

SECTION 000115 - LIST OF DRAWINGS

All previously issued Bid Packages and Addendum are to be included by reference.

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
General				
G001	Cover Sheet – Volume 1	D	12/28/23	
G002	Drawing List	D	12/28/23	1/25/24
G003	Code Review	D	12/28/23	1/25/24
G004	Code Review Plan First Floor	D	12/28/23	1/12/24
G005	Code Review Plan Second Floor	D	12/28/23	
G007	School Safety Review – Overall Plans	D	12/28/23	
G008	Dema – Main Office Security Plan, Elevations, and Details	D	12/28/23	1/25/24
G009	Keyplans	D	12/28/23	1/25/24
G010	Exterior Wall Mockup	D	12/28/23	
Structural				
S001	Cover Sheet	D	12/28/23	
S002	General Notes	D	12/28/23	
S003	General Notes and Special Inspections	D	12/28/23	
S004	Project Schedules	D	12/28/23	
S101	Overall Foundation Plan	D	12/28/23	
S102	Overall Second Floor Framing Plan	D	12/28/23	
S103	Overall Roof Framing Plan	D	12/28/23	
S111	Keyplan 1 - Foundation Plan	D	12/28/23	
S112	Keyplan 2 - Foundation Plan	D	12/28/23	
S113	Keyplan 3 - Foundation Plan	D	12/28/23	
S114	Keyplan 4 - Foundation Plan	D	12/28/23	
S115	Keyplan 5 - Foundation Plan	D	12/28/23	
S116	Keyplan 6 - Foundation Plan	D	12/28/23	
S116A	Keyplan 6 - Alternate Foundation Plan	D	12/28/23	
S117	Keyplan 7 - Foundation Plan	D	12/28/23	
S118	Keyplan 8 - Foundation Plan	D	12/28/23	
S119	Keyplan 9 - Foundation Plan	D	12/28/23	
S120	Keyplan 10 - Foundation Plan	D	12/28/23	
S121	Keyplan 11 - Foundation Plan	D	12/28/23	
S131	Keyplan 1 - Second Floor Framing Plan	D	12/28/23	
S132	Keyplan 2 - Second Floor Low Roof Framing Plan	D	12/28/23	
S133	Keyplan 3 - Second Floor Framing Plan	D	12/28/23	
S134	Keyplan 4 - Second Floor Framing Plan	D	12/28/23	
S135	Keyplan 5 - Second Floor Framing Plan	D	12/28/23	
S136	Keyplan 6 - Second Floor Framing Plan	D	12/28/23	
S136A	Keyplan 6 - Alternate Second Floor Framing Plan	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
S137	Keyplan 7 - Second Floor Framing Plan	D	12/28/23	
S138	Keyplan 8 - Second Floor Framing Plan	D	12/28/23	
S139	Keyplan 9 - Second Floor Framing Plan	D	12/28/23	
S140	Keyplan 10 - Second Floor Framing Plan	D	12/28/23	
S141	Keyplan 11 - Second Floor Framing Plan	D	12/28/23	
S151	Keyplan 1 - Roof Framing Plan	D	12/28/23	
S152	Keyplan 2 - Roof Framing Plan	D	12/28/23	
S154	Keyplan 4 - Roof Framing Plan	D	12/28/23	
S155	Keyplan 5 - Roof Framing Plan	D	12/28/23	
S156	Keyplan 6 - Roof Framing Plan	D	12/28/23	
S156A	Keyplan 6 - Alternate Roof Framing Plan	D	12/28/23	
S157	Keyplan 7 - Roof Framing Plan	D	12/28/23	
S158	Keyplan 8 - Roof Framing Plan	D	12/28/23	
S159	Keyplan 9 - Roof Framing Plan	D	12/28/23	
S160	Keyplan 10 - Roof Framing Plan	D	12/28/23	
S161	Keyplan 11 - Roof Framing Plan	D	12/28/23	
S201	Exterior Elevations	D	12/28/23	
S401	Enlarged Plans	D	12/28/23	
S501	Typical Foundation Details	D	12/28/23	
S502	Typical Foundation Details	D	12/28/23	
S503	Typical Foundation Details	D	12/28/23	
S504	Foundation Sections and Details	D	12/28/23	
S505	Foundation Sections and Details	D	12/28/23	
S506	Foundation Sections and Details	D	12/28/23	
S511	Typical Framing Details	D	12/28/23	
S512	Typical Framing Details	D	12/28/23	
S513	Typical Framing Details	D	12/28/23	
S514	Framing Sections and Details	D	12/28/23	
S515	Framing Sections and Details	D	12/28/23	
S516	Framing Sections and Details	D	12/28/23	
S517	Framing Sections and Details	D	12/28/23	
S518	Framing Sections and Details	D	12/28/23	
S519	Framing Sections and Details	D	12/28/23	
S520	Framing Sections and Details	D	12/28/23	
S521	Framing Sections and Details	D	12/28/23	
S522	Framing Sections and Details	D	12/28/23	
S523	Framing Sections and Details	D	12/28/23	
S524	Framing Sections and Details	D	12/28/23	
S601	Live Load Diagrams	D	12/28/23	
S602	Live Load Diagrams	D	12/28/23	
S603	Live Load Diagrams	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
S720	CFMF Details	D	12/28/23	
Architectural				
G001	Cover Sheet - Volume 2	D	12/28/23	
G002	Drawing List	D	12/28/23	
A001	General Notes, Symbols and Abbreviations	D	12/28/23	
A002	Accessible Restroom Details	D	12/28/23	
A003	Exterior Wall Assemblies	D	12/28/23	1/25/24
A004	Partition Types	D	12/28/23	1/19/24
A100	Architectural Site Plan	D	12/28/23	
A101	Overall First Floor Plan - Base Bid	D	12/28/23	
A102	Overall Second Floor Plan - Base Bid	D	12/28/23	
A103	Floor Plan - Shops - Mezzanine Level	D	12/28/23	
A104	Overall First Floor Plan – Add Alternate #3	D	12/28/23	
A105	Overall Second Floor Plan – Add Alternate #3	D	12/28/23	
A106	Courtyard Plans	D	12/28/23	1/12/24
A111	First Floor Plan - Keyplan 1	D	12/28/23	1/25/24
A112	First Floor Plan - Keyplan 2	D	12/28/23	1/25/24
A113	First Floor Plan - Keyplan 3	D	12/28/23	1/25/24
A114	First Floor Plan - Keyplan 4	D	12/28/23	1/12/24
A115	First Floor Plan - Keyplan 5	D	12/28/23	1/25/24
A116	First Floor Plan - Keyplan 6	D	12/28/23	1/25/24
A116A	First Floor Plan - Keyplan 6 – Alternate #3	D	12/28/23	1/25/24
A117	First Floor Plan - Keyplan 7	D	12/28/23	1/25/24
A118	First Floor Plan- Keyplan 8	D	12/28/23	1/12/24
A119	First Floor Plan - Keyplan 9	D	12/28/23	1/12/24
A120	First Floor Plan - Keyplan 10	D	12/28/23	1/19/24
A121	First Floor Plan - Keyplan 11	D	12/28/23	1/25/24
A131	Second Floor Plan - Keyplan 4	D	12/28/23	1/12/24
A132	Second Floor Plan- Keyplan 5	D	12/28/23	1/12/24
A133	Second Floor Plan - Keyplan 7	D	12/28/23	1/12/24
A134	Second Floor Plan - Keyplan 8	D	12/28/23	1/12/24
A135	Second Floor Plan - Keyplan 9	D	12/28/23	1/12/24
A136	Second Floor Plan - Keyplan 10	D	12/28/23	1/12/24
A137	Partial Plans – Mech Equipment Rooms	D	12/28/23	1/19/24
A138	Overall RCP – First Floor	D	12/28/23	
A139	Overall RCP – First Floor	D	12/28/23	
A140	Overall RCP – Second Floor	D	12/28/23	
A141	First Floor Reflected Ceiling Plan – Keyplan 1	D	12/28/23	1/19/24
A142	First Floor Reflected Ceiling Plan – Keyplan 2	D	12/28/23	1/25/24
A143	First Floor Reflected Ceiling Plan - Keyplan 3	D	12/28/23	1/12/24

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
A144	First Floor Reflected Ceiling Plan - Keyplan 4	D	12/28/23	1/12/24
A145	First Floor Reflected Ceiling Plan - Keyplan 5	D	12/28/23	1/12/24
A146	First Floor Reflected Ceiling - Keyplan 6	D	12/28/23	1/12/24
A146A	First Floor Reflected Ceiling Plan - Keyplan 6a (Add Alt. #3)	D	12/28/23	1/12/24
A147	First Floor Reflected Ceiling Plan - Keyplan 7	D	12/28/23	1/12/24
A148	First Floor Reflected Ceiling Plan - Keyplan 8	D	12/28/23	1/12/24
A149	First Floor Reflected Ceiling Plan - Keyplan 9	D	12/28/23	1/12/24
A150	First Floor Reflected Ceiling Plan - Keyplan 10	D	12/28/23	1/12/24
A151	First Floor Reflected Ceiling Floor - Keyplan 11	D	12/28/23	1/12/24
A152	Mezzanine Level RCP - Shops	D	12/28/23	1/12/24
A153	Second Floor RCP - Keyplan 4	D	12/28/23	1/12/24
A154	Second Floor RCP - Keyplan 5	D	12/28/23	
A155	Second Floor RCP - Keyplan 7	D	12/28/23	
A156	Second Floor RCP - Keyplan 8	D	12/28/23	
A157	Second Floor RCP - Keyplan 9	D	12/28/23	1/12/24
A158	Second Floor RCP - Keyplan 10	D	12/28/23	1/12/24
A161	Enlarged RCP - Auditorium & MP Rooms	D	12/28/23	1/19/24
A162	Enlarged RCP - Media Center	D	12/28/23	
A163	Enlarged RCP - Cafeteria	D	12/28/23	
A164	Enlarged RCP - Cafeteria	D	12/28/23	
A165	Enlarged RCP - Miscellaneous	D	12/28/23	1/12/24
A191	Roof Plan - Overall	D	12/28/23	1/19/24
A192	Roof Plan - Areas 1 & 2	D	12/28/23	1/19/24
A193	Roof Plan - Areas 3 & 6	D	12/28/23	1/19/24
A194	Roof Plan - Areas 6, 8, & 11	D	12/28/23	1/19/24
A195	Roof Plan - Areas 4, 5, 7, 8, 9, 10	D	12/28/23	1/19/24
A201	Exterior Building Elevations	D	12/28/23	1/25/24
A202	Exterior Building Elevations	D	12/28/23	1/25/24
A203	Exterior Building Elevations	D	12/28/23	1/25/24
A204	Exterior Building Elevations	D	12/28/23	
A205	Exterior Building Elevations	D	12/28/23	1/25/24
A206	Exterior Building Elevations	D	12/28/23	1/19/24
A207	Exterior Building Elevations	D	12/28/23	1/25/24
A208	Exterior Building Elevations - Alternate #3	D	12/28/23	
A301	Building Sections	D	12/28/23	
A302	Building Sections	D	12/28/23	
A303	Building Sections	D	12/28/23	
A304	Building Sections	D	12/28/23	
A305	Building Sections	D	12/28/23	
A306	Building Sections	D	12/28/23	
A307	Building Sections	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
A308	Building Sections	D	12/28/23	
A311	Wall Sections – Area 1	D	12/28/23	
A312	Wall Sections – Area 1	D	12/28/23	1/19/24
A313	Wall Sections – Area 1	D	12/28/23	1/25/24
A314	Wall Sections – Area 2	D	12/28/23	
A315	Wall Sections – Area 2	D	12/28/23	
A316	Wall Sections – Area 2 (Fire Walls)	D	12/28/23	
A317	Wall Sections – Area 2	D	12/28/23	
A318	Wall Sections – Area 3	D	12/28/23	
A319	Wall Sections – Area 3 & 4	D	12/28/23	
A320	Wall Sections– Area 4	D	12/28/23	1/25/24
A321	Wall Sections – Area 4	D	12/28/23	1/25/24
A322	Wall Sections – Area 4	D	12/28/23	
A323	Wall Sections – Area 4	D	12/28/23	
A324	Wall Sections – Area 5	D	12/28/23	
A325	Wall Sections – Area 6	D	12/28/23	1/19/24
A326	Wall Sections – Area 6	D	12/28/23	
A327	Wall Sections – Area 7	D	12/28/23	1/25/24
A328	Wall Sections – Area 7 & 8	D	12/28/23	1/19/24
A329	Wall Sections – Area 8	D	12/28/23	1/25/24
A330	Wall Sections – Area 8 & 9	D	12/28/23	1/19/24
A331	Wall Sections – Area 9	D	12/28/23	
A332	Wall Sections – Area 9	D	12/28/23	
A333	Wall Sections – Area 9	D	12/28/23	
A334	Wall Sections – Area 10	D	12/28/23	1/25/24
A335	Wall Sections – Area 11	D	12/28/23	
A401	Enlarged Plans -Toilet Rooms	D	12/28/23	
A402	Enlarged Plans - Toilet Rooms	D	12/28/23	
A403	Restroom Elevations	D	12/28/23	
A404	Restroom Elevations and Locker Types	D	12/28/23	
A405	Enlarged Plan Auditorium	D	12/28/23	
A406	Gymnasium Detailed Plans	D	12/28/23	1/19/24
A407	Enlarged Plan – Kitchen & Served	D	12/28/23	
A420	Enlarged Plan - PTMA	D	12/28/23	1/12/24
A421	Enlarged Plan - Nurse Tech	D	12/28/23	1/12/24
A422	Enlarged Plan - Technical Drafting	D	12/28/23	1/12/24
A423	Enlarged Plan - CNAP & Drivers Ed	D	12/28/23	1/12/24
A424	Enlarged Plan - Electrical Shop	D	12/28/23	1/12/24
A425	Enlarged Plan - Masonry Shop	D	12/28/23	1/12/24
A426	Enlarged Plan - Plumbing Shop	D	12/28/23	1/12/24
A427	Enlarged Plan - Carpentry Shop	D	12/28/23	1/12/24

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
A428	Enlarged Plan - Cosmetology	D	12/28/23	1/12/24
A429	Enlarged Plan - Dental Assisting	D	12/28/23	1/12/24
A430	Enlarged Plan - Industrial Millwright	D	12/28/23	1/12/24
A431	Enlarged Plan - Auto Body	D	12/28/23	1/12/24
A432	Enlarged Plan - Auto Tech	D	12/28/23	1/12/24
A433	Enlarged Plans - Typical Classrooms	D	12/28/23	1/12/24
A434	Enlarged Plans - Science Classrooms	D	12/28/23	1/25/24
A435	Enlarged Plans - Administration & Guidance Suites	D	12/28/23	1/25/24
A