWNER.
- 1.2.3 Review concept plan drawings and provide constructability comments for budget, approvals, schedule and phasing.
- 1.2.4 Prepare overall preliminary schedule for the Project, including pre-design, design, and construction phases.
- 1.2.5 Prepare preliminary Project budgets using the program requirements defined by the OWNER and based on drawings and information prepared by Architect.
- 1.2.6 Preliminary conceptual planning, including phasing requirements and Project implementation will be developed.
- 1.2.6.1 Perform preliminary investigation of local and state agency requirements, including but not limited to Township zoning requirements, accessibility requirements, and Planning Commission, the Montgomery County Conservation District, Department of Environmental Protection ("DEP"), Pennsylvania Department of Education ("PDE"), and

other applicable requirements for establishing schedules and submittal requirements.

- 1.2.6.2 Assist the OWNER in establishing criteria for design professionals, including scope of work, scope of services, time schedule, budget, and Project criteria, as well as the need for any additional consultants.
- 1.2.6.3 Assist the OWNER in selecting firms to provide any special testing or investigations required for the project.
- 1.2.7 Provide review and input on the Design Professional's contract for approval of the OWNER and Solicitor.
- 1.2.8 PROJECT MANAGER shall assist the OWNER in the review of the names of the engineers and/or consultants proposed by the ARCHITECT, a description of the scope of services to be performed by such engineers and/or consultants, and such other pertinent information as Owner may reasonably request. PROJECT MANAGER shall provide input and recommendations regarding the proposed engineers and/or consultants. Services relating to the Project shall not be performed by such proposed engineers and/or consultants without approval by Owner.

1.3 Schematic Design, Design Development, and Construction Documents Phase Services

PROJECT MANAGER will be the OWNER's representative and will serve as liaison between the OWNER and the design professionals for the Project.

- 1.3.1 Review with design professionals the criteria and program requirements established during pre-design phases.
- 1.3.2 Prepare and update the project milestone schedule through the Design Phase.
- 1.3.3 Periodically review design for conformance with Project criteria, including conformance with OWNER's guidelines.
- 1.3.4 Participate in design meetings with the Architect and the OWNER's design committee.
- 1.3.5 Assist OWNER and Architect in making presentations as requested by the OWNER, including but not limited to at Board Meetings, Public Hearing, land development meetings and other applicable meetings.
- 1.3.6 Review potential value engineering, including but not limited to fill requirements, foundation system, code conformance options, framing systems, construction materials and phasing with technical input and support from Architect and Consultants.
- 1.3.7 Prepare overall system by system budget and cost estimates. The PROJECT MANAGER shall prepare two (2) detailed estimates of the cost of construction as appropriate during

the Pre-Construction Phase, including cost estimates, the design development documents, and the construction documents (at 95% completion) prepared by the Architect. The PROJECT MANAGER shall maintain a fluid cost estimate form during the Pre-Construction Phase, in Microsoft Excel or such other format as may be acceptable to the Owner, for the purpose of revising any current estimate based upon proposed changes in the design and/or construction market - cost conditions and shall advise the Owner of any changes made to the estimate in respect thereof. The PROJECT MANAGER shall perform detailed constructability reviews and cost estimates of all Project Drawings and Specifications with a specific line item checklist and specific recommended actions with respect to each item. Such reviews shall be performed by team of qualified technical personnel with expertise in construction technologies, logistics and procedures pertaining to Site/Civil work, Structural work, Mechanical work, Electrical work, Roofing work and Architecture related thereto.

- 1.3.8 Review and comment on submittals prepared by the Architect.
- 1.3.9 Review construction options, including but not limited to material selection, constructability, and specification conformance with OWNER's standards.
- 1.3.10 Attend and participate in architectural design team meetings as OWNER's representative.
- 1.3.11 Advise OWNER regarding design progress and schedule and budget as Project Manager becomes aware of any conditions that affect these items.
- 1.3.12 Timely advise OWNER regarding submittals to governmental agencies and any perceived impact on Project schedules as Project Manager becomes aware of it.
- 1.3.13 Timely advise the design team regarding the incorporation of scheduling requirements and phasing of the Project.
- 1.3.14 Timely advise Architect in developing alternates in bid documents to ensure competitive bidding and allow for flexibility in selecting alternates prior to award (for example, terrazzo floors versus vinyl tile, roof systems, wall finishes, mechanical systems).
- 1.3.15 Assist in coordination of utility services required for project.
- 1.3.16 Prepare Division 00 and 01 sections of the bid documents and coordinate with Architect incorporation of these into the bid documents.
- 1.3.17 Prepare Project Phasing Plan and Milestone Schedule to be incorporated in bid documents.
- 1.3.18 Timely review and comment on bid documents for conformance with Project criteria.
- 1.3.19 Prior to submission of the bid documents to the OWNER for final approval, update the

cost estimates for approval by the OWNER and compare it against the OWNER's budget and advise the OWNER of any discrepancies including the required allocation of 10% variance in bids, plus a reasonable construction contingency appropriate for a project of the scope and type being performed.

- 1.4 <u>Bid Phase Services</u>
- 1.4.1 Attend and participate in pre-bid conference.
- 1.4.2 Assist in acquiring multiple bidders.
- 1.4.3 Assist in responding to bidders' questions.
- 1.4.4 Assist OWNER in reviewing bids and preparing bid tabulations.
- 1.4.5 Review contractor qualifications of apparent low bidder.
- 1.4.6 Assist Architect in preparing bid recommendation information.
- 1.4.7 If the total of lowest responsive and responsible bid for each trade exceeds the latest cost estimate developed by the PROJECT MANAGER by more than 10%, then the PROJECT MANAGER will assist the owner in evaluating its options and perform all of PROJECT MANAGER's services related to any redesign by the Architect and/or rebid of the project for no additional fee. This provision shall not be construed to limit the OWNER's remedies.
- 1.5 <u>Construction Phase Services</u>

PROJECT MANAGER will provide full time representation for the OWNER through the construction phase.

- 1.5.1 Assign Field Representative to be on site full time for 6 months and part time for 6 months during construction period to observe and review activities with Architects, Contractors, Testing, and as otherwise applicable. PROJECT MANAGER shall include in the bid documents of the multi-prime bids the requirements for any necessary on-site facilities.
- 1.5.1.1 Coordinate for review and approval by OWNER the PDE 6004 forms, criminal history reports and child abuse clearances for all contractor and subcontractor personnel prior to permitting such personnel to come on site. The Contract Documents shall require that all construction contractors and all independent contractors or subcontractors working for or on behalf of the contractor shall place on file with the Owner the certification required by that section of the Public School Code of 1949 found at 24 P.S. §1-111, as the same may be amended from time to time, regarding background checks of prospective employees, for those employees who will be coming in direct contact with children on the premises

of the Owner, including without limitation the records and reports described in Paragraph 9.2 of this Agreement. In addition, the Contract Documents shall require that all construction contractors and all independent contractors or subcontractors working for or on behalf of the contractor shall file with the Owner the certification required by the statute found at 23 Pa.C.S.A. §6354 et seq, as the same may be amended from time to time, regarding child abuse registry clearance, as described in Section 9.2.3 of this Agreement. All such certifications shall be on file prior to the employee working on the premises of the Owner. The PROJECT MANAGER shall monitor the submission of all certifications to make sure that all prime contractors and their independent contractors and subcontractors have submitted all required certifications prior to their employee commencing work on the premises of the Owner, and any updates required throughout the course of the Project. The PROJECT MANAGER shall not permit any individual on the Project site without all required certifications on file. The PROJECT MANAGER will issue security badges provided by OWNER to all contractor and subcontractor personnel once they have been approved by the OWNER.

- 1.5.1.2 Obtain and maintain a record of Public Works Employment Verification Forms from each subcontractor before permitting that subcontractor or any of its employees to perform work on the Project. The Commonwealth of Pennsylvania "Public Works Employment Verification Act, Act No. 127, July 5, 2012 (formerly Senate Bill 637), requires contractors and subcontractors performing work for the Project to complete a form entitled "Public Works Employment Verification Form" (the Verification Form) from the Pennsylvania Department of General Services to certify compliance with federal employment eligibility rules, including verification through the U.S. Department of Homeland Security's E-Verify Program, in order to confirm that employees are authorized to work in the United States. The Verification Form must be submitted by all prime contractors prior to an award of the contract by OWNER. As subcontractors are added to the Project, they must submit a Verification Form prior to commencing work on the Project. Prime Contractors are required to notify all subcontractors in the contracts of the applicability of the "Public Works Employment Verification Act", with information regarding the use of the E-Verify Program, referencing the website http://www.dgs.state.pa.us where they can obtain a copy of the Verification Form. The PROJECT MANAGER shall monitor the submission of all Verification Forms to make sure that all prime contractors have submitted Verification Forms prior to the award of contracts by OWNER, and to make sure that all subcontractors have submitted Verification Forms prior to commencing work on the Project
- 1.5.1.3 Obtain, maintain a record of, and make recommendations to the OWNER regarding prevailing wage documentation required from each contractor and subcontractor.
- 1.5.2 Assign Senior Project Manager to oversee all activities with the OWNER, Contractors and Architect.
- 1.5.3 Maintain, at the job site, orderly electronic files for correspondence, reports of job conferences, shop drawings and samples, reproductions of original contract documents,

including all work directive changes, addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, Architect's clarifications and interpretations of the contract documents, progress reports, and other Project related documents.

- 1.5.4 Advise the OWNER regarding and coordinate such surveys, tests, studies or inspections as are necessary or advisable to ensure the proper construction of the Project.
- 1.5.5 Keep an accurate electronic diary or log book, recording Contractor hours on the job site, weather conditions, data relative to questions of work directive changes, change orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures.
- 1.5.6 Establish procedures and lines of communication for Contractors, the OWNER and the Architect.
- 1.5.7 Inform Contractors that they are responsible for their own construction safety plan per compliance with applicable laws and the contract documents. Project Manager is not responsible for Contractors, safety, safety plans or means and methods.
- 1.5.8 Maintain a full set of all Project correspondence, RFIs, Project submittals, shop drawings, samples, as built drawings, and other Project-related documentation to be turned over to OWNER at Project closeout.
- 1.5.9 Monitor and assess construction schedule, progress and activities of Contractors to ensure conformance with project documents and construction schedule and advise the OWNER if corrective measures are necessary and/or appropriate.
- 1.5.10 Record names, addresses, and telephone numbers of all Contractors, subcontractors and major suppliers of materials and equipment.
- 1.5.11 Review all Contractors' applications for payment with the Architect.
- 1.5.12 Assist Owner in collecting prevailing wage requirements. The PROJECT MANAGER shall require the contractors to supply prevailing wage certifications with each application for payment (progress payments and final payment). The PROJECT MANAGER shall notify the OWNER and Architect if a contractor has failed to provide the requisite prevailing wage certificates, and shall not recommend payment in the absence of compliance with the Pennsylvania Prevailing Wage Act and regulations. The PROJECT MANAGER shall not be required to verify the accuracy of the certifications, as that is the responsibility of the contractors
- 1.5.13 Maintain electronic shop drawing submittal schedule and ensure that Architect and Contractors are processing submittals in a timely fashion.

- 1.5.14 Attend scheduled construction meetings and assist with preparation of meeting minutes.
- 1.5.15 Evaluate, recommend and advise OWNER on any construction issues, changes or recommendations, including, but not limited to change order requests, claims, allowances, and design issues. The PROJECT MANAGER shall develop and monitor an effective system of cost control for the Work, incorporating approved changes as they occur; and provide monthly cost expenditure reports and forecasts to complete data as directed by the OWNER. The PROJECT MANAGER shall identify variances between actual and budgeted or estimated costs and advise the OWNER and the Architect whenever projected costs significantly vary from budgets or estimates, and offer suggestions of corrective alternatives to the OWNER. The PROJECT MANAGER shall recommend necessary or desirable changes to the OWNER and the Architect, and shall review requests for changes from prime contractors and submit recommendations to the OWNER and the Architect. The PROJECT MANAGER shall consult with OWNER and Architect regarding Construction Change Directives, and submit recommendations to the OWNER and the Architect regarding issuance of Construction Change Directives.
- 1.5.16 Assist Architect in construction administration through the course of the Project.
- 1.5.17 Assist Contractors with coordination of activities with OWNER, Architect, Municipal Agencies and utility companies.
- 1.5.18 Review construction progress and advise Owner if Prime Contractors are not coordinating construction activities in accordance with Project documents.
- 1.5.19 Provide weekly progress photos and status reports.
- 1.5.20 Coordinate all inspections to determine whether substantial and/or final completion has been achieved and advise the OWNER of its observations and conclusions.
- 1.5.21 Obtain waivers of liens from Contractors, subcontractors, and suppliers in advance of processing final payment applications.
- 1.5.22 Obtain and provide to OWNER all close out materials, including, but not necessarily limited to, warranties, releases from sureties, keys, and operations and maintenance manual.
- 1.5.23 Participate in punch list preparation and final start up procedures to ensure smooth transition to occupancy by the OWNER.
- 1.5.24 PROJECT MANAGER will be actively involved throughout the construction phase, including attendance at Board meetings to present construction progress reports as required.
- 1.6 <u>Post-Completion Services</u>

- 1.6.1 PROJECT MANAGER will advise the OWNER as to the need for any call-back services and will provide services in connection with any necessary call-back services at the request of the OWNER through the expiration of the warranty period.
- 1.6.3 Prior to the expiration of the warranty period, PROJECT MANAGER will accompany the OWNER and the Architect on a warranty inspection and prepare a report identifying any issues that may require warranty services. PROJECT MANAGER will assist the OWNER in resolving the warranty service issues with the relevant contractor(s) and/or manufacturer(s).

SECTION 2 - ADDITIONAL SERVICES OF PROJECT MANAGER

- 2.1 <u>Services Requiring Authorization in Advance</u>
- 2.1.1 Additional Services as agreed to by OWNER and PROJECT MANAGER. No Additional Services shall be provided without prior written authorization.
- 2.1.2 The base proposal fee is based on:
 - i. 2-month maximum concept design phase beginning November 2021
 - ii. 10-month maximum schematic design, design development, and construction documents phase
 - iii. 2-month maximum bid phase
 - iv. 12-month maximum construction and post completion phase (not including warranty inspection)

Should the above time period be extended due to reasons not attributable to the PROJECT MANAGER, and the actual time allocated for each phase has been exceeded, the PROJECT MANAGER will provide Owner with a written "not to exceed" proposal for the additional services and, upon prior written approval by the Owner, PROJECT MANAGER's services for the additional time will be considered additional services and will be paid on a time and expense basis or by separate proposal. No additional compensation will be due for services performed prior to the Owner issuing written approval of the additional services.

SECTION 3 - OWNER'S RESPONSIBILITIES

OWNER shall do the following in a timely manner so as not to delay the services of PROJECT MANAGER.

3.1 Designate in writing a person to act as OWNER's representative with respect to the services to be rendered under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define OWNER's policies and decisions with respect to PROJECT MANAGER's services for the Project. The authority of the OWNER's representative is limited to the authority delegated by action of the Board of

School Directors at a public meeting.

- 3.2 Provide all criteria and full information as to OWNER's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which OWNER will require to be included in the Project.
- 3.3 Assist PROJECT MANAGER by placing at PROJECT MANAGER's disposal all available information pertinent to the Project, including previous reports and any other data relative to design or construction of the Project.
- 3.4 Arrange for access to and make all provisions for PROJECT MANAGER to enter upon public and private property as required for PROJECT MANAGER to perform services under this Agreement.
- 3.5 Examine all studies, reports, sketches, drawings, specifications, proposals, and other documents presented by PROJECT MANAGER, obtain advice of an attorney and other consultants as OWNER deems appropriate for such examination and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of PROJECT MANAGER.
- 3.6 Give prompt written notice to PROJECT MANAGER whenever OWNER observes or otherwise becomes aware of any development that affects the scope or timing of PROJECT MANAGER's services, or any defect or non-conformance in the work of any Contractor.
- 3.7 Direct PROJECT MANAGER to provide Additional Services as stipulated in Paragraph 2.1 of this Agreement, or other services as required as agreed to in advance in writing between PROJECT MANAGER and OWNER.
- 3.8 Bear all costs incident to compliance with the requirements of this Section 3.

SECTION 4 - PERIODS OF SERVICE

The provisions of this Section 4 and the various rates of compensation for PROJECT MANAGER's services provided for elsewhere in this Agreement have been agreed to in anticipation of the contiguous progress of the Project and the base proposal fee is based on the timelines listed in Article 2.1.2.

Should the above time period be extended due to reasons not attributable to the PROJECT MANAGER, and the actual time allocated for each phase has been exceeded, the PROJECT MANAGER will provide Owner with a written "not to exceed" proposal for the additional services and, upon prior written approval by the Owner, PROJECT MANAGER's services for the additional time will be considered additional services and will be paid on a time and expense basis or by separate proposal. No additional compensation will be due for services performed prior to the Owner issuing written approval of the additional services

SECTION 5 - PAYMENTS TO PROJECT MANAGER

5.1 <u>Methods of Payment for Services and Expenses of PROJECT MANAGER</u>

- 5.1.1 <u>For Basic Services</u>. OWNER shall pay PROJECT MANAGER for Basic Services rendered under Section 1 an amount based on the fee estimates stated herein.
- 5.1.2 <u>For Additional Services</u>. OWNER shall pay PROJECT MANAGER for Additional Services in accordance with the terms stated in and subject to the cost restrictions contained in the advance written authorization and agreement to perform such Additional Services.
- 5.1.3 <u>For Reimbursable Expenses</u>. In addition to payments provided for in Paragraphs 5.1.1 and 5.1.2, OWNER shall pay PROJECT MANAGER the actual costs of all Reimbursable Expenses as hereafter defined reasonably incurred in connection with all Basic and Additional Services, as set forth in Paragraph 5.1.4.
- 5.1.4 <u>Payment for Basic Services</u>. Amounts paid by OWNER to PROJECT MANAGER (to include all Basic Services and Reimbursable Expenses) shall not exceed the total amount of all phases without prior approval. The fee for each phase shall be interchangeable. The Construction Phase allocation shall not be used until the construction contracts are awarded.

Phase	Fee
Concept Design Phase (2 months) for scope 1.2.1 to 1.2.9	\$ 3,000
Design Phase (10 months) for scope 1.3.1 to 1.3.21	\$ 75,000
Bid Phase (2 months) for scope 1.4.1 through 1.4.7	\$ 18,000
Construction and Post Completion Phase (12 months) for scope 1.5.1 through 1.5.24, 1.6.1 through 1.6.3.	\$ 300,600
FEE TOTAL	\$ 396,600

If the timelines are greater than those allocated, the PROJECT MANAGER will provide Owner with a written "not to exceed" proposal for the additional services and, upon prior written approval by the Owner, PROJECT MANAGER's services for the additional time will be considered additional services and will be paid on a time and expense basis or by separate proposal.. No additional compensation will be due for services performed prior to the Owner issuing written approval of the additional services.

5.1.5 Without limiting the Owner's right to terminate this Agreement per Section 6, the PROJECT MANAGER expressly acknowledges that the Owner may elect not to proceed with this Project past the Concept Design phase, or any subsequent phase. The PROJECT MANAGER acknowledges and agrees that it shall not perform any services beyond the Concept Design phase, or a subsequently approved phase, unless the Board of School Directors votes to continue the Project. In the event that the OWNER elects not to proceed this Project past the Concept Design phase, or a subsequently approved phase, the OWNER

may terminate this Agreement for convenience. In such event, the PROJECT MANAGER acknowledges that its fee shall be limited to the lump sum fixed fee set forth above for the applicable phase, and only for that portion of the phase actually completed. Upon such termination, the OWNER shall pay the PROJECT MANAGER all amounts due for services actually performed through the date of such termination with respect to the Project on which services have been terminated, and the PROJECT MANAGER shall accept such amounts as full payment for its services under this Agreement with respect to such Project. In the event of such termination, the PROJECT MANAGER shall not be entitled to lost profits or any other consequential damages of any kind or nature.

5.2 <u>Times of Payments</u>.

- 5.2.1 PROJECT MANAGER shall submit monthly statements for Basic and Additional Services rendered and for Reimbursable Expenses incurred. OWNER shall make prompt monthly payments within forty-five (45) days of receipt of such monthly statements in response to PROJECT MANAGER's monthly statements. Monthly statements for the "Construction Phase" shall be submitted as a percentage of the estimated fees and based on the progress of services performed.
- 5.3 Other Provisions Concerning Payments.
- 5.3.1 If OWNER fails to make any payment due PROJECT MANAGER for services and expenses within forty-five days after receipt of PROJECT MANAGER's statement therefore, the amount due PROJECT MANAGER will be increased at the rate of 0.5% per month from said forty-fifth day. In addition, PROJECT MANAGER may thereafter, after giving sixty (60) days' written notice to OWNER, suspend services under this Agreement until PROJECT MANAGER has been paid in full all amounts due for services, expenses, and charges, unless a dispute exists between the PROJECT MANAGER and the OWNER regarding PROJECT MANAGER's failure to fully and/or promptly perform services under this AGREEMENT.
- 5.3.2 In the event of termination under Paragraph 6.1 during any phase of the Basic Services other than the Construction Phase, PROJECT MANAGER will be paid for services rendered during that phase. In the event of any such termination in the Construction Phase, PROJECT MANAGER will be paid the percentage of the estimated fee for Construction Phase services, based upon the progress of the Work as of the date of termination, plus Reimbursable Expenses and Additional Services incurred with the prior written approval of the OWNER.
- 5.3.3 No action shall be maintained by PROJECT MANAGER, its successors or assigns, against OWNER on any claim based upon or arising out of this Agreement or out of anything done in connection with this Agreement unless such action is commenced within six (6) months of the earlier of final completion or the termination of this Agreement.
- 5.4 <u>Definitions</u>.

5.4.1 Reimbursable Expenses mean the actual expenses reasonably incurred by PROJECT MANAGER or PROJECT MANAGER's independent professional associates or consultants, directly in connection with the Project and shall consist of transportation at then-applicable approved IRS Standard Mileage Rate, tolls, agency approvals and postage. Such Reimbursable Expenses shall only be paid in accordance with Paragraph 5.1.4, at cost.

SECTION 6 - GENERAL CONSIDERATIONS

- 6.1 <u>Termination</u>.
- 6.1.1 <u>For Cause</u>. This Agreement may be terminated by either party upon not less than ten (10) days' written notice should the other fail materially to perform in accordance with the terms of this Agreement and shall fail to cure such material failure to perform within the notice period. In the event that this Agreement is terminated by PROJECT MANAGER for cause, PROJECT MANAGER shall be compensated as set forth in Section 6.2, as if the OWNER had terminated the Agreement for Convenience.
- 6.1.2 <u>For Convenience</u>. The OWNER may terminate this Agreement without cause in the OWNER'S sole discretion, for any reason or for no reason, upon ninety (90) days' written notice to the PROJECT MANAGER. Upon such termination, the OWNER shall pay the PROJECT MANAGER all amounts due for Basic Services and Additional Services actually performed through the date of such termination with respect to the Project on which services have been terminated, and the PROJECT MANAGER shall accept such amounts as full payment for its services under this Agreement with respect to such Project. In the event of such termination, the PROJECT MANAGER shall not be entitled to lost profits or any other consequential damages of any kind or nature. Payments for Basic Services shall be pro-rated on a daily basis. Payments for Additional Services shall be pro-rated on an equitable basis, if applicable

6.2 <u>Controlling Law</u>.

This agreement is to be governed by the laws of the Commonwealth of Pennsylvania.

6.3 <u>Successors and Assigns</u>.

OWNER and PROJECT MANAGER each is hereby bound and the successors of OWNER and PROJECT MANAGER (and to the extent permitted by Paragraph 6.3.2 the assigns of OWNER and PROJECT MANAGER) are hereby bound to the other party to this Agreement and to the successors (and said assigns) of such other party, in respect of all covenants, agreements, and obligations of this Agreement.

6.3.1 Neither OWNER nor PROJECT MANAGER shall assign, sublet, or transfer any rights under or interest in (excluding moneys that may become due or moneys that are due) this Agreement without the written consent of the other, except to the extent that any

assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement. PROJECT MANAGER may, following advance notice and written approval by OWNER, employ such independent professional associates and consultants as PROJECT MANAGER may deem appropriate to assist in the performance of services hereunder.

- 6.3.2 Nothing under this Agreement shall be construed to give any rights or benefits in this Agreement to anyone other than OWNER and PROJECT MANAGER, and all duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of OWNER and PROJECT MANAGER and not for the benefit of any other party.
- 6.4 <u>Dispute Resolution</u>

Any proceeding to enforce rights under this Agreement shall be tried in the Montgomery County Court of Common Pleas. The substantially prevailing party in any litigation shall be entitled to recover its costs, including, but not limited to attorneys' fees, expert witness fees, and consultant's fees, as part of any judgment.

SECTION 7 - INSURANCE AND INDEMNITY

- 7.1 PROJECT MANAGER shall procure and at all times maintain insurance for protection from claims under Worker's Compensation Acts, claims for damages because of bodily injury, including personal injury, sickness or disease or death of any and all employees or of any person other than such employees in an amount of at least TWO MILLION DOLLARS (\$2,000,000.00). Such insurance shall be maintained with reputable insurance companies, and PROJECT MANAGER shall provide OWNER with a Certificate of Insurance upon OWNER'S request.
- 7.2 PROJECT MANAGER shall also procure and at all times maintain professional liability insurance for protection from claims arising out of performance of professional services caused by negligent act, error, omission or any act for which the PROJECT MANAGER and/or insured is legally liable. Such professional liability insurance will provide for coverage in such amounts, with such deductible provisions and for such period of time as set forth below, and certificates identifying that such insurances in effect will be delivered to OWNER upon OWNER'S request:

COVERAGE AMOUNT: \$2,000,000.00 PROJECT MANAGER'S DEDUCTIBLE: \$50,000.00

7.3 The PROJECT MANAGER hereby agrees to indemnify and hold harmless the OWNER, its officers, directors, board members, and employees (each an "Indemnified Party"), from and against liabilities, claims, expenses, and damages, including attorneys' fees, to the extent caused by the negligence of the PROJECT MANAGER or its consultants, or any of their

respective officers, directors, employees, agents, or representatives in the performance of the services required under this Agreement.

SECTION 8 - EXCLUSIONS

- 8.1 PROJECT MANAGER will not be required to provide services related to asbestos, radon, lead and/or nuclear energy construction issues unless otherwise agreed to in writing by PROJECT MANAGER and OWNER. PROJECT MANAGER will notify the OWNER in writing immediately upon learning of or suspecting the presence of such hazardous materials.
- 8.2 PROJECT MANAGER will not be responsible for any contractor or other personnel, construction means or methods, and safety or security operations or practices. Any safety or security program issues shall not create any liability for PROJECT MANAGER.

SECTION 9 - MISCELLANEOUS

This Agreement together with the Exhibits and schedules identified herein constitute the entire agreement between OWNER and PROJECT MANAGER and supersede all prior written or oral understandings. This Agreement and said Exhibits and schedules may only be amended, supplemented, modified, or canceled by a fully executed written agreement between PROJECT MANAGER and OWNER.

- 9.2 <u>Clearances of PROJECT MANAGER</u>."
- 9.2.1 Act 34 Criminal Background Checks. Pursuant to § 1-111 of the Pennsylvania Public School Code of 1949, prior to commencing work under this Agreement, PROJECT MANAGER shall submit for any employee or independent contractor who would be working on the Project site, pursuant to work contemplated in this Agreement, a report of criminal history record information from the Pennsylvania State Police or a statement from the Pennsylvania State Police that the State Police central repository contains no such information relating to that person. Such criminal history record information shall be no more than one (1) year old at the time of employment. PROJECT MANAGER shall produce the original documents for each prospective employee or independent contractor of PROJECT MANAGER prior to employment. In addition, PROJECT MANAGER shall submit a report of federal criminal history record information pursuant to the Federal Bureau of Investigation appropriation of Title 2 of Public Law 92-544 and 24 P.S. § 1-111, as amended. The federal criminal history record shall be no more than one (1) year old at the time of employment. PROJECT MANAGER shall not allow any prospective employee or independent contractor on the job site prior to providing OWNER with the abovereferenced state and federal criminal history records for said prospective employee or independent contractor. PROJECT MANAGER shall comply with any amendments to the criminal history records law and regulations during the course of this Agreement, at PROJECT MANAGER'S sole cost and expense and PROJECT MANAGER shall not be entitled to any increase in its fee in connection with said compliance.

- 9.2.2 Act 168 Employment History Review. Pursuant to § 1-111.1 of the Pennsylvania Public School Code of 1949, 24 P.S. Section 1-111.1, as the same has been or may be amended from time to time, prior to commencing work under this Agreement, PROJECT MANAGER shall submit for any employee or independent contractor who would be working on the Project site, pursuant to work contemplated in this Agreement, a Pennsylvania Sexual Misconduct/Abuse Disclosure Release form for each of such employee's or independent contractor's (a) current employer, (b) former employers considered school entities as defined therein, and (c) former employers where said employee or independent contractor had direct contact^[1] with children. PROJECT MANAGER shall provide the OWNER with an affidavit affirming that all of the current and former employer's responses came back with no affirmative responses regarding any of PROJECT MANAGER'S employees or independent contractors contemplated to work on the Project site. PROJECT MANAGER shall not allow, and the OWNER will not permit, any employee or independent contractor with any such affirmative responses indicated on any of the Sexual Misconduct/Abuse Disclosure Release forms on the school district site. In any instance where any current or former employee with regard to this paragraph is not responsive and/or fails to return any Sexual Misconduct/Abuse Disclosure Release form regarding any employee or independent contractor, the OWNER must approve said employee's or independent contractor's placement on the school district site. PROJECT MANAGER shall not allow any prospective employee or independent contractor on the job site prior to providing the OWNER with the above-referenced employment history review information for said prospective employee or independent contractor.
- 9.2.3 Child Protective Services Background Checks. Prior to commencing the work under this Agreement, PROJECT MANAGER shall submit for any employee or independent contractor who would be working on the school district site, pursuant to any work contemplated in this Agreement, an official clearance statement obtained from the Pennsylvania Department of Public Welfare, pursuant to § 6344 of the Child Protective Services Act, 23 P.S. Section 6344. The official clearance statement shall not be more than one (1) year old at the time of employment. PROJECT MANAGER shall not allow any prospective employee or independent contractor on the job site prior to providing OWNER with the above-referenced clearance statement for prospective employees or independent contractors. PROJECT MANAGER shall comply with any amendments to the Child Protective Services Act during the course of this Agreement, at PROJECT MANAGER'S sole cost and expense and PROJECT MANAGER shall not be entitled to any increase in its fee in connection with said compliance.

^[1] Direct Contact with Children is defined as "the possibility of care, supervision, guidance or control of children or routine interaction with children." 24 P.S. §1-111.1(m)

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written.

OWNER: THE WISSAHICKON SCHOOL DISTRICT

By: _____

Printed Name: _____

Title:

Date: _____

ENGINEER: D'HUY ENGINEERING, INC.

By:	Alogit

Printed Name: Arif Fazil, P.E.

Title: President

Date: <u>10/25/2021</u>

AIA Document G202[°] – 2013

Project Building Information Modeling Protocol Form

PROJECT: (Name and address) Wissahickon School District Alterations to Wissahickon Middle School 500 Houston Road Ambler, PA 19002

PROTOCOL VERSION NUMBER: 1

DATE: November 2021

PREPARED BY: D'Huy Engineering, Inc.

DISTRIBUTION TO: (List each individual to whom this protocol is distributed. Include individuals listed in Section 1.1, or reference Section 1.1, along with any additional recipients.)

1. Architect: Breslin Ridyard Fadero Architects (BRFA), 1226 Union Boulevard, Allentown, PA 18109

- 2. General Contractor: TBD
- 3. Mechanical Contractor: TBD
- 4. Electrical Contractor: TBD
- 5. Plumbing Contractor: TBD

TABLE OF ARTICLES

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- 2 LEVEL OF DEVELOPMENT
- 3 MODEL ELEMENTS

ARTICLE 1 **GENERAL PROVISIONS**

§ 1.1 This Exhibit provides for the establishment of the protocols necessary to implement the use of Building Information Modeling on the Project, including protocols that establish the expected Level of Development for Model Elements at various milestones of the Project, and the associated Authorized Uses of the Building Information Material.

(Table deleted)

§ 1.1.1 For individuals responsible for implementation of the Modeling protocols, see Article 3.2, Modeling Element Responsibilities. The Architect established the protocols for the original Model which is transferred to the Contractor(s) for refinement and implementation.

§ 1.2 This document establishes the Modeling protocols for the Project. For purposes of these protocols, the Model is comprised of the following information and other data sets: (Indicate disciplines, separate models, and other data that will be included within the Model and governed by the Modeling protocols.)

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with a Project specific AIA Document E203[™]-2013, Building Information Modeling and Digital Data Exhibit, which the Parties will incorporate into their agreement for the Project, and a Project specific AIA Document G201[™]–2013, Project Digital Data Protocol Form.

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1.2.1 The parties agree to incorporate this Exhibit by reference into any other agreement for services or construction for the Project.

§ 1.3 Protocols. The Project Participants' protocol for the collaborative utilization of the Model, if any, including communications protocol, a collaboration meeting schedule and colocation requirements.

§ 1.3.1 Coordination and Conflicts. Where conflicts are found in the Model, regardless of the phase of the Project or LOD, the discovering party shall promptly notify the Model Element Author(s). Upon such notification, the Model Element Author(s) shall act promptly to mitigate the conflict.

§ 1.3.2 Model Ownership. The Model, Model Elements and any content developed shall be provided by the Architect and used by the owner for the design, construction and future needs of the project. The Owner may make use of this data following any deliverable.

§ 1.4 Model Requirements.

§ 1.4.1 Model Standard. The Model shall be developed in accordance with the following standard, if any: Architect shall issue BIM standards to be used by the design team prior to the start of design. Standards shall include but not limited to the following:

- 1. File naming
- 2. Sheet naming
- 3. Family naming
- 4. View naming and arrangement.
- 5. Workset naming and special instructions.
- 6. File linking methods Revit, AutoCAD, Images, etc.
- 7. Text and Dimension Standards.
- 8. Project browser organization
- 9. Model exchange standards what information should be in the model when sharing with other disciplines. Care should be taken to help keep file size to a minimum when exchanging models.
- 10. Base Point a common base point should be established and documented. All model element author's shall coordinate their model by using this base point. The basepoint shall be a bench mark coordinated with the benchmark established by the surveyor for the existing conditions plan of the site.

Prior to the start of design, the Architect shall conduct a project kick off meeting with all parties involved with the design to review all project standards in further detail.

§ 1.4.2 File Format. Models shall be delivered in the following format as appropriate to the use of the Model:

	f Model BIM Authoring/Model Elements	Required File Format(s) Autodesk Revit 2019 (.rvt)
2.	Model Review	Autodesk Design Web Format (.DWF), Portable Document Format (.pdf), Navisworks/Navisworks Freedom (.nwc, .nwd, nwf)
3.	Clash Detection	Navisworks (.nwc, .nwd, nwf)
4.	Civil Site Drawings	AutoCAD Civil 3D(dwg)
5.	Other	If BIM Authoring software other than Autodesk Revit is used, all appropriate file formats required to view model with full access shall be provided.
6.	Analysis	If analysis software is used by Model Element Author, then analysis file shall be provided in the same format as the analysis software as well as analysis software in a read only format to allow for viewing of that data through a free viewer if available.

Init. 1

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Bid Documents

Autodesk Design Web Format (.dwf) Full set of 2D documents and 3D Models, Portable Document Format (.pdf) Full set of 2D Documents.

Same as 7 plus Revit (.rvt) model files to prime contractors

- 8. Construction Documents
- § 1.5 Not Used.
- § 1.6 Not Used.

§ 1.7 Model Management Protocols and Processes

(Table deleted)(Paragraphs deleted)

§ 1.7.1 The requirements for managing the Model include, but are not limited to, the duties set forth below in this Section 1.7. The Architect will manage the Model from the inception of the Project. If the responsibility for Model management will be assigned to another party at a particular phase of the Project, indicate below the identity of the party that will assume that responsibility, and the phase at which that party will assume those responsibilities.

Responsible Party	Project Phase
HVAC Contractor	Construction/As-built Drawings

(Paragraphs deleted)

§ 1.7.2 Initial Responsibilities. The party responsible for managing the Model shall facilitate the establishment of protocols for the following:

- .1 Model origin, coordinate system, and units
- .2 File storage location(s)
- .3 Processes for transferring and accessing Model files
- .4 Clash detection
- .5 Access rights
- .6 Other protocols required by Architect:

§ 1.7.3 Ongoing Responsibilities. The party responsible for managing the Model shall have the following ongoing responsibilities:

- .1 Collect incoming Models:
 - Coordinate submission and exchange of Models .1
 - .2 Log incoming Models
 - .3 Validate that files are complete and usable and in compliance with applicable protocols
 - .4 Maintain record copy of each file received
- Aggregate Model files and make available for viewing .2
- Perform clash detection in accordance with established protocols and issue periodic clash detection reports .3
- .4 Maintain Model archives and backups
- .5 Manage access rights
- Follow protocols established in Section 1.7.3 .6

§ 1.7.4 Model Archives. The party responsible for Model management as set forth in this Section 1.7 shall produce a Model Archive at the end of each Project phase and shall preserve the Model Archive as a record that may not be altered for any reason.

§ 1.7.4.1 The Model Archive shall consist of two sets of files. The first set shall be a collection of individual Models as received from the Model Element Author(s). The second set of files shall consist of the aggregate of those individual Models in a format suitable for archiving and viewing. The second set shall be saved in the following file format:

Design Review (.dwf) - 2D of all sheets and 3D of all individual Models

3

§ 1.7.4.2 Additional Model Archive requirements, if any, are as follows:

- 1. Navisworks (.nwc, nwd, .nwf) 3D of all individual models along with any 4D simulations and clash detection reports with comments.
- 2. Portable Network Files (.pdf) All documentation sheets associated to the milestone.
- 3. Any drawings that were produced in AutoCAD shall be archived in .dwg format in the same version they were produced in at the end of each Milestone.
- § 1.7.4.3 The procedures for storing and preserving the Model upon final completion of the Project are as follows:
 - 1. All Archives as defined in 1.7.4.1 and 1.7.4.2 to be delivered to the Owner on a removable hard drive.

ARTICLE 2 LEVEL OF DEVELOPMENT

§ 2.1 The Level of Development (LOD) descriptions, included in Section 2.2 through Section 2.6 below, identify the specific minimum content requirements and associated Authorized Uses for each Model Element at five progressively detailed levels of completeness. The Parties shall utilize the five LOD descriptions in completing the Model Element Table at Section 3.3.

§ 2.2 LOD 100

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

§ 2.2.2 Authorized Uses

§ 2.2.2.1 Analysis. The Model Element may be analyzed based on volume, area and orientation by application of generalized performance criteria assigned to other Model Elements.

§ 2.2.2.2 Cost Estimating. The Model Element may be used to develop a cost estimate based on current area, volume or similar conceptual estimating techniques (e.g., square feet of floor area, condominium unit, hospital bed, etc.).

§ 2.2.3. Schedule. The Model Element may be used for Project phasing and determination of overall Project duration.

§ 2.2.2.4 Other Authorized Uses. Additional Authorized Uses of the Model Element developed to LOD 100, if any, are as follows:

Site Development, programming and overall building massing. 1.

§ 2.3 LOD 200

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

§ 2.3.2 Authorized Uses

§ 2.3.2.1 Analysis. The Model Element may be analyzed for performance of selected systems by application of generalized performance criteria assigned to the representative Model Elements.

§ 2.3.2.2 Cost Estimating. The Model Element may be used to develop cost estimates based on the approximate data provided and quantitative estimating techniques (e.g., volume and quantity of elements or type of system selected).

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

§ 2.3.2.4 Coordination. The Model Element may be used for general coordination with other Model Elements in terms of its size, location and clearance to other Model Elements.

§ 2.3.2.5 Other Authorized Uses. Additional Authorized Uses of the Model Element developed to LOD 200, if any, are as follows:

- 1. General Code Review
- 2. Project Phasing and Simulation
- 3. Constructability
- 4. Solar Study
- Visualization 5.
- 6. **Energy Analysis**
- 7. Green Building Analysis
- 8. Structural Analysis

§ 2.4 LOD 300

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

§ 2.4.2 Authorized Uses

§ 2.4.2.1 Analysis. The Model Element may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Element.

§ 2.4.2.2 Cost Estimating. The Model Element may be used to develop cost estimates suitable for procurement based on the specific data provided.

§ 2.4.2.3 Schedule. The Model Element may be used to show ordered, time-scaled appearance of detailed elements and systems.

§ 2.4.2.4 Coordination. The Model Element may be used for specific coordination with other Model Elements in terms of its size, location and clearance to other Model Elements including general operation issues.

§ 2.4.2.5 Other Authorized Uses. Additional Authorized Uses of the Model Element developed to LOD 300, if any, are as follows:

- **Clash Detection** 1.
- 2. Visualization
- 3. **Energy Analysis**
- Green Building Analysis 4.
- 5. Structural Analysis
- 6. Project Phasing and Simulation
- General Code Review 7.

§ 2.5 LOD 400

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

§ 2.5.2 Authorized Uses

§ 2.5.2.1 Analysis. The Model Element may be analyzed for performance of systems by application of actual performance criteria assigned to the Model Element.

§ 2.5.2.2 Cost Estimating. Costs are based on the actual cost of the Model Element at buyout.

§ 2.5.2.3 Schedule. The Model may be used to show ordered, time-scaled appearance of detailed specific elements and systems including construction means and methods.

§ 2.5.2.4 Coordination. The Model Element may be used for coordination with other Model Elements in terms of its size, location and clearance to other Model Elements, including fabrication, installation and detailed operation issues.

5

§ 2.5.2.5 Other Authorized Uses. Additional Authorized Uses of the Model Element developed to LOD 400, if any, are as follows:

- 1. Extract Building Information
- 2. Visualization
- 3. **Facilities Management**

§ 2.6 LOD 500

§ 2.6.1 Model Element Content Requirements. The Model Element is a field verified representation in terms of size, shape, location, quantity, and orientation. Non-graphic information may also be attached to the Model Elements.

§ 2.6.2 Authorized Uses. Specific Authorized Uses of the Model Element developed to LOD 500, if any, are as follows:

- 1. **Extract Building Information**
- 2. Visualization
- **Facilities Management** 3.

ARTICLE 3 MODEL ELEMENTS

§ 3.1 Reliance on Model Elements

§ 3.1.1 At any particular Project milestone, a Project Participant may rely on the accuracy and completeness of a Model Element only to the extent consistent with the minimum data required for the Model Element's LOD for that Project milestone as identified below in the Model Element Table, even if the content of a specific Model Element includes data that exceeds the minimum data required for the identified LOD.

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(Paragraphs deleted)

§ 3.2 Table Instructions

§ 3.2.1 The Model Element Table in Section 3.3 indicates the LOD to which each Model Element shall be developed at each identified Project milestone and the Model Element Author.

§ 3.2.2 Abbreviations for each Model Element Author to be used in the Model Element Table are as follows: (*Provide abbreviations, such as "A—Architect," or "C—Contractor."*)

Abbreviation	Model Element Author (MEA)
Α	Architect
E	Mechanical, Electrical, Plumbing Engineer
CE	Civil Engineer
С	Contractor

§ 3.3 Model Element Table Identify (1) the LOD required for each Model Element at each Project milestone, (2) the Model Element Author, and (3) references to any applicable notes found in Section 3.4. Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor." NOTE: LODs must be adapted for the unique characteristics of each Project.		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes			Notes	LOD	MEA	Notes	LOD	MEA	Notes	
A SUBSTRUCTURE																			
A10 FOUNDATIONS																			
A1010 Standard Foundations																			
A1010.10 Wall Foundations	0	NA		100	Α		200	Α		300	Α		300	С		300	С		1
A1010.30 Column Foundations	0	NA		100	А		200	А		300	А		300	С		300	С		1
A1010.90 Standard Foundation Supplementary Components	0	NA		100	А		200	А		300	Α		300	С		300	С		1
A1020 Special Foundations																			
A1020.10 Driven Piles	0	NA		100	А		200	А		300	А		300	С		300	С		1
A1020.15 Bored Piles	0	NA		100	Α		200	A		300	A		300	С		300	С		1
A1020.20 Caissons	0	NA		100	A		200	A		300	A		300	C		300	С		1
A1020.30 Special Foundation Walls	0	NA		100	A		200	A		300	A		300	С		300	С		1
A1020.40 Foundation Anchors	0	NA		100	A		200	A		300	A		300	С		300	C		1
A1020.50 Underpinning	0	NA		100	A		200	A		300	A		300	С		300	С		1
A1020.60 Raft Foundations	0	NA		100	A		200	A		300	A		300	С		300	С		1
A1020.70 Pile Caps	0	NA		100	A		200	A		300	A		300	С		300	C		1

§ 3.3 Model Element Table Identify (1) the LOD required for each Model Element at each Project milestone, (2) the Model Element Author, and (3) references to any applicable notes found in Section 3.4. Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor." NOTE: LODs must be adapted for the unique characteristics of each Project.		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements Utilizing CSI UniFormat TM	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
A1020.80 Grade Beams	0	NA		100	А		200	А		300	А		300	С		300	С		1
A20 SUBGRADE ENCLOSURES																			
A2010 Walls for Subgrade Enclosures																			
A2010.10 Subgrade Enclosure Wall Construction	0	NA		100	А		200	A		300	А		300	С		300	С		1
A2010.20 Subgrade Enclosure Wall Interior Skin	0	NA		100	A		200	A		300	A		300	C		300	С		1
A2010.90 Subgrade Enclosure Wall Supplementary Components	0	NA		100	A		200	A		300	A		300	С		300	с		1
A40 SLABS-ON-GRADE																			
A4010 Standard Slabs-on-Grade	0	NA		100	А		200	А		300	А		300	С		300	С		1
A4020 Structural Slabs-on-Grade	0	NA		100	А		200	Α		300	Α		300	С		300	С		1
A4030 Slab Trenches	0	NA		100	А		200	А		300	Α		300	С		300	С		1
A4040 Pits and Bases	0	NA		100	А		200	А		300	А		300	С		300	С		1
A4090 Slab-On-Grade Supplementary Components																			
A4090.10 Perimeter Insulation	0	NA		100	А		200	А		300	А		300	С		300	С		1
A4090.20 Vapor Retarder	0	NA		100	A		200	A		300	A		300	C		300	C		1
A4090.30 Waterproofing	0	NA		100	A		200	A		300	A		300	C		300	С		1
A4090.50 Mud Slab	0	NA		100	A		200	A		300	A		300	C		300	С		1
A4090.60 Subbase Layer	0	NA		100	A		200	A		300	A		300	С		300	С		1
A60 WATER AND GAS MITIGATION		1121		100	11		200			500	11		500	0		500	C		
A6010 Building Subdrainage																			
A6010.10 Foundation Drainage	0	NA		100	А		200	А		300	А		300	С		300	С		1
A6010.20 Underslab Drainage	0	NA		100	A		200	A		300	A		300	C		300	С		1
A6020 Off-Gassing Mitigation				100			200												
A6020.10 Radon Mitigation	0	NA		100	А		200	А		300	А		300	С		300	С		1
A6020.50 Methane Mitigation	0	NA		100	A		200	A		300	A		300	C		300	С		1
A90 SUBSTRUCTURE RELATED ACTIVITIES		1.121		100			200			500			500			500	U		
A9010 Substructure Excavation																			
A9010.10 Backfill and Compaction	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
A9020 Construction Dewatering	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		

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Identify (1) the milestone, (2) th applicable note Insert abbrevia, "A – Architect,"	Element Table LOD required for each Model Element at each Project the Model Element Author, and (3) references to any s found in Section 3.4. tions for each MEA identified in the table below, such as ' or "C – Contractor." must be adapted for the unique characteristics of each		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements	Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
A9030	Excavation Support																			
	A9030.10 Anchor Tiebacks	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	A9030.20 Cofferdams	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	A9030.40 Cribbing and Walers	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	A9030.60 Ground Freezing	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	A9030.70 Slurry Walls	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
A9040	Soil Treatment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
B SHELL B10 SUPER	STRUCTURE																			
B1010	Floor Construction																			
	B1010.10 Floor Structural Frame	0	NA		100	А		200	А		300	Α		300	С		300	С		1
	B1010.20 Floor Decks, Slabs, and Toppings	0	NA		100	A		200	A		300	A		300	С		300	С		1
	B1010.30 Balcony Floor Construction	0	NA		100	A		200	A		300	A		300	С		300	C		1
	B1010.40 Mezzanine Floor Construction	0	NA		100	A		200	A		300	A		300	С		300	C C		1
	B1010.50 Ramps	0	NA		100			200			300			300	С		300	c		1
	B1010.90 Floor Construction Supplementary Components	0	NA			A			A		300	A		300	c		300	c		1
B1020	Roof Construction	0	INA		100	A		200	A		300	A		300	U		300	C		1
	B1020.10 Roof Structural Frame	0	NA		100	А		200	Α		300	A		300	С		300	С		1
	B1020.20 Roof Decks, Slabs, and Sheathing	0	NA		100	A		200	A		300	A		300	С		300	С		1
	B1020.30 Canopy Construction	0	NA		100	A		200	A		300	A		300	С		300	С		1
	B1020.90 Roof Construction Supplementary Components	0	NA		100	A		200	A		300	A		300	с с		300	c		1
B1080	Stairs	0	INA		100	A		200	A		500	A		300	U		500			1
	B1080.10 Stair Construction	0	NA		100	А		200	А		300	Α		300	С		300	С		1
	B1080.30 Stair Soffits	0	NA		100	A		200	A		300	A		300	С		300	С		1
		0	INA		100	Λ		200	A		500	Α		500	C		500			1

§ 3.3 Model Element Table Identify (1) the LOD required for each Model Element at each Project milestone, (2) the Model Element Author, and (3) references to any applicable notes found in Section 3.4. Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor." NOTE: LODs must be adapted for the unique characteristics of each Project.		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
B1080.60 Fire Escapes	0	NA		100	А		200	Α		300	Α		300	С		300	С		1
B1080.70 Metal Walkways	0	NA		100	A		200	A		300	A		300	С		300	С		1
B1080.80 Ladders	0	NA		100	A		200	A		300	A		300	С		300	С		1
B20 EXTERIOR VERTICAL ENCLOSURES		1111		100			200			500	11		500	<u> </u>		500			
B2010 Exterior Walls																			
B2010.10 Exterior Wall Veneer	0	NA		100	А		200	Α		300	Α		300	С		300	С		1
B2010.20 Exterior Wall Construction	0	NA		100	A		200	A		300	A		300	С		300	С		
B2010.30 Exterior Wall Interior Skin	0	NA		100	A		200	A		300	A		300	C		300	С		1
B2010.40 Fabricated Exterior Wall Assemblies	0	NA		100	A		200	A		300	A		300	C		300	С		1
B2010.50 Parapets	0	NA		100	A		200	A		300	A		300	С		300	С		1
B2010.60 Equipment Screens	0	NA		100	A		200	A		300	A		300	С		300	С		1
B2010.80 Exterior Wall Supplementary Components	0	NA		100	A		200	A		300	A		300	С		300	С		1
B2010.90 Exterior Wall Opening Supplementary Components	0	NA		100			200	A		300			300	c		300	с		1
B2020 Exterior Windows	0	INA		100	A		200	A		300	A		500	<u> </u>		300	Ľ		1
B2020.10 Exterior Operating Windows	0	NA		100	А		200	Α		300	Α		300	С		300	С		1
B2020.20 Exterior Fixed Windows	0	NA		100	A		200	A		300	A		300	С		300	С		1
B2020.30 Exterior Window Wall	0	NA		100	A		200	A		300	A		300	c		300	С		1
B2020.50 Exterior Special Function Windows	0	NA		100	A		200	A		300	A		300	<u>с</u>		300	С		1
B2050 Exterior Doors and Grilles	0	INA		100	A		200	A		300	A		500	U		300	C		1
B2050.10 Exterior Entrance Doors	0	NA		100	А		200	Α		300	Α		300	С		300	С		1
B2050.20 Exterior Utility Doors	0	NA		100	A		200	A		300	A		300	c		300	С		1
B2050.30 Exterior Oversize Doors	0	NA		100	A		200	A		300	A		300	С		300	С		1
B2050.40 Exterior Special Function Doors	0	NA		100	A		200	A		300	A		300	c		300	С		1
B2050.60 Exterior Grilles	0	NA		100	A		200	A		300	A		300	c		300	С		1
B2050.70 Exterior Gates	0	NA		100	A		200	A		300	A		300	<u>с</u>		300	С		1
B2050.90 Exterior Door Supplementary Components	0	NA		100	A		200	A		300	A		300	<u>с</u>		300	c		1
B2070 Exterior Louvers and Vents	U	INA		100	A		200	A		500	A		500	C		500	U		1

1

milestone, (2) th applicable notes Insert abbreviat "A – Architect,"	Element Table LOD required for each Model Element at each Project the Model Element Author, and (3) references to any s found in Section 3.4. tions for each MEA identified in the table below, such as t or "C – Contractor." must be adapted for the unique characteristics of each		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements	Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
	B2070.10 Exterior Louvers	0	NA		100	А		200	А		300	Α		300	С		300	С		1
	B2070.50 Exterior Vents	0	NA		100	A		200	Α		300	A		300	С		300	С		1
B2080	Exterior Wall Appurtenances				100			200			200			200			200			
	B2080.10 Exterior Fixed Grilles and Screens	0	NA		100	А		200	А		300	Α		300	С		300	С		1
	B2080.30 Exterior Opening Protection Devices	0	NA		100	А		200	А		300	Α		300	С		300	С		1
	B2080.50 Exterior Balcony Walls and Railings	0	NA		100	A		200	A		300	A		300	C		300	C		1
	B2080.70 Exterior Fabrications	0	NA		100	A		200	A		300	A		300	С		300	С		
	B2080.80 Bird Control Devices	0	NA											300	c			С		1
B2090	Exterior Wall Specialties				100	A		200	A		300	A					300			
	RIOR HORIZONTAL ENCLOSURES	0	NA		100	A		200	A		300	A		300	С		300	С		
B3010	Roofing																			
	B3010.10 Steep Slope Roofing	0	NA		100	А		200	А		300	Α		300	С		300	С		1
	B3010.50 Low-Slope Roofing	0	NA		100	A		200	A		300			300	С		300	С		1
	B3010.70 Canopy Roofing											A								
	B3010.90 Roofing Supplementary Components	0	NA		100	A		200	A		300	A		300	C		300	C		
B3020	Roof Appurtenances	0	NA		100	A		200	A		300	A		300	С		300	С		1
B 5020	B3020.10 Roof Accessories																			
	B3020.30 Roof Specialties	0	NA		100	A		200	A		300	A		300	С		300	С		1
	B3020.70 Rainwater Management	0	NA		100	A		200	A		300	A		300	С		300	С		1
D2 040	e	0	NA		100	A		200	A		300	A		300	С		300	С		1
B3040	B3040.10 Traffic Bearing Coatings																			
	0 0	0	NA		100	A		200	A		300	A		300	С		300	С		1
	B3040.30 Horizontal Waterproofing Membrane	0	NA		100	Α		200	А		300	Α		300	С		300	С		1
	B3040.50 Wear Surfaces	0	NA		100	Α		200	Α		300	Α		300	С		300	С		1
	B3040.90 Horizontal Enclosure Supplementary Components	0	NA		100	Α		200	Α		300	Α		300	С		300	С		1
B3060	Horizontal Openings																			
	B3060.10 Roof Windows and Skylights	0	NA		100	Α		200	А		300	Α		300	С		300	С		1
	B3060.50 Vents and Hatches	0	NA		100	А		200	А		300	А		300	С		300	С		1

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Model Elements Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
B3060.90 Horizontal Opening Supplementary Component	s 0	NA		100	Α		200	Α		300	Α		300	С		300	С		1
B3080 Overhead Exterior Enclosures																			
B3080.10 Exterior Ceilings	0	NA		100	А		200	Α		300	Α		400	С		400	С		1
B3080.20 Exterior Soffits	0	NA		100	А		200	Α		300	Α		400	С		400	С		1
B3080.30 Exterior Bulkheads	0	NA		100	A		200	A		300	A		400	С		400	С		1
C INTERIORS							200										0		
C10 INTERIOR CONSTRUCTION																			
C1010 Interior Partitions																			
C1010.10 Interior Fixed Partitions	0	NA		100	Α		200	А		300	Α		400	С		400	С		1
C1010.20 Interior Glazed Partitions	0	NA		100	A		200	A		300	A		400	C		400	С		1
C1010.40 Interior Demountable Partitions	0	NA		100	A		200	A		300	A		400	C		400	С		1
C1010.50 Interior Operable Partitions	0	NA		100	A		200	A		300	A		400	С		400	c		1
C1010.70 Interior Screens	0	NA		100	A		200	A		300	A		400	С		400	c		1
C1010.90 Interior Partition Supplementary Components	0												400	С		400	<u>с</u>		1
C1020 Interior Windows	0	NA		100	A		200	A		300	A			C			Ľ		
C1020.10 Interior Operating Windows				100			200			200			400			400			
C1020.20 Interior Fixed Windows	0	NA		100	A		200	A		300	A		400	C		400	C		<u> </u>
C1020.50 Interior Special Function Windows	0	NA		100	A		200	A		300	A		400	С		400	С		1
C1020.90 Interior Window Supplementary Components	0	NA		100	A		200	A		300	A		400	С		400	С		1
	0	NA		100	A		200	A		300	A		400	С		400	С		1
C1030 Interior Doors													400			400			
C1030.10 Interior Swinging Doors	0	NA		100	Α		200	A		300	A		400	C		400	С		1
C1030.20 Interior Entrance Doors	0	NA		100	A		200	A		300	Α		400	С		400	С		1
C1030.25 Interior Sliding Doors	0	NA		100	А		200	Α		300	Α		400	С		400	С		1
C1030.30 Interior Folding Doors	0	NA		100	А		200	A		300	Α		400	С		400	С		1
C1030.40 Interior Coiling Doors	0	NA		100	Α		200	А		300	Α		400	С		400	С		1
C1030.50 Interior Panel Doors	0	NA		100	А		200	А		300	Α		400	С		400	С		1
C1030.70 Interior Special Function Doors	0	NA		100	A		200	A		300	A		400	C		400	С		1
		11/1	I	100	11		200	11	1	500	~ * *				1		~		

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Model Elements Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
C1030.80 Interior Access Doors and Panels	0	NA		100	А		200	А		300	Α		400	С		400	С		1
C1030.90 Interior Door Supplementary Components	0	NA		100	А		200	А		300	А		400	С		400	С		1
C1040 Interior Grilles and Gates																			
C1040.10 Interior Grilles																			
C1040.50 Interior Gates	0	NA		100	А		200	А		300	А		400	С		400	С		1
C1060 Raised Floor Construction																			
C1060.10 Access Flooring	0	NA		100	А		200	А		300	А		400	С		400	С		1
C1060.30 Platform/Stage Floors	0	NA		100	A		200	A		300	A		400	С		400	С		1
C1070 Suspended Ceiling Construction				100															
C1070.10 Acoustical Suspended Ceilings	0	NA		100	А		200	А		300	А		400	С		400	С		1
C1070.20 Suspended Plaster and Gypsum Board Ceilings	0	NA		100	А		200	А		300	Α		400	С		400	С		1
C1070.50 Specialty Suspended Ceilings	0	NA		100	А		200	А		300	Α		400	С		400	С		1
C1070.70 Special Function Suspended Ceilings	0	NA		100	А		200	А		300	А		400	С		400	С		1
C1070.90 Ceiling Suspension Components	0	NA		100	А		200	А		300	А		400	С		400	С		1
C1090 Interior Specialties																			
C1090.10 Interior Railings and Handrails	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.15 Interior Louvers	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.20 Information Specialties	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.25 Compartments and Cubicles	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.30 Service Walls	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.35 Wall and Door Protection	0	NA		100	Α		200	А		300	Α		300	С		300	С		1
C1090.40 Toilet, Bath, and Laundry Accessories	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.45 Interior Gas Lighting	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.50 Fireplaces and Stoves	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.60 Safety Specialties	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.70 Storage Specialties	0	NA		100	А		200	А		300	А		300	С		300	С		1
C1090.90 Other Interior Specialties	0	NA		100	А		200	А		300	А		300	С		300	С		1

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Model Elements Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
C20 INTERIOR FINISHES																			
C2010 Wall Finishes																			
C2010.10 Tile Wall Finish	0	NA		100	Α		200	Α		300	Α		300	С		300	С		1
C2010.20 Wall Paneling	0	NA		100	А		200	А		300	А		300	С		300	С		1
C2010.30 Wall Coverings	0	NA		100	А		200	А		300	А		300	С		300	С		1
C2010.35 Wall Carpeting	0	NA		100	Α		200	А		300	А		300	С		300	С		1
C2010.50 Stone Facing	0	NA		100	Α		200	А		300	А		300	С		300	С		1
C2010.60 Special Wall Surfacing	0	NA		100	A		200	A		300	A		300	С		300	С		1
C2010.70 Wall Painting and Coating	0	NA		100	A		200	A		300	A		300	С		300	С		1
C2010.80 Acoustical Wall Treatment	0	NA		100	A		200	A		300	A		300	С		300	С		1
C2010.90 Wall Finish Supplementary Components	0	NA		100	A		200	A		300	A		300	С		300	С		1
C2020 Interior Fabrications		INA		100	A		200	A		300	A		500			300			
C2030 Flooring																			
C2030.10 Flooring Treatment	0	NA		100	Α		200	А		300	А		300	С		300	С		1
C2030.20 Tile Flooring	0	NA		100	А		200	А		300	А		300	С		300	С		1
C2030.30 Specialty Flooring	0	NA		100	A		200	Α		300	A		300	С		300	С		1
C2030.40 Masonry Flooring	0	NA		100	A		200	A		300	A		300	С		300	С		1
C2030.45 Wood Flooring	0	NA		100	A		200	A		300	A		300	С		300	С		1
C2030.50 Resilient Flooring	0	NA		100	A		200	A		300	A		300	c		300	С		1
C2030.60 Terrazzo Flooring	0	NA		100	A		200	A		300	A		300	c		300	С		1
C2030.70 Fluid-Applied Flooring	0	NA		100	A		200	A		300	A		300	c		300	c		1
C2030.75 Carpeting	0	NA		100	A		200	A		300	A		300	c		300	c		1
C2030.80 Athletic Flooring	0	NA		100			200			300			300	<u>с</u>		300	c		1
C2030.85 Entrance Flooring					A			A			A								1
C2030.90 Flooring Supplementary Components	0	NA		100	A		200	A		300	A		300	C		300	С		<u> </u>
C2040 Stair Finishes	0	NA		100	A		200	A		300	A		300	С		300	С		1
C2040 Starr Finish		NIA		100			200			200			200	0		200	0		1
	0	NA		100	A		200	A		300	A		300	С		300	C		1

Identify (1) the I milestone, (2) th applicable notes Insert abbreviat "A – Architect,"	Lement Table LOD required for each Model Element at each Project the Model Element Author, and (3) references to any s found in Section 3.4. Tions for each MEA identified in the table below, such as tor "C – Contractor."		Preliminary Design			Schematic Design			Design Development			Construction Documents		Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
	Utilizing CSI UniFormat™	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD		LOD		Notes	LOD	MEA	Notes	
	C2040.40 Masonry Stair Finish	0	NA		100	А		200	Α		300	Α	300	С		300	С		1
	C2040.45 Wood Stair Finish	0	NA		100			200			300		300	С		300	c		1
	C2040.50 Resilient Stair Finish	0	NA		100	A		200	A		300	A	300	С		300	c		1
	C2040.60 Terrazzo Stair Finish	0	NA		100	A		200	A		300	A	300	С		300	c		1
	C2040.75 Carpeted Stair Finish	0			100						300		300	С		300	<u>с</u>		1
C2050		0	NA		100	A		200	A		300	A	300	C		500	<u> </u>		1
	C2050.10 Plaster and Gypsum Board Finish	0	NA		100	Α		200	Α		300	Α	400	С		400	С		1
	C2050.20 Ceiling Paneling	0	NA		100	A		200	A		300	A	400	С		400	С		1
	C2050.70 Ceiling Painting and Coating	0	NA		100	A		200	A		300	A	400	С		400	С		1
	C2050.80 Acoustical Ceiling Treatment	0	NA		100	A		200	A		300	A	400	с		400	С		1
	C2050.90 Ceiling Finish Supplementary Components	0	NA		100			200			300		400	с		400	c		1
C2090	Interior Finish Schedules	NA	NA		NA	A NA		NA	A NA		NA	A NA	300	C C		300	с С		1
D SERVICES																			
D10 CONVE	EYING																		
D1010	Vertical Conveying Systems																		
	D1010.10 Elevators	0	NA		100	Α		200	Α		300	Α	400	С		400	С		1
	D1010.20 Lifts	0	NA		100	Α		200	Α		300	Α	400	С		400	С		1
	D1010.30 Escalators	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
	D1010.50 Dumbwaiters	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
	D1010.60 Moving Ramps	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
D1030	Horizontal Conveying																		
	D1030.10 Moving Walks	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
	D1030.30 Turntables	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
	D1030.50 Passenger Loading Bridges	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
	D1030.70 People Movers	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		

dentify (1) the 1 nilestone, (2) th upplicable notes Insert abbreviat "A – Architect,"	Element Table LOD required for each Model Element at each Project ne Model Element Author, and (3) references to any s found in Section 3.4. tions for each MEA identified in the table below, such as t or "C – Contractor." nust be adapted for the unique characteristics of each		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements	Utilizing CSI UniFormat TM	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
D1050	Material Handling																			
	D1050.10 Cranes	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1050.20 Hoists	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1050.30 Derricks	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1050.40 Conveyors	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1050.50 Baggage Handling Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1050.60 Chutes	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1050.70 Pneumatic Tube Systems	NA	NA			NA		NA	NA		NA	NA		NA	NA			NA		
D1080	Operable Access Systems	INA	INA		NA	INA		INA	INA		INA	INA		INA	INA		NA	INA		
D1000	D1080.10 Suspended Scaffolding	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1080.20 Rope Climbers	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1080.30 Elevating Platforms	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1080.40 Powered Scaffolding	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	D1080.50 Building Envelope Access	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
D20 PLUM		NA	INA		INA	INA		NA	INA		INA	INA		INA	INA		INA	INA		
D20 1 2010	Domestic Water Distribution																			
D2010	D2010.10 Facility Potable-Water Storage Tanks																			
	D2010.20 Domestic Water Equipment	0	NA		100	Е		200	E		300	E		300	С		300	С		1
	D2010.20 Domestic Water Equipment	0	NA		100	Е		200	E		300	E		300	С		300	С		1
	D2010.60 Plumbing Fixtures	0	NA		100	E		200	E		300	E		400	С		500	С		1
	D2010.00 Plumbing Fixtures D2010.90 Domestic Water Distribution Supplementary	0	NA		100	E		200	E		300	E		300	С		300	С		1
D2020		0	NA		100	E		200	E		300	E		400	С		400	С		1
D2020	Sanitary Drainage																			
	D2020.10 Sanitary Sewerage Equipment	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D2020.30 Sanitary Sewerage Piping	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
	D2020.90 Sanitary Drainage Supplementary Components	0	NA		100	Е		200	E		300	Е		400	С		400	С		1
D2030	Building Support Plumbing Systems																		<u> </u>	
	D2030.10 Stormwater Drainage Equipment	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1

milestone, (2) the applicable notes Insert abbreviati "A – Architect,"	ement Table OD required for each Model Element at each Project e Model Element Author, and (3) references to any found in Section 3.4. ons for each MEA identified in the table below, such as or "C – Contractor." ust be adapted for the unique characteristics of each		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements U	Jtilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
	D2030.20 Stormwater Drainage Piping	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
	D2030.30 Facility Stormwater Drains	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
	D2030.60 Gray Water Systems	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
	D2030.90 Building Support Plumbing System Supplementary	0	NA		100	E		200	E		300	E		400	С		500	С		1
D2050	General Service Compressed-Air		11/1		100			200			500			100			500			
D2060	Process Support Plumbing Systems																			
	D2060.10 Compressed-Air Systems	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D2060.20 Vacuum Systems	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D2060.30 Gas Systems	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D2060.40 Chemical-Waste Systems	0	NA		100	E		200	E		300	E		300	C		300	C		1
	D2060.50 Processed Water Systems	0	NA		100	E		200	E		300	E		300	С		300	C		1
	D2060.90 Process Support Plumbing System Supplementary Components	0	NA		100	E		200	E		300	E		300	С		300	С		1
D30 HEATIN	NG, VENTILATION, AND AIR CONDITIONING (HVAC)																			
D3010	Facility Fuel Systems																			
	D3010.10 Fuel Piping	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D3010.30 Fuel Pumps	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D3010.50 Fuel Storage Tanks	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
D3020	Heating Systems	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D3020.10 Heat Generation	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D3020.30 Thermal Heat Storage	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D3020.70 Decentralized Heating Equipment	0	NA		100	E		200	E		300	E		300	С		300	С		1
	D3020.90 Heating System Supplementary Components	0	NA		100	E		200	E		300	E		300	С		300	С		1
D3030	Cooling Systems		1121		100			200	Ľ		500	Ľ		500	0		500			
	D3030.10 Central Cooling	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
	D3030.30 Evaporative Air-Cooling	0	NA		100	E		200	E		300	E		300	С		300	c		1
	D3030.50 Thermal Cooling Storage	0	NA		100	E		200	E		300	E		300	С		300	c		1
	D3030.70 Decentralized Cooling																			1
		0	NA		100	Е		200	E		300	E		300	С		300	С		1

Init.

1

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Model Elements Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
D3030.90 Cooling System Supplementary Components	0	NA		100	Е		200	Е		300	Е		300	С		300	С		1
D3050 Facility HVAC Distribution Systems	Ť			100			200						200						
D3050.10 Facility Hydronic Distribution	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
D3050.30 Facility Steam Distribution	0	NA		100	E		200	E		300	E		400	С		500	С		1
D3050.50 HVAC Air Distribution	0	NA		100	E		200	E		300	E		400	С		500	С		1
D3050.90 Facility Distribution Systems Supplementary	0	INA		100	E		200	Ľ		300	Е		400	<u> </u>		500			1
Components	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
D3060 Ventilation																			
D3060.10 Supply Air	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
D3060.20 Return Air	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
D3060.30 Exhaust Air	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
D3060.40 Outside Air	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
D3060.60 Air-to-Air Energy Recovery	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
D3060.70 HVAC Air Cleaning	0	NA		100	E		200	E		300	E		400	С		500	с		1
D3060.90 Ventilation Supplementary Components	0	NA		100	E		200	E		300	E		400	c		500	с		
D3070 Special Purpose HVAC Systems	0	NA		100	E		200	E		300	E		400	<u> </u>		300			
D3070.10 Snow Melting	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
D40 FIRE PROTECTION	INA	INA		INA	INA		INA	INA		INA	INA		INA	INA		INA	INA		
D4010 Fire Suppression	-																		
D4010.10 Water-Based Fire-Suppression	0	NA		100	Е		200	Е		300	Е		400	С		500	С		1
D4010.50 Fire-Extinguishing	0	NA		100	E		200	E		300	E		400	c		500	с		
D4010.90 Fire Suppression Supplementary Components	0	NA		100	E		200	E		300	E		400	<u>с</u>		500	С		
D4030 Fire Protection Specialties		IN/A		100	Ľ		200	Ľ		500	Е		400	C		500	C		
D4030.10 Fire Protection Cabinets				100	Г		200	Б		200	F		400	C		500	C		
D4030.30 Fire Extinguishers	0	NA		100	E		200	E		300	E		400	C		500	C		
D4030.50 Breathing Air Replenishment Systems	0	NA		100	E		200	E		300	E		400	С		500	С		1
	0	NA		100	E		200	E		300	E		400	С		500	С		1
	0	NA		100	E		200	Е		300	E		400	С		500	С		1
D50 ELECTRICAL																			

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D5010 Facility Power Generation																			
D5010.10 Packaged Generator Assemblies	0	NA		0	NA		100	Е		200	Е		300	С		300	С		1
D5010.20 Battery Equipment	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
D5010.30 Photovoltaic Collectors	0	NA		0	NA		100	E		200	E		200	С		200	С		
D5010.40 Fuel Cells	0			0			100	E		200	E		200	C C			С		
D5010.60 Power Filtering and Conditioning		NA			NA											200			
D5010.70 Transfer Switches	0	NA		0	NA		100	E		200	E		200	С		200	С		1
	0	NA		0	NA		100	E		200	Е		300	С		300	С		1
D5010.90 Facility Power Generation Supplementary Components	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
D5020 Electrical Service and Distribution																			
D5020.10 Electrical Service																			
D5020.30 Power Distribution	0	NA		0	NA		100	Е		200	Е		400	С		400	С		1
D5020.70 Facility Grounding	0	NA		0	NA		100	Е		200	Е		400	С		400	С		1
D5020.90 Electrical Service and Distribution Supplementary Components	0	NA		0	NA		100	Е		200	Е		400	С		400	С		1
D5030 General Purpose Electrical Power																			1
D5030.10 Branch Wiring System	0	NA		0	NA		100	Е		200	Е		400	С		400	С		1
D5030.50 Wiring Devices	0	NA		0	NA		100	Е		200	Е		400	С		400	С		1
D5030.90 General Purpose Electrical Power Supplementary Components	0	NA		0	NA		100	E		200	E		400	С		400	С		1
D5040 Lighting																			
D5040.10 Lighting Control	0	NA		0	NA		100	Е		200	Е		400	С		400	С		1
D5040.20 Branch Wiring for Lighting	0	NA		0	NA		100	E		200	E		400	С		400	С		1
D5040.50 Lighting Fixtures	0	NA		0	NA		100	E		200	E		400	С		400	С		1
D5040.90 Lighting Supplementary Components	0	NA		0	NA		100	E		200	E		400	С		400	С		1
D5080 Miscellaneous Electrical Systems		11/4		0	INPA		100	Ľ		200	Е		400	C		400			I
D5080.10 Lightning Protection	0	NA		0	NA		100	Е		200	Е		400	С		400	С		1
D5080.40 Cathodic Protection	0	NA		0	NA		100	E		200	E		400	c		400	c		1
D5080.70 Transient Voltage Suppression	1																		
	0	NA		0	NA		100	E		200	E		400	С		400	С		1

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D5080.90 Miscellaneous Electrical Systems Supplementary Components	0	NA		0	NA		100	Е		200	Е		400	С		400	С		1
D60 COMMUNICATIONS																			
D6010 Data Communications																			
D6010.10 Data Communications Network Equipment	0	NA		0	NA		100	E		200	E		300	С		300	С		1
D6020.20 Data Communications Hardware	0	NA		0	NA		100	Е		200	Е		300	С		300	С		1
D6010.30 Data Communications Peripheral Data Equipment	0	NA		0	NA		100	Е		200	Е		300	С		300	С		1
D6010.50 Data Communications Software	0	NA		0	NA		100	Е		200	Е		300	С		300	С		1
D6010.60 Data Communication Program and Integration Services	0	NA		0	NA		100	Е		200	Е		300	С		300	С		1
D6020 Voice Communications																			
D6020.10 Voice Communications Switching and Routing Equipment	0	NA		0	NA		100	Е		200	Е		300	С		300	С		1
D6020.20 Voice Communications Terminal Equipment	0	NA		0	NA		100	Е		200	Е		300	С		300	С		1
D6020.30 Voice Communications Messaging	0	NA		0	NA		100	Е		200	Е		300	С		300	С		1
D6020.40 Call Accounting	0	NA		0	NA		100	Е		200	Е		300	С		300	С		1
D6020.50 Call Management	0	NA		0	NA		100	E		200	E		300	С		300	C		1
D6030 Audio-Video Communication		1121			1411		100	Ľ		200			500	0		500			
D6030.10 Audio-Video Systems	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
D6030.50 Electronic Digital Systems	0	NA		0	NA		100	E		200	E		200	С		200	c		
D6060 Distributed Communications and Monitoring	v	1 42 1			14/1		100	L		200	L		200			200	<u> </u>		
D6060.10 Distributed Audio-Video Communications Systems	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
D6060.30 Healthcare Communications and Monitoring	0	NA		0	NA		100	E		200	E		200	С		200	c		1
D6060.50 Distributed Systems	0																<u>с</u>		1
D6090 Communications Supplementary Components	0	NA		0	NA		100	E		200	E		200	С		200	U		
D6090.10 Supplementary Components	0	NA		0	NA		100	Е		200	Е		200	С		200	C		1
D70 ELECTRONIC SAFETY AND SECURITY	U	INA		0	NA		100	Е		200	E		200	C		200	C		
D7010 Access Control and Intrusion Detection																			
D7010.10 Access Control	0	NA		0	NA		100	Е		200	Е		200	С		200	С		

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Model Elements Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
D7010.50 Intrusion Detection	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
D7030 Electronic Surveillance					1.111		100			200			200			200			
D7030.10 Video Surveillance	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
D7030.50 Electronic Personal Protection	0	NA		0	NA		100	E		200	E		200	С		200	C		1
D7050 Detection and Alarm		INA			11/A		100			200	Ľ		200			200	0		
D7050.10 Fire Detection and Alarm	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
D7050.20 Radiation Detection and Alarm	0	NA		0	NA		100	E		200	E		200	С		200	С		
D7050.30 Fuel-Gas Detection and Alarm	0			0										С			<u>с</u>		1
D7050.40 Fuel-Oil Detection and Alarm		NA			NA		100	E		200	E		200			200			
D7050.50 Refrigeration Detection and Alarm	0	NA		0	NA		100	E		200	E		200	С		200	С		1
D7050.60 Water Intrusion Detection and Alarm	0	NA		0	NA		100	E		200	E		200	С		200	С		1
	0	NA		0	NA		100	E		200	E		200	С		200	С		1
D7070 Electronic Monitoring and Control D7070.10 Electronic Detention Monitoring and Control																			
	0	NA		0	NA		100	E		200	E		200	С		200	С		1
D7090 Electronic Safety and Security Supplementary Components																			
D7090.10 Supplementary Components	0	NA		0	NA		100	E		200	Е		200	С		200	С		1
D80 INTEGRATED AUTOMATION																			
D8010 Integrated Automation Facility Controls																			
D8010.10 Integrated Automation Control of Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
D8010.20 Integrated Automation Control of Conveying Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
D8010.30 Integrated Automation Control of Fire-Suppression Systems	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
D8010.40 Integrated Automation Control of Plumbing Systems	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
D8010.50 Integrated Automation Control of HVAC Systems	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
D8010.60 Integrated Automation Control of Electrical Systems	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
D8010.70 Integrated Automation Control of Communication Systems	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
D8010.80 Integrated Automation Control of Electronic Safety and Security Systems	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		

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Model Elements Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
D8010.90 Integrated Automation Supplementary Components	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E EQUIPMENT AND FURNISHINGS																			
E10 EQUIPMENT																			
E1010 Vehicle and Pedestrian Equipment																			
E1010.10 Vehicle Servicing Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1010.10 Interior Parking Control Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1010.10 Loading Dock Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1010.10 Interior Pedestrian Control Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1030 Commercial Equipment	1474	1121		11/1	11/1		11/1	1171		142 1	1423		1423	1471		1121	1421		
E1030.10 Mercantile and Service Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1030.20 Vault Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1030.25 Teller and Service Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1030.30 Refrigerated Display Equipment	0	NA		100	A		200	A		300	A		300	C		300	C		1
E1030.35 Commercial Laundry and Dry Cleaning Equipment	0	NA		100	A		200	A		300	A		300	С		300	С		1
E1030.40 Maintenance Equipment	0	NA		100	A		200	A		300			300	С		300	С		1
E1030.50 Hospitality Equipment											A			c			c		1
E1030.55 Unit Kitchens	0	NA		100	A		200	A		300	A		300			300			1
E1030.60 Photographic Processing Equipment	0	NA		100	A		200	A		300	A		300	C		300	C		1
E1030.70 Postal, Packaging, and Shipping Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1030.75 Office Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1030.80 Foodservice Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	0	NA		100	A		200	A		300	A		300	С		300	С		1
E1040 Institutional Equipment E1040.10 Educational and Scientific Equipment																	~		
E1040.20 Healthcare Equipment	0	NA		100	A		200	A		300	A		NA	NA		300	С		1
	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1040.40 Religious Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1040.60 Security Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1040.70 Detention Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		

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E1060 R E	st be adapted for the unique characteristics of each		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Е	ilizing CSI UniFormat™	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes 1	LOD	MEA	Notes	LOD	MEA	Notes	
	Residential Equipment																			
Е	E1060.10 Residential Appliances	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	E1060.50 Retractable Stairs	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F	E1060.70 Residential Ceiling Fans	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E1070 E	Entertainment and Recreational Equipment																			
F	E1070.10 Theater and Stage Equipment	0	NA		100	А		200	А		300	Α		400	С		400	С		1
F	E1070.20 Musical Equipment	0	NA		100	Α		200	А		300	Α		400	С		400	С		1
E	E1070.50 Athletic Equipment	0	NA		100	А		200	А		300	Α		400	С		400	С		1
E	E1070.60 Recreational Equipment	0	NA		100	A		200	A		300	A		400	C		400	С		1
E1090 C	Other Equipment		1111		100			200			500			100			100			
F	E1090.10 Solid Waste Handling Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F	E1090.30 Agricultural Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F	E1090.40 Horticultural Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F	E1090.60 Decontamination Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
E20 FURNISH	lings	INA	INA		INA	INA		INA	INA		INA	INA		INA	INA	++	INA	INA		
	Fixed Furnishings																			
E	E2010.10 Fixed Art	0	NA		100	Α		200	А		300	А		300	С		300	С		1
E	E2010.20 Window Treatments	0	NA		100	A		200	A		300	A		300	С		300	С		1
F	E2010.30 Casework	0	NA		100	A		200	A		300	A		300	C		300	С		1
E	E2010.70 Fixed Multiple Seating	0	NA		100	A		200	A		300	A		300	С		300	С		1
F	E2010.90 Other Fixed Furnishings	0	NA		100	A		200	A		300	A		300	С		300	с		1
E2050 N	Movable Furnishings		11/1		100	Λ		200	A		500	Λ		500	<u> </u>		500			1
	E2050.10 Movable Art	0	NA		100	Α		200	А		300	Α		300	С		300	С		1
F	E2050.30 Furniture	0	NA		100	A		200	A		300	A		300	С		300	С		1
F	E2050.40 Accessories	0	NA		100	A		200	A		300	A		300	С		300	с		1
F	E2050.60 Movable Multiple Seating	0	NA		100	A		200	A		300	A		300	С		300	с		1
	E2050.90 Other Movable Furnishings	0	NA		100	A		200	A		300	A		300	C C	 	300	с с	┣━━━╋	1

milestone, (2) th applicable notes Insert abbreviat "A – Architect,"	Element Table LOD required for each Model Element at each Project ne Model Element Author, and (3) references to any s found in Section 3.4. tions for each MEA identified in the table below, such as t or "C – Contractor." must be adapted for the unique characteristics of each		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements	Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
F SPECIAL C	CONSTRUCTION AND DEMOLITION																			
F10 SPECIA	AL CONSTRUCTION																			
F1010	Integrated Construction																			
	F1010.10 Building Modules	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1010.50 Manufactured/Fabricated Rooms	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1010.70 Modular Mezzanines	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1020	Special Structures																			
	F1020.10 Fabric Structures	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1020.20 Space Frames	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1020.30 Geodesic Structures	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1020.40 Manufacturer-Engineered Structures	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1020.60 Manufactured Canopies	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1020.65 Rammed Earth Construction		NA			NA			NA			NA		NA	NA			NA		
	F1020.70 Towers	NA			NA			NA			NA						NA			
F1030	Special Function Construction	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
11050	F1030.10 Sound and Vibration Control	NA	NA			NA		N14	NA		N 14	NA		NA	NA			NA		
	F1030.30 Seismic Control				NA			NA			NA						NA			
	F1030.50 Radiation Protection	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1050	Special Facility Components	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F 1030	F1050.10 Pools																			
	F1050.20 Interior Fountains	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1050.20 Interior Volutions	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1050.40 Aquariums	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1050.50 Amusement Park Structures and Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1050.60 Ice Rinks	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
	F1050.70 Animal Containment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1060	Athletic and Recreational Special Construction																			

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F1060.10 Indoor Soccer Boards	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1060.20 Safety Netting	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1060.30 Arena Football Boards	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1060.40 Floor Sockets	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1060.50 Athletic and Recreational Court Walls	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1060.60 Demountable Athletic Surfaces	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1080 Special Instrumentation	NA	INA		INA	INA		INA	INA		INA	INA		INA	INA		NA	NA		
F1080.10 Stress Instrumentation	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1080.20 Seismic Instrumentation	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1080.40 Meteorological Instrumentation	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F1080.80 Earth Movement Monitoring	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F20 FACILITY REMEDIATION	INA	INA		INA	INA		INA	NA		INA	INA		INA	INA		INA	INA		
F2010 Hazardous Materials Remediation																			
F2010.10 Transportation and Disposal of Hazardous Materia	ls _{NA}	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F2010.20 Asbestos Remediation	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F2010.30 Lead Remediation	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F2010.40 Polychlorinate Biphenyl Remediation	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F2010.50 Mold Remediation	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F30 DEMOLITION	INA	INA		INA	INA		INA	INA		INA	INA		INA	INA		INA	INA		
F3010 Structure Demolition	-																		
F3010.10 Building Demolition	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F3010.30 Tower Demolition	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F3010.50 Bridge Demolition	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F3010.70 Dam Demolition																			
F3030 Selective Demolition	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F3030.10 Selective Building Demolition	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
F3030.30 Selective Interior Demolition																			
	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		

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F3030.50 Selective Bridge Demolition	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
F3030.70 Selective Historic Demolition	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
F3030 Structure Moving	INA	INA		INA	INA		INA	INA		INA	INA	 NA	INA		INA	INA		
F3030.10 Structure Relocation		274			214		274	214					274			27.4		
F3030.30 Structure Raising	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
G SITEWORK																		
G10 SITE PREPARATION																		
G1010 Site Clearing G1010.10 Clearing and Grubbing					27.1					100								
G1010.30 Tree and Shrub Removal and Trimming	0	NA		0	NA		0	NA		100	CE	NA	NA		NA	NA		
G1010.50 Firet and shifts Kentoval and Finning G1010.50 Earth Stripping and Stockpiling	0	NA		0	NA		0	NA		100	CE	NA	NA		NA	NA		
	0	NA		0	NA		0	NA		100	CE	NA	NA		NA	NA		
G1020 Site Elements Demolition	_																	
G1020.10 Utility Demolition	0	NA		0	NA		100	CE		200	CE	NA	NA		NA	NA		
G1020.30 Infrastructure Demolition	0	NA		0	NA		100	CE		200	CE	NA	NA		NA	NA		
G1020.50 Selective Site Demolition	0	NA		0	NA		100	CE		200	CE	NA	NA		NA	NA		
G1030 Site Element Relocations																		
G1030.10 Utility Relocation	0	NA		0	NA		100	CE		200	CE	NA	NA		NA	NA		
G1050 Site Remediation																		
G1050.10 Physical Decontamination	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
G1050.15 Chemical Decontamination	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
G1050.20 Thermal Decontamination	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
G1050.25 Biological Decontamination	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
G1050.30 Remediation Soil Stabilization	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
G1050.40 Site Containment	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
G1050.45 Sinkhole Remediation	NA	NA			NA		NA	NA		NA	NA	NA	NA		NA	NA		
G1050.50 Hazardous Waste Drum Handling				NA														
G1050.60 Contaminated Site Material Removal	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		
	NA	NA		NA	NA		NA	NA		NA	NA	NA	NA		NA	NA		

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G1050.80 Water Remediation	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G1070 Site Earthwork																			
G1070.10 Grading	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.20 Excavation and Fill	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.30 Embankments	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.35 Erosion and Sedimentation Controls	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.40 Soil Stabilization	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.45 Rock Stabilization	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.50 Soil Reinforcement	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.55 Slope Protection	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.60 Gabions	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.65 Riprap	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.70 Wetlands	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.80 Earth Dams	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G1070.90 Site Soil Treatment																			
G20 SITE IMPROVEMENTS	0	NA		0	NA		100	CE		200	CE		NA	NA		NA	NA		
G2010 Roadways																			
G2010.10 Roadway Pavement	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2010.20 Roadway Curbs and Gutters	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2010.40 Roadway Appurtenances	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2010.70 Roadway Lighting	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2010.80 Vehicle Fare Collection	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2020 Parking Lots		11/1			INA		100	CE		200	CL		11/1	INA		200	C		
G2020.10 Parking Lot Pavement	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2020.20 Parking Lot Curbs and Gutters	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		
G2020.40 Parking Lot Appurtenances	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2020.70 Parking Lot Lighting	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1

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G2020.80 Exterior Parking Control Equipment	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2030 Pedestrian Plazas and Walkways																			
G2030.10 Pedestrian Pavement	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2030.20 Pedestrian Pavement Curbs and Gutters	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2030.30 Exterior Steps and Ramps	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2030.40 Pedestrian Pavement Appurtenances	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2030.70 Plaza and Walkway Lighting	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2030.80 Exterior Pedestrian Control Equipment	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2040 Airfields		11/1			1111		100			200			1171	141		200	0		1
G2040.10 Aviation Pavement	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G2040.20 Aviation Pavement Curbs and Gutters	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G2040.40 Aviation Pavement Appurtenances	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G2040.70 Airfield Lighting	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G2040.80 Airfield Signaling and Control Equipment	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G2050 Athletic, Recreational, and Playfield Areas		INA		INA	INA		11/3	INA		INA	INA						INA		
G2050.10 Athletic Areas	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2050.30 Recreational Areas	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2050.50 Playfield Areas	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060 Site Development	0	11/1		0	1111		100	CL		200	CL		117	1171		200	0		1
G2060.10 Exterior Fountains	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.20 Fences and Gates	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.25 Site Furnishings	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.30 Exterior Signage	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.35 Flagpoles	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.40 Covers and Shelters	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.45 Exterior Gas Lighting	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.50 Site Equipment	0	NA		0	NA		100	CE		200	CE		NA	NA		200	c		

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G2060.60 Retaining Walls	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.70 Site Bridges	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.80 Site Screening Devices	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2060.85 Site Specialties	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2080 Landscaping		1111			1111		100			200			1411	1411		200			
G2080.10 Planting Irrigation	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2080.20 Turf and Grasses	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2080.30 Plants	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2080.50 Planting Accessories	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2080.70 Landscape Lighting	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G2080.80 Landscaping Activities	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G30 LIQUID AND GAS SITE UTILITIES	0	1111		0	11/1		100			200	CL		1111	14/1		200	<u> </u>		
G3010 Water Utilities																			
G3010.10 Site Domestic Water Distribution	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3010.30 Site Fire Protection Water Distribution	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3010.50 Site Irrigation Water Distribution	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3020 Sanitary Sewerage Utilities																			
G3020.10 Sanitary Sewerage Utility Connection	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3020.20 Sanitary Sewerage Piping	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3020.40 Utility Septic Tanks	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3020.50 Sanitary Sewerage Structures	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3020.60 Sanitary Sewerage Lagoons	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3030 Storm Drainage Utilities							100				2.2								
G3030.10 Storm Drainage Utility Connection	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3030.20 Storm Drainage Piping	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3030.30 Culverts	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3030.40 Site Storm Water Drains		1.121		0	1.11		100			200	<u></u>		11/1	1.11		200	С		

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Model Elements Utilizing CSI UniFormat [™]	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
G3030.50 Storm Drainage Pumps	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3030.60 Site Subdrainage	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3030.70 Storm Drainage Ponds and Reservoirs	0	NA		0	NA		100	CE		200	CE		NA	NA		200	С		1
G3050 Site Energy Distribution	0	11/1			1411		100			200			1111	101		200			
G3050.10 Site Hydronic Heating Distribution	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G3050.20 Site Steam Energy Distribution	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G3050.40 Site Hydronic Cooling Distribution	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G3060 Site Fuel Distribution	INA	11/1			INA		11/1	INA		INA	INA		INA	INA		INA	INA		
G3060.10 Site Gas Distribution	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G3060.20 Site Fuel-Oil Distribution	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G3060.30 Site Gasoline Distribution	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G3060.40 Site Diesel Fuel Distribution	NA	NA					NA						NA						
G3060.60 Site Aviation Fuel Distribution				NA	NA			NA		NA	NA			NA		NA	NA		
G3090 Liquid and Gas Site Utilities Supplementary Components	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G3090.10 Supplementary Components	NIA	NT A		NIA			NIA	NT A		NIA	NIA			NIA			NTA		
G40 ELECTRICAL SITE IMPROVEMENTS	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		
G4010 Site Electric Distribution Systems																			
G4010.10 Electrical Utility Services	0	NA		0	NA		100	CE		200	CE		200	С		200	С		1
G4010.20 Electric Transmission and Distribution	0	NA		0	NA		100	CE		200	CE		200	С		200	c		1
G4010.30 Electrical Substations	0	NA		0	NA		100	CE		200	CE		200	С		200	<u>с</u>		1
G4010.40 Electrical Transformers	0			0										c			<u>с</u>		1
G4010.50 Electrical Switchgear and Protection Devices		NA			NA		100	CE		200	CE		200			200			
G4010.70 Site Grounding	0	NA		0	NA		100	CE		200	CE		200	С		200	C		i
G4010.90 Electrical Distribution System Instrumentation and Controls	0	NA NA		0	NA NA		100	CE CE		200 200	CE CE		200	C C		200	C C		1
G4050 Site Lighting		1		5				CL.		200	01		200			200	2		
G4050.10 Area Lighting	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
G4050.20 Flood Lighting	0	NA		0	NA		100	E		200	E		200	С		200	C C		1

 § 3.3 Model Element Table Identify (1) the LOD required for each Model Element at each Project milestone, (2) the Model Element Author, and (3) references to any applicable notes found in Section 3.4. Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor." NOTE: LODs must be adapted for the unique characteristics of each Project. 		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements Utilizing CSI UniFormat TM	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes	
G4050.50 Building Illumination	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
G4050.90 Exterior Lighting Supplementary Components	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
G50 SITE COMMUNICATIONS							100			200			200			200			
G5010 Site Communications Systems																			
G5010.10 Site Communications Structures	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
G5010.30 Site Communications Distribution	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
G5010.50 Wireless Communications Distribution	0	NA		0	NA		100	Е		200	Е		200	С		200	С		1
G90 MISCELLANEOUS SITE CONSTRUCTION																			
G9010 Tunnels																			
G9010.10 Vehicular Tunnels	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	NA	
G9010.20 Pedestrian Tunnels	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	NA	
G9010.40 Service Tunnels	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	NA	
G9010.90 Tunnel Construction Related Activities	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	NA	

§ 3.4 Model Element Table Notes

Notes: (*List by number shown on table.*)

1. Model Element Author shall modify all model elements to reflect actual selected item where applicable. These items shall be at the level of detail noted in the table but shall also include manufacturer's data including Manufacturer, Manufacturer's url, Description, Model, Color, Warranty Information at minimum plus any additional information that may be included with a manufacturer's model element where applicable.

§ 3.5 BIM Team Responsibility Chart

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(Paragraphs deleted)

§ 3.2 Table Instructions

§ 3.2.1 The Model Element Table in Section 3.3 indicates the LOD to which each Model Element shall be developed at each identified Project milestone and the Model Element Author.

§ 3.2.2 Abbreviations for each Model Element Author to be used in the Model Element Table are as follows: (*Provide abbreviations, such as "A—Architect," or "C—Contractor."*)

Abbreviation	Model Element Author (MEA)
Α	Architect
E	Mechanical, Electrical, Plumbing Engineer
CE	Civil Engineer
С	Contractor

§ 3.3 Model Element Table Identify (1) the LOD required for each Model Element at each Project milestone, (2) the Model Element Author, and (3) references to any applicable notes found in Section 3.4. Insert abbreviations for each MEA identified in the table below, such as "A – Architect," or "C – Contractor," NOTE: LODs must be adapted for the unique characteristics of each Project.		Preliminary Design			Schematic Design			Design Development			Construction Documents			Construction			As Built Drawings		Notes (See Sec 3.4 and 3.5)
Model Elements Utilizing CSI UniFormat TM	LOD	MEA	Notes	LOD	MEA	Notes	LOD	MEA	Notes			Notes	LOD	MEA	Notes	LOD	MEA	Notes	
A SUBSTRUCTURE																			
A10 FOUNDATIONS																			
A1010 Standard Foundations																			
A1010.10 Wall Foundations	0	NA		100	А		200	Α		300	Α		300	С		300	С		1
A1010.30 Column Foundations	0	NA		100	А		200	А		300	А		300	С		300	С		1
A1010.90 Standard Foundation Supplementary Components	0	NA		100	А		200	А		300	А		300	С		300	С		1
A1020 Special Foundations																			
A1020.10 Driven Piles	0	NA		100	А		200	А		300	Α		300	С		300	С		1
A1020.15 Bored Piles	0	NA		100	A		200	A		300	A		300	С		300	С		1
A1020.20 Caissons	0	NA		100	A		200	A		300	A		300	C		300	С		1
A1020.30 Special Foundation Walls	0	NA		100	A		200	A		300	A		300	С		300	С		1
A1020.40 Foundation Anchors	0	NA		100	A		200	A		300	A		300	С		300	C		1
A1020.50 Underpinning	0	NA		100	A		200	A		300	A		300	С		300	С		1
A1020.60 Raft Foundations	0	NA		100	A		200	A		300	A		300	С		300	С		
A1020.70 Pile Caps	0	NA		100	A		200	A		300	A		300	С		300	С		1

BIM TEAM RESPONSIBILITY CHART

	SCHEMATIC DESIGN	DESIGN DEVELOPMENT	BID/CONSTR DOCUMENTS	CONSTRUCTION COORDINATION	AS BUILTS
Architect	X	Х	X-NOTE 1	REVIEW	REVIEW
Resident Project Engineer / Construction Manager	Constructability Review of 2D .pdf documents	Constructability Review of 2D .pdf documents	Constructability Review of 2D .pdf documents (*)	Constructability Review of 2D .pdf documents	NOTE 2
General Contractor	N/A	N/A	N/A	NOTE 4	NOTE 4
Mechanical Contractor	N/A	N/A	N/A	NOTE 3	NOTE 3
Plumbing Contractor	N/A	N/A	N/A	NOTE 4	NOTE 4
Electrical Contractor	N/A	N/A	N/A	NOTE 4	NOTE 4
Fire Protection Contractor	N/A	N/A	N/A	NOTE 4	NOTE 4

(*) Perform clash detection

Init.

1. TRANSFER TO PRIME CONTRACTORS AS PER ARTICLE AIA G202 SECTION 1.7.1

- 2. RECEIVE FROM ARCHITECT AS-BUILT MODEL FOR OWNER'S USE
- 3. MERGE, COORDINATE, & DELIVER BIM MODEL TO ARCHITECT WITH INPUT AND APPROVAL BY ALL PRIME CONTRACTORS
- 4. PROVIDE BIM MODEL FILES & COORDINATE ALL WORK WITH CONTRACTORS BASED ON FORMAT & SCHEDULE OF MECHANICAL CONTRACTOR. SEE PROJECT SPECIFICATIONS FOR ALL REQUIREMENTS

BIM TEAM RESPONSIBILITY CHART

	SCHEMATIC DESIGN	DESIGN DEVELOPMENT	BID/CONSTR DOCUMENTS	CONSTRUCTION COORDINATION	AS BUILTS
Architect	X	Х	X-NOTE 1	REVIEW	REVIEW
Resident Project Engineer / Construction Manager	Constructability Review of 2D .pdf documents	Constructability Review of 2D .pdf documents	Constructability Review of 2D .pdf documents (*)	Constructability Review of 2D .pdf documents	NOTE 2
General Contractor	N/A	N/A	N/A	NOTE 4	NOTE 4
Mechanical Contractor	N/A	N/A	N/A	NOTE 3	NOTE 3
Plumbing Contractor	N/A	N/A	N/A	NOTE 4	NOTE 4
Electrical Contractor	N/A	N/A	N/A	NOTE 4	NOTE 4
Fire Protection Contractor	N/A	N/A	N/A	NOTE 4	NOTE 4

(*) Perform clash detection

Init.

1. TRANSFER TO PRIME CONTRACTORS AS PER ARTICLE AIA G202 SECTION 1.7.1

- 2. RECEIVE FROM ARCHITECT AS-BUILT MODEL FOR OWNER'S USE
- 3. MERGE, COORDINATE, & DELIVER BIM MODEL TO ARCHITECT WITH INPUT AND APPROVAL BY ALL PRIME CONTRACTORS
- 4. PROVIDE BIM MODEL FILES & COORDINATE ALL WORK WITH CONTRACTORS BASED ON FORMAT & SCHEDULE OF MECHANICAL CONTRACTOR. SEE PROJECT SPECIFICATIONS FOR ALL REQUIREMENTS

THIS IS AN AGREEMENT made as of this _____ day of _____ 2021, between THE WISSAHICKON SCHOOL DISTRICT, referred to as "OWNER," and D'HUY ENGINEERING, INC., referred to as "ENGINEER".

1.0 SECTION 1 – GENERAL

- 1.1. OWNER plans to develop a multi-purpose synthetic field (See Exhibit 1 Project Budget, Option #1, and Exhibit 2 Project Site plan) at WISSAHICKON SCHOOL DISTRICT's high school.
- 1.2. The Project timelines as defined for this Agreement are per Exhibit 3 Project Schedule.

	Estimated Time
Base Site Plan, Schematic Design, Budgeting and	2 months
Master Plan	
Design Development and Approvals	9 months
Construction Documents	4 weeks
Bidding	6 weeks
Construction Contract (2 months for	10 months
submittal/procurement and 8 months for field	
construction)	

The above timelines and completion of the project are based on Scope and Approvals starting on the date indicated and cooperation from all the approval agencies to achieve the construction start date.

2.0 SECTION 2 – SCHEMATIC DESIGN

- 2.1. ENGINEER will work with OWNER to obtain stakeholder input and update the preliminary Site Plan to refine the concept design of the proposed project.
- 2.2. ENGINEER will review parameters for the multi-purpose turf field, separate turf softball field planning for future work, and stormwater requirements for the project.
- 2.3. DEI will perform an initial site analysis and due diligence. This will include identifying constraints, approval, and engineering challenges. We will also preliminarily evaluate the required permits and approvals. This review will include, but not necessarily be limited to, the following:
 - 2.3.1. Review Township ordinances and identify list of potential variances and significant waivers;

- 2.3.2. Review DEP regulations and identify potential permits;
- 2.3.3. Review existing utilities;
- 2.3.4. Review survey plans;
- 2.3.5. Evaluate existing site topography and existing features/constraints;
- 2.3.6. Process a PNDI for threatened and endangered species or species of special concern;
- 2.3.7. Review FEMA Floodplain mapping;
- 2.3.8. Wetland presence/absence determination and site walk including delineation of any wetland or watercourse areas identified within the project area.
- 2.4. ENGINEER will provide preliminary site plans, budgets, and any feasible bidding, and construction strategies to OWNER. To achieve concept agreement with Owner, ENGINEER will, as requested, attend Board/Facility/Public meetings.
- 2.5. ENGINEER will perform site visits and field survey update including topographic survey, required for the design.
- 2.6. ENGINEER will provide field geotechnical investigation and testing required for the design.

3.0 SECTION 3 – DESIGN AND PERMITTING

- 3.1. ENGINEER will refine Site Plan with the OWNER. This Site Plan will form the basis from which engineering design and any Conservation District/Agency approval drawings will be developed and will include the following:
 - 3.1.1. WISSAHICKON SCHOOL DISTRICT's Multi-Purpose Turf Sports Field lined for soccer, field hockey, and lacrosse as well as baseball and softball:
 - 3.1.1.1. Field line colors, logo and lettering detail;
 - 3.1.1.2. Turf type and infill;
 - 3.1.1.3. Fencing and paved walkway around the perimeter of the field;
 - 3.1.1.4. Entry paved walkway connecting to the existing school walkways and parking;
 - 3.1.1.5. Design rough in for future sports field lighting and power requirements;
 - 3.1.1.6. Scoreboard including footings and power requirements;
 - 3.1.1.7. Bleacher pads;

- 3.1.1.8. Planning for dugouts.
- 3.2. ENGINEER will design an underground detention infiltration system for volume and rate control for the project. System design will be based on the proposed area of disturbance and the results from the infiltration tests that are included as part of this proposal. If geotechnical conditions suggest an underground basin is not recommended, an above ground basin will be designed.
- 3.3. ENGINEER will design drainage systems and required stormwater management systems for the new field.
- 3.4. ENGINEER will prepare and submit land development approvals to the Township, County Conservation District, County Planning Commission, and utility companies, as required, and will respond to comments and obtain the standard approvals for the projects.
- 3.5. ENGINEER will prepare preliminary and final engineering for the grading, stormwater, lighting, and erosion and sediment control plans. No PADEP permits other than NPDES are anticipated for this project. If additional permits or approvals are required, they will be completed on a time and expense basis subject to District approval. The following scope is anticipated:
 - 3.5.1. Post Construction Stormwater Management (SWM) and Erosion and Sediment Control Report, including SWM drainage area plans for SWM facility designs and stormwater conveyance system design. The report will note existing drainage conditions and impact on drainage as a result of the proposed development;
 - 3.5.2. Stormwater management peak flow design, including hydrology, basin design and routing analysis;
 - 3.5.3. Stormwater conveyance system design, including hydraulics and hydrology and storm sewer and swale sizing;
 - 3.5.4. Stormwater Management Best Management Practice (BMP) design in order to address NPDES and Township recommended requirements for water quality controls. Standard structural BMP's selected by T&M and as found in the Pennsylvania Best Management Practices Design Manual will be proposed. If the reviewing agency requests alternate BMP's based on preference, redesign of facilities will be considered out of scope;
 - 3.5.5. Erosion & Sediment Control design, including silt fence, temporary swales, sediment traps, rip-rap design, limits of disturbance and construction sequence;
 - 3.5.6. Critical stage BMP installation inspections of proposed project BMPs;

- 3.5.7. Review as-built plans prepared by contractor for volumes, size and location of proposed BMPs;
- 3.5.8. Preparation of PCSWM as-built plan as part of the NPDES close-out process. Actual field surveying of the facilities to be provided by others such as the contractor's surveyor responsible for stake-out and as-builts;
- 3.5.9. Submission of NOT paperwork for review and approval by the conservation district including the PCSWM described in task 3.8, completion of the NOT forms and paperwork, and recordation of the information at the county courthouse.
- 3.6. ENGINEER will prepare applications for permitting for Land Development. The documents will consist of the following:
 - 3.6.1. Municipal Subdivision and Land Development Application;
 - 3.6.2. County Planning Commission Application;
 - 3.6.3. County Conservation District Application;
 - 3.6.4. Act 67 and 68 Notifications (including proof of mailing);
 - 3.6.5. Pennsylvania Department of Environmental Protection "National Pollutant Discharge Elimination System"(NPDES) General Permit Application;
- 3.7. ENGINEER will attend up to three (3) Township meetings (total) to review the project for approval. Attendance at additional meetings will be billed on a time and expense basis.
- 3.8. If any additional information is requested by regulatory agencies such as environmental data, Phase I, Phase II, or archaeological investigations, they will be performed as an additional service.
- 3.9. ENGINEER will prepare opinion of probable construction cost for the Township escrow, coordination with Owner and attorney on development agreements, and process for signing plans and mylars for recordation.
- 3.10. ENGINEER will provide rough in design for field lighting for future installation.
- 3.11. ENGINEER will provide a budget estimate for the project early in the design effort for approval and direction by WSD and a 90% design update estimate.
- 3.12. ENGINEER will provide design drawings at the 60% and 90% stages of design for OWNER review. A progress meeting will be conducted at the 60% stage to obtain OWNER comments. At the 90% design milestone, ENGINEER will attend a District Board meeting to review the project details prior to bidding, if requested by OWNER.

- 3.13. ENGINEER will coordinate all the disciplines in the design drawings.
- 3.14. ENGINEER will obtain prevailing wages for incorporation within the bid documents.
- 3.15. ENGINEER will prepare all Division 00 and 01 specifications for the bid documents and submit them for the OWNER's solicitor's review prior to bidding.

4.0 **SECTION 4 – BIDDING**

- 4.1. ENGINEER will establish the bidding schedule with the OWNER, prepare the advertisement, and distribute bid documents to contractors.
- 4.2. ENGINEER will prepare and update the project schedule and identify key milestones in the bid documents including the sequence of work and coordination with campus activities.
- 4.3. ENGINEER will conduct the pre-bid conferences, respond to contractor questions, and issue addenda as required during the bidding process.
- 4.4. ENGINEER will review the bids and accompanying documentation and assemble a bid tabulation and recommendation of award. ENGINEER will present this recommendation at an OWNER's Board meeting for consideration.

5.0 SECTION 5 - CONSTRUCTION PHASE SERVICES

- 5.1. ENGINEER will attend and chair a preconstruction conference and attend up to eight (8) progress meetings during construction.
- 5.2. ENGINEER will review shop drawings and monthly payment applications submitted by the contractors.
- 5.3. ENGINEER will provide Project Management/Construction Administration services, including observation during critical construction phases and periodic spot visits.
- 5.4. ENGINEER will prepare scope, issue RFPs, and oversee any necessary Owner-hired thirdparty professional services including construction testing, special inspection services, and infiltration testing that may be required during construction.
- 5.5. ENGINEER will assemble a project punchlist and perform a final inspection of the work at Final Completion and require the general contractor to submit an as-built based on a professional survey as typically required by the Conservation District.

6.0 SECTION 6 - ADDITIONAL SERVICES OF ENGINEER

- 6.1. Services Requiring Authorization in Advance.
 - 6.1.1. If the following timelines are exceeded, then ENGINEER's services shall be considered additional services:
 - 6.1.1.1. Concept Plan, Base Site Plan, Design Development, Construction Documents, Bid Phase 12 months
 - 6.1.1.2. Construction Phase 10 months
 - 6.1.2. Additional Services shall be as agreed to by OWNER and ENGINEER. No Additional Services shall be provided without prior written authorization.

7.0 SECTION 7 - OWNER'S RESPONSIBILITIES

OWNER shall do the following in a timely manner so as not to delay the services of ENGINEER.

- 7.1. Designate in writing a person to act as OWNER's representative with respect to the services to be rendered under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define OWNER's policies and decisions with respect to ENGINEER's services for the Project.
- 7.2. Provide all criteria and full information as to OWNER's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which OWNER will require to be included in the Project.
- 7.3. Assist ENGINEER by placing at ENGINEER's disposal all available information pertinent to the Project, including the most current site plans for the site and provide access to the OWNER's document archives.
- 7.4. Arrange for access to and make all provisions for ENGINEER to enter upon public and private property as required for ENGINEER to perform services under this Agreement.
- 7.5. Examine all studies, reports, sketches, drawings, specifications, proposals, and other documents presented by ENGINEER, obtain advice of an attorney and other consultants as OWNER deems appropriate for such examination, and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of ENGINEER.
- 7.6. Give prompt written notice to ENGINEER whenever OWNER observes or otherwise becomes aware of any development that affects the scope or timing of ENGINEER's services, or any defect or non-conformance in the work of any Contractor.

7.7. Direct ENGINEER to provide Additional Services as stipulated in Paragraph 6.1 of this Agreement, or other services as required.

8.0 SECTION 8 - PAYMENTS TO ENGINEER

- 8.1. Methods of Payment for Services and Expenses of ENGINEER.
 - 8.1.1. <u>For Basic Services</u>. OWNER shall pay ENGINEER for Basic Services listed in Sections 1 6. The amounts to be paid for these services are listed in Section 8.1.4.1.
 - 8.1.2. <u>For Additional Services.</u> OWNER shall pay ENGINEER for Additional Services in accordance with the terms stated in the written authorization required per Paragraph 6.1.2 to perform such Additional Services.
 - 8.1.3 <u>For Reimbursable Expenses</u>. In addition to payments provided for in Paragraphs 8.1.1 and 8.1.2, OWNER shall pay ENGINEER the actual costs of all Reimbursable Expenses reasonably incurred in connection with all Basic and Additional Services, as set forth in Paragraph 8.1.4.
 - 8.1.4. <u>Maximum Payment for Basic Services and Reimbursable Expenses.</u> Amounts paid by OWNER to ENGINEER (to include all Basic Services and Reimbursable Expenses) shall not exceed the maximum fee stipulated below. If the construction project timelines are extended through no fault of the ENGINEER, ENGINEER will submit a proposal with specific hours and fees for review by OWNER. No additional costs will be incurred by ENGINEER without prior written approval of OWNER. The following is the fee for each phase:

8.1.4.1 WISSAHICKON SCHOOL DISTRICT's Multi-Purpose Synthetic Turf Field, Synthetic Turf Softball Field and Site Improvements

Turr Field, Synthetic Turr Soltball Field	elu anu site improvemente
Schematic Design	\$12,500
Field Survey to update information	\$12,000
Geotechnical Investigation	\$15,000
Design Development, Preparation of Cor	nstruction
Drawings and Bid Documents	\$85,000
Electrical Design for Stadium Lights and	l scoreboard \$20,000
Land Development/NPDES Permitting	\$75,000
Allowance for Approvals	\$25,000
For more than 2 reviews with agen	cies.
Bidding	<u>\$15,000</u>
SUBTOTAL	\$259,500
Construction Phase	3% of Construction Cost

8.2. <u>Exclusions</u>

- 8.2.1. No fee or effort to address hazardous materials or contaminated soils has been included.
- 8.2.2. Utility location services, if required, to confirm location, depth, or size will be an additional service including any camera work required to locate and document existing pipelines which may be under the field.
- 8.2.3. Mechanical, electrical, and plumbing design services will be billed as an additional fee for any work that is presently not included in the scope.
- 8.2.4. Sound system design is not included in the fee but can be added as an additional service.
- 8.2.5. Extension of water lines is not included in the fee but can be added as an additional service.
- 8.2.6. Boundary survey or survey beyond the project area are not included.
- 8.2.7. Construction Testing Services, if required, are not included. An allowance of \$20,000 should be created in the Project Budget for this third-party service.

9.0 SECTION 9 – PAYMENT

9.1. <u>Times of Payments</u>.

ENGINEER shall submit monthly statements for Basic and Additional Services rendered and for Reimbursable Expenses incurred. OWNER shall make prompt monthly payments in response to ENGINEER's monthly statements. Monthly statements shall be submitted in a format that is acceptable to OWNER.

- 9.2. Other Provisions Concerning Payments.
 - 9.2.1 If OWNER fails to make any payment due ENGINEER for services and expenses within sixty days after receipt of ENGINEER's statement therefore, the amount due ENGINEER will be increased at the rate of 1% per month from said sixtieth day and, in addition, ENGINEER may, after giving seven days' written notice to OWNER, suspend services under this Agreement until ENGINEER has been paid in full all amounts due for services, expenses, and charges.
 - 9.2.2. In the event of termination by OWNER under Paragraph 10.1 during any phase of the Basic Service, ENGINEER will be paid for services rendered during that phase prior to the date of termination. In the event of any such termination, ENGINEER will also

be reimbursed for Reimbursable Expenses incurred and all unpaid Additional Services rendered prior to the date of termination.

9.3. <u>Definitions</u>.

Reimbursable Expenses mean the actual expenses reasonably incurred by ENGINEER or ENGINEER's independent professional associates or consultants, directly or indirectly in connection with the Project, but such Reimbursable Expenses shall only be paid in accordance with Paragraph 8.1.3 at cost.

10.0 SECTION 10 - GENERAL CONSIDERATIONS

- 10.1. <u>Termination</u>. This Agreement may be terminated by OWNER for its convenience upon thirty days' written notice to ENGINEER. If OWNER terminates agreement payments shall be made to ENGINEER in accordance with Paragraph 9.2.2. In the event of a termination hereunder, OWNER may purchase from ENGINEER any work product produced by ENGINEER hereunder prior to the termination for a fee of \$500.00.
- 10.2. <u>Controlling Law</u>. This agreement is to be governed by the laws of the Commonwealth of Pennsylvania and the venue of any dispute between the parties shall be the Court of Common Pleas of Lehigh County, Pennsylvania.
- 10.3. <u>Successors and Assigns</u>. OWNER and ENGINEER each is hereby bound, and the successors of OWNER and ENGINEER are hereby bound to the other party to this Agreement and to the successors (and said assigns) of such other party, in respect of all covenants, agreements, and obligations of this Agreement.
- 10.4. Neither OWNER nor ENGINEER shall assign, sublet, or transfer any rights under or interest in (excluding moneys that may become due or moneys that are due) this Agreement without the written consent of the other, except to the extent that any assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement. Nothing contained in this paragraph shall prevent ENGINEER from employing such independent professional associates and consultants as ENGINEER may deem appropriate to assist in the performance of services hereunder.
- 10.5. Nothing under this Agreement shall be construed to give any rights or benefits in this Agreement to anyone other than OWNER and ENGINEER, and all duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of OWNER and ENGINEER and not for the benefit of any other party.

11.0 SECTION 11 - INSURANCE

- 11.1. ENGINEER shall procure and maintain insurance for protection from claims under Worker's Compensation Acts, claims for damages because of bodily injury, including personal injury, sickness or disease or death of any and all employees or of any person other than such employees in an amount of at least ONE MILLION DOLLARS (\$1,000,000.00). Such insurance shall be maintained with reputable insurance companies, and ENGINEER shall provide OWNER with a Certificate of Insurance upon OWNER'S request.
- 11.2. In addition, ENGINEER shall procure and maintain the following insurance coverages:
 - 11.2.1. Professional liability and errors and omissions insurance with minimum limits of \$2,000,000 per occurrence and in the aggregate;
 - 11.2.2. Commercial liability insurance insuring against damages to persons or property with minimum limits of \$2,000,000 in the aggregate and \$1,000,000 per occurrence, and which names OWNER as additional insured;
 - 11.2.3. Umbrella coverage with a minimum limit of \$5,000,000.

12.0 SECTION 12 - EXCLUSIONS

- 12.1. As ENGINEERS in private practice, the professional liability insurance limits the scope of services to exclude the following: Hazardous materials including, but not limited to, asbestos, radon, lead, and nuclear energy. However, ENGINEER will provide the names of consultants providing the excluded services and we will coordinate the services.
- 12.2. ENGINEER will not be responsible for any contractor's means and methods or safety or security operations or practices. Contractor's means and methods, safety or security program issues shall not create any liability for ENGINEER.
- 12.3. ENGINEER will not be responsible for any design errors, omissions, or conflicts on the bid drawings prepared by others.

13.0 SECTION 13 - MISCELLANEOUS

- 13.1. This Agreement constitutes the entire Agreement between OWNER and ENGINEER and supersedes all prior written or oral understandings. This Agreement may only be amended, supplemented, modified, or canceled by a duly executed written instrument.
- 13.2. ENGINEER shall maintain a current Child Abuse History Clearance as provided by the Pennsylvania Department of Public Welfare and shall provide a satisfactory criminal

history background check(s) to the OWNER for each individual engaged by ENGINEER to provide services hereunder who will come in direct contact with children.

- 13.3. ENGINEER warrants that it shall exercise reasonable care, skill, competence, and diligence in performing its services hereunder.
- 13.4. List of Exhibits to this Agreement:
 - 13.4.1. Exhibit 1 Project Budget Dated 07/26/2021
 - 13.4.2. Exhibit 2 Project Site Plan Dated 04/15/19
 - 13.4.3. Exhibit 3 Project Schedule Dated 09/20/2021

[NO FURTHER TEXT ON THIS PAGE. SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the date first set forth above.

OWNER: WISSAHICKON SCHOOL DISTRICT

By: _____

Printed Name: _____

Title: _____

Date: _____

CONSTRUCTION MANAGER: D'HUY ENGINEERING, INC.

By: _____

Printed Name: M. Arif Fazil, P.E.

Title: President

Date: <u>10/25/2021</u>

G:\Projects\006-299 - Schools\285 - Wissahickon SD\285007 - Feasibility Study for Synthetic Turf\Contracts & Agreements\DEI-WSD ENG Agreement _285007.docx



		Option #1		Option #2		Option #3		Option #4
		Sketch #8		Sketch #7		Sketch #5		Sketch #4
		Baseball and					Bas	eball, Softball,
Description			Deer	ahall Cafeball	Na		and	l Multipurpose
Description		Multipurpose		eball, Softball,		w Multipurpose	Fie	lds Combined.
	-	ombined with		Multipurpose		ield with Turf	Sar	ne Orientation
	Se	parate Softball	Field	ds Combined	ŀ	Practice Area	f	or Baseball /
		Field						Softball
General Conditions, Bonds & Insurance, Mobilization, Site Superintendent, Temporary Facilities	\$	314,500	\$	258,400	\$	189,500	\$	226,900
Earth Stripping and Stockpiling, Cut to Fill, Soil Exchange, and E&S Controls	\$	459,000	\$	411,000	\$	287,000	\$	259,550
Synthetic Turf w/ Shock Pad & Subbase, Curb, Fencing, and Site Furnishings	\$	2,174,000	\$	1,757,000	\$	1,286,000	\$	1,625,350
Stormwater Management Allowance (Scope TBD)	\$	512,000	\$	416,000	\$	322,000	\$	384,300
Subtotal	\$	3,459,500	\$	2,842,400	\$	2,084,500	\$	2,496,100
Contingency (10%)	\$	345,950	\$	284,240	\$	208,450	\$	249,600
Fees, Permits, and Inspections (15%)	\$	518,925	\$	426,360	\$	312,675	\$	374,400
Estimated Project Cost	\$	4,324,375	\$	3,553,000	\$	2,605,625	\$	3,120,100
Inflation (Assume Spring/Summer 2022 Construction Start/Completion)*	\$	432,400	\$	355,300	\$	260,600	\$	312,000
Total Estimated Project Cost	\$	4,756,775	\$	3,908,300	\$	2,866,225	\$	3,432,100
Alternates/Potential Cost Categories		Option #1		Option #2		Option #3		Option #4
Lighting for Athletic Fields	\$	1,000,000	\$	600,000	\$	400,000	\$	600,000
Lighting for Athletic Fields Dugouts for Baseball and Softball Fields	\$	1,000,000 150,000	\$ \$		\$		\$	600,000 75,000
	\$	150,000 170,000	\$ \$	600,000 150,000 140,000	\$	100,000	\$ \$	75,000 125,000
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance	\$ \$ \$	150,000 170,000 75,000	\$ \$ \$	600,000 150,000 140,000 50,000	\$ \$	100,000 50,000	\$ \$ \$	75,000 125,000 50,000
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals	\$ \$ \$ \$	150,000 170,000 75,000 10,000	\$ \$ \$ \$	600,000 150,000 140,000 50,000 10,000	\$ \$ \$	100,000 50,000 10,000	\$ \$ \$ \$	75,000 125,000 50,000 10,000
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field	\$ \$ \$ \$ \$	150,000 170,000 75,000 10,000 20,000	\$ \$ \$ \$ \$	600,000 150,000 140,000 50,000 10,000 20,000	\$ \$ \$ \$	100,000 50,000 10,000 20,000	\$ \$ \$ \$	75,000 125,000 50,000 10,000 20,000
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole	\$ \$ \$ \$ \$ \$	150,000 170,000 75,000 10,000 20,000 6,000	\$ \$ \$ \$ \$ \$	600,000 150,000 140,000 50,000 10,000 20,000 6,000	\$ \$ \$ \$	100,000 50,000 10,000 20,000 6,000	\$ \$ \$ \$ \$	75,000 125,000 50,000 10,000 20,000 6,000
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole Landscaping Allowance (Scope TBD by Township Requirements)	\$ \$ \$ \$ \$ \$ \$	150,000 170,000 75,000 10,000 20,000 6,000 25,000	\$ \$ \$ \$ \$ \$ \$	600,000 150,000 140,000 50,000 10,000 20,000 6,000 25,000	\$ \$ \$ \$ \$ \$	100,000 50,000 10,000 20,000 6,000 25,000	\$ \$ \$ \$ \$ \$ \$	75,000 125,000 50,000 10,000 20,000 6,000 25,000
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole Landscaping Allowance (Scope TBD by Township Requirements) Bleachers, Rigid Paving at Bleachers, and Batter's Eye**	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,000 170,000 75,000 10,000 20,000 6,000 25,000 120,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	600,000 150,000 140,000 10,000 20,000 6,000 25,000 120,000	\$ \$ \$ \$ \$ \$ \$	100,000 50,000 10,000 20,000 6,000 25,000 120,000	\$ \$ \$ \$ \$ \$ \$ \$ \$	75,000 125,000 50,000 10,000 20,000 6,000 25,000 120,000
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole Landscaping Allowance (Scope TBD by Township Requirements) Bleachers, Rigid Paving at Bleachers, and Batter's Eye** Subtotal	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,000 170,000 75,000 20,000 6,000 25,000 120,000 1,576,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	600,000 150,000 140,000 50,000 20,000 6,000 25,000 120,000 1,121,000	\$ \$ \$ \$ \$ \$ \$ \$ \$	100,000 50,000 20,000 6,000 25,000 120,000 731,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	75,000 125,000 50,000 20,000 6,000 25,000 120,000 1,031,000
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole Landscaping Allowance (Scope TBD by Township Requirements) Bleachers, Rigid Paving at Bleachers, and Batter's Eye** Subtotal Contingency (10%)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,000 170,000 75,000 20,000 6,000 25,000 120,000 1,576,000 157,600	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	600,000 150,000 140,000 50,000 20,000 6,000 25,000 120,000 1,121,000 112,100	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	100,000 50,000 20,000 6,000 25,000 120,000 731,000 73,100	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	75,000 125,000 50,000 20,000 6,000 25,000 120,000 1,031,000 103,100
Dugous for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole Landscaping Allowance (Scope TBD by Township Requirements) Bleachers, Rigid Paving at Bleachers, and Batter's Eye** Subtotal Contingency (10%) Fees, Permits, and Inspections (15%)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,000 170,000 75,000 20,000 6,000 25,000 120,000 1,576,000 157,600 236,400	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	600,000 150,000 140,000 50,000 20,000 6,000 25,000 120,000 1,121,000 112,100 168,150	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	100,000 50,000 20,000 6,000 25,000 120,000 731,000 73,100 109,650	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	75,000 125,000 50,000 20,000 6,000 25,000 120,000 1,031,000 154,700
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole Landscaping Allowance (Scope TBD by Township Requirements) Bleachers, Rigid Paving at Bleachers, and Batter's Eye** Subtotal Contingency (10%)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,000 170,000 75,000 20,000 6,000 25,000 120,000 1,576,000 157,600	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	600,000 150,000 140,000 50,000 20,000 6,000 25,000 120,000 1,121,000 112,100 168,150	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	100,000 50,000 20,000 6,000 25,000 120,000 731,000 73,100	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	75,000 125,000 50,000 20,000 6,000 25,000 120,000 1,031,000 103,100
Dugous for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole Landscaping Allowance (Scope TBD by Township Requirements) Bleachers, Rigid Paving at Bleachers, and Batter's Eye** Subtotal Contingency (10%) Fees, Permits, and Inspections (15%)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,000 170,000 75,000 20,000 6,000 25,000 120,000 1,576,000 157,600 236,400	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	600,000 150,000 140,000 50,000 20,000 6,000 25,000 120,000 1,121,000 112,100 168,150	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	100,000 50,000 20,000 6,000 25,000 120,000 731,000 73,100 109,650	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	75,000 125,000 50,000 20,000 6,000 25,000 120,000 1,031,000 154,700
Dugou's for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole Landscaping Allowance (Scope TBD by Township Requirements) Bleachers, Rigid Paving at Bleachers, and Batter's Eye** Subtotal Contingency (10%) Fees, Permits, and Inspections (15%) Total Estimated Project Cost w/ All Alternates	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,000 170,000 75,000 10,000 20,000 25,000 120,000 1,576,000 236,400 6,294,375	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	600,000 150,000 140,000 20,000 6,000 25,000 120,000 1,122,000 1,122,1000 168,150 4,954,250	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	100,000 50,000 10,000 20,000 6,000 25,000 120,000 731,000 73,100 109,650 3,519,375	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	75,000 125,000 50,000 20,000 6,000 25,000 120,000 1,031,000 154,700 4,408,900
Dugouts for Baseball and Softball Fields Upgrade to "E-Layer" Shock Pad Scoreboard Allowance New Soccer, Lacrosse, and Field Hockey Goals Water Line to Field Flagpole Landscaping Allowance (Scope TBD by Township Requirements) Bleachers, Rigid Paving at Bleachers, and Batter's Eye** Subtotal Contingency (10%) Fees, Permits, and Inspections (15%) Total Estimated Project Cost w/ All Alternates Inflation (Assume Spring/Summer 2022 Construction Start/Completion)*	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,000 170,000 75,000 10,000 20,000 6,000 25,000 120,000 1,576,000 157,600 236,400 6,294,375 629,400	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	600,000 150,000 50,000 20,000 6,000 25,000 120,000 1,121,000 112,100 168,150 4,954,250 495,400	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	100,000 50,000 20,000 6,000 25,000 120,000 731,000 731,000 73,100 109,650 3,519,375 351,900	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	75,000 125,000 50,000 20,000 6,000 25,000 120,000 1,031,000 103,100 154,700 4,408,900 440,900

*Note: Costs are conditioned for anticipated Spring/Summer 2022 Construction Start/Completion

**Note: Costs of bleachers, bleacher pads, and batter's eye included as an alternate cost for all options (not included in previously submitted preliminary budget estimate summary)

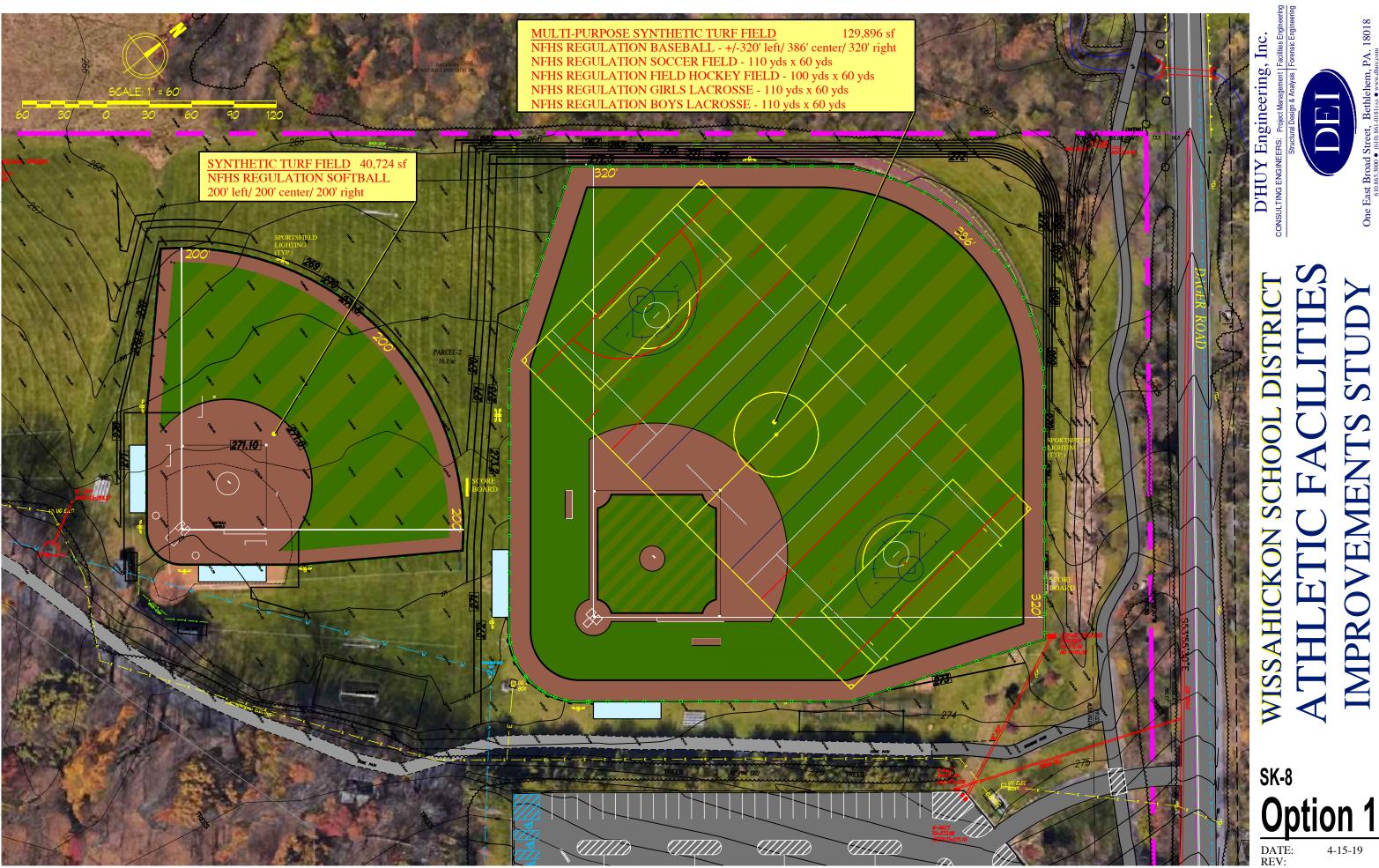


EXHIBIT 2

WISSAHICKON SCHOOL DISTRICT HIGH SCHOOL TURF FIELD PRELIMINARY MILESTONE SCHEDULE



ID	Description	Start	Finish	
1	Approval by WSD		10/4/2021	
2	Schematic Design & Programming	10/4/2021	12/17/2021	
2.1	Stake holder input and approval	10/4/2021	11/5/2021	
2.2	Geotechnical investigation	10/11/2021	12/17/2021	
2.3	Schematic Drawings and outline specs	10/11/2021	12/17/2021	
3	Land Development & Approvals	12/20/2021	9/23/2022	
3.1	Geotechnical Borings		2/11/2022	
3.2	Preliminary design and submission to MCCD		4/15/2022	
	Submit revised plans to MCCD and township based on review from			
3.3	MCCD and Township		6/17/2022	
3.4	MCCD and township approval of plans and NPDES		9/23/2022	
4	Design Development	1/3/2022	5/13/2022	
4.1	Stake holder input and approval	1/3/2022	2/4/2022	
4.2	Development of phasing plans		2/18/2022	
4.3	Engineer completes 60% drawings/specs		4/1/2022	
4.4	Budget review and value Engineering		4/29/2022	
4.5	Preliminary Code Review		5/13/2022	
5	Construction Documents	5/16/2022	10/7/2022	
5.1	Develop all drawings and specs		7/15/2022	
5.2	90% document review and budget		8/5/2022	
5.3	Issue RFP for construction testing		8/26/2022	
5.4	Code Approval		9/16/2022	
5.5	Finalize drawings and specs		10/7/2022	
6	Bidding Phase	10/10/2022	12/12/2022	
6.1	Advertise for bidding	10/10/2022	10/24/2022	
6.2	Pre-Bid conference	10/28/2022		
6.3	Receive Bids	11/21/2022	11/21/2022	
6.4	Bid Award by WSD Board		12/12/2022	
7	Construction Phase	12/19/2022	10/13/2023	
7.1	Notice to proceed	12/19/2022		
7.2	Preliminary Construction Prep Work		4/7/2023	
7.3	Construction work start	6/12/2023		
7.4	Substantial Completion		9/29/2023	
7.5	Final Completion		10/13/2023	



300 BROOKSIDE AVENUE AMBLER YARDS BLDG. 18 – SUITE 150 AMBLER, PA 19002 TEL. 215.646.2003 www.gkoarchitects.com

October 31, 2021

Gerry Moore Supervisor of Operations Wissahickon School District 601 Knight Road Ambler, PA 19002-3496 RE: Transportation Building

Gerry,

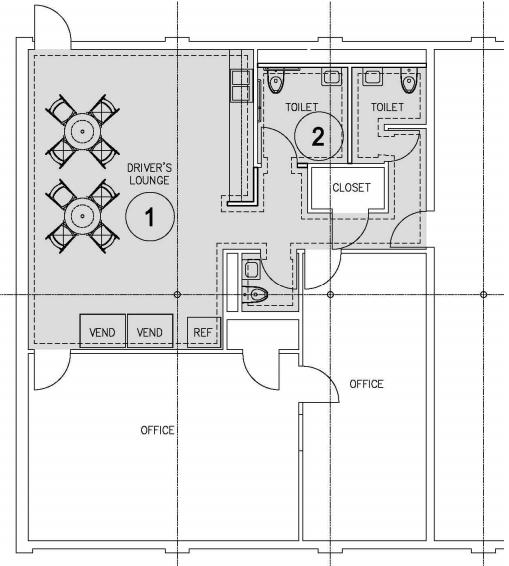
We understand that the District is interested in improving their bus garage. Drivers have been

difficult to attract and some improvement to this facility may improve recruitment and retention. Understandably, there is a limit to the amount of money that the District will be willing to invest in this. Renovations should be kept as light as possible.

Proposed scope of work:

- 1 Improve Driver's Lounge
 - Add kitchenette, refrigerators and vending machines
 - Add high top tables and TV
 - Paint and replace ceiling, lighting and floor finish
- 2 Improve toilet facilities.
- Split existing room into two spaces. One is ADA compliant.
- Eliminate lockers and shower
- Utilize the existing wet wall and underslab piping
- Paint and replace ceiling, lighting and floor finish

Proposed Design:



Budget:

Projects of this size are difficult to estimate if they are publicly bid. Based on the scheme presented, we would estimate the cost of construction by public bid as:

- GC: \$54,000.00
- EC: \$22,000.00
- <u>PC: \$34,000.00</u>

Total: \$110,000.00

These numbers may be higher than you expect. Please understand, this is only an estimate. We will work with the District to limit the scope and cost of the project to the greatest extent possible and hope to realize lower costs on bid day. However, in the current bidding climate we are seeing higher numbers. The secure vestibule that was just publicly bid and constructed at North Montco cost \$100,000. Anything that could be done by District employees or awarded to local contractors (without public bidding) would likely see substantial savings in this environment.

Scope of Professional Services:

- Design and Documentation
 - Complete the design working with District Administration.
 - Produced Drawings, Specifications, Front Pages and Bidding forms for the scope of work.
 - Contact the municipality in anticipation of a building permit.
- Public Bidding
 - Write the Advertisement for the School District to use to advertise.
 - o Distribute drawings to bidders and maintain the bid list
 - Respond to any contractor questions and issue Addendum if necessary
- Construction
 - Conduct bi-weekly job meetings
 - Review work for progress and compliance with Documents
 - Review and approve contractor submittals during construction
 - Work with Contractors for scheduling.
 - Addressing contractor questions.
 - Approving applications for payment.

Fee Proposal:

To provide some flexibility, we are offering phases for each phase. The District may elect to proceed with the project in levels, perhaps having the A/E team design, document and bid the project, but manage the construction themselves. We listed total dollars which we are willing to lock into if the scope of work we are suggesting is appropriate.

- Design and Documentation 6% of Construction Cost, or \$6,600
- Public Bidding 1.5% of Construction Cost, or \$1,650
- Construction hourly not to exceed 4% of Construction Cost, or \$4,400
 - It's impossible to predict the quality of contractor when publicly bid and some contractors manage to require more time than others.

Schedule:

We would expect to proceed with planning and material selection in December with Bidding in February (if publicly bid). Construction would be complete prior to September 2022.

Exclusions:

- 1 Reimbursable expenses for printing and postage will be billed as an additional expense and shall be billed without mark-up. There will be no additional costs for phone or mileage.
- 2 This proposal is intended to serve as the agreement for the project. We will also sign a non-modified version of AIA B104, Agreement between Owner and Architect. We have not included any time to negotiate any other form of legal agreement. We are willing to negotiate such agreements; however, time associated to prepare, review and negotiate such an agreement will be billed as an hourly expense in addition to this proposal.
- 3 We are not anticipating Land Development, Geotechnical, Environmental Engineering, Traffic Studies, Civil Engineering, Asbestos Abatement, work associated with the acquiring PECO Rebates or anything else not specifically addressed by this proposal.

Sincerely,

Kevin Godshall, AIA

/

Owner's Authorization:

Name:	Date:
Position:	

Note: 2022 Transit Model Year ordering has already been cut off & is the last model year for the 10 Passenger Van as it is being discontinued.

LIMITED Availability Remaining. On Order for Stocking Inventory & Currently Available. Contact ASAP to Secure Vehicle(s).

2022 Transit-150 Passenger RWD Low Roof Van 130" WB XL (K1Y) Price Level: 220



Client Proposal

10 Passenger Van



Ford | Ram | Dodge | Chrysler | Jeep | Toyota | Isuzu

Prepared by: Jordan DiClemente Office: 717-354-4901x2230 Email: jdiclemente@newhollandauto.com Quote ID: STK22Trans Date: 11/04/2021





2022 Transit-150 Passenger RWD Low Roof Van 130" WB XL (K1Y)

Price Level: 220 | Quote ID: STK22Trans

Warranty

Standard Warranty

Basic			
Distance	36,000 miles	Months	36 months
Powertrain			
Distance	60,000 miles	Months	60 months
Corrosion Perforation			
Distance	Unlimited miles	Months	60 months
Roadside Assistance			
Distance	60,000 miles	Months	60 months



2022 Transit-150 Passenger RWD Low Roof Van 130" WB XL (K1Y)

Price Level: 220 | Quote ID: STK22Trans

Code	Description	MSRP
Base Vehicle		
K1Y	Base Vehicle Price (K1Y)	\$42,600.00
Packages		
301A	Order Code 301A Includes: - Engine: 3.5L PFDi V6 Flex-Fuel Includes port injection. - Transmission: 10-Spd Automatic w/OD & SelectShift Includes auxiliary transmission oil cooler. - 3.73 Axle Ratio - GVWR: 8,550 lbs - Tires: 235/65R16C 121/119 R AS BSW - Radio: AM/FM Stereo Includes 4.0" multi-function display, Bluetooth and dual USB ports. - 8 Speakers (4 Front/4 Rear)	N/C
Powertrain		
998	Engine: 3.5L PFDi V6 Flex-Fuel Includes port injection.	Included
44U	Transmission: 10-Spd Automatic w/OD & SelectShift Includes auxiliary transmission oil cooler.	Included
X73	3.73 Axle Ratio	Included
STDGV	GVWR: 8,550 lbs	Included
Wheels & Tires		
STDTR	Tires: 235/65R16C 121/119 R AS BSW	Included
64H	Wheels: 16" Steel w/Full Silver Cover	\$35.00
Seats & Seat Trim		
21G	Dark Palazzo Gray Vinyl Bucket Seats Deletes driver lumbar support and passenger armrest. Includes 2-way manu manual passenger seat and driver armrest.	N/C ual driver seat, 2-way
V	Vinyl Front Bucket Seats	N/C



2022 Transit-150 Passenger RWD Low Roof Van 130" WB XL (K1Y)

Price Level: 220 | Quote ID: STK22Trans

As Configured Vehicle (cont'd)

Code	Description	MSRP
PAINT	Monotone Paint Application	STD
130WB	130" Wheelbase	STD
153	Front License Plate Bracket	N/C
	Standard in states requiring two license plates and optio	nal in all other states.
59A	60/40 Hinged Passenger-Side Door	N/C
68H	Running Boards	\$310.00
	Covers the B-C pillar passenger-side.	\$ 500.00
92E	Privacy Glass Provides protection of vehicle occupant(s) and occupant personal bel provides occupant comfort by helping to reduce vehicle cool-down tin	\$500.00 ongings. The glass also ne.
58U	Radio: AM/FM Stereo	Included
	Includes 4.0" multi-function display, Bluetooth and dual USB ports. Includes: - 8 Speakers (4 Front/4 Rear)	
86F	2 Additional Keys (4 Total)	\$75.00
	Includes key fobs.	
43R	Reverse Sensing System	\$295.00
43B	Back Up Alarm	\$145.00
	Includes 102 dB(A) warning capability.	
Emissions		
425	50-State Emissions System	STD
Interior Color		
VK_03	Dark Palazzo Gray	N/C
Upfit Options		
NHA	New Holland Auto Advantage	\$0.00
	FREE - Completely Detailed Vehicle FREE - Delivery to Your Location FREE - Full Tank of Fuel FREE - PA Municipal Tags	
SUBTOTAL		\$43,960.00
Destination Charge		\$1,695.00
0		. ,



2022 Transit-150 Passenger RWD Low Roof Van 130" WB XL (K1Y)

Price Level: 220 | Quote ID: STK22Trans

As Configured Vehicle (cont'd)

Code Description MSRP

TOTAL

\$45,655.00

COSTARS Pricing Next Page



2022 Transit-150 Passenger RWD Low Roof Van 130" WB XL (K1Y)

Price Level: 220 | Quote ID: STK22Trans

Pricing Summary - Single Vehicle

	MSRP
Vehicle Pricing	
Base Vehicle Price	\$42,600.00
Options	\$1,360.00
Colors	\$0.00
Upfitting	\$0.00
Fleet Discount	\$0.00
Destination Charge	\$1,695.00
Subtotal	\$45,655.00

Pre-Tax Adjustments

Description	MSRP
COSTARS #26-039 Passenger Vehicle Discount	-\$10,681.00
Total	\$34,974.00

Exterior Color Yellow: # of Vehicles to Secure/Purchase:

Exterior Color White: # of Vehicles to Secure/Purchase: _____

Customer Name

Call to confirm color preference & remaining availability.

Customer Signature

Acceptance Date

Additional Option:

• School Students & School Dist. Vehicle Lettering - Installed + \$425 Yes or No Includes:

- * Black Vinyl Lettering Front, Rear & Sides:
- * 4" Tall ALL Caps: "SCHOOL DISTRICT NAME"" on Both Sides.
- * 6" Tall ALL Caps: "SCHOOL STUDENTS" on the Hood & Rear Doors.
- * 4" Tall Vehicle/Van "####" on the Front Fenders & Rear Door (if applicable)

NEW TOTAL:

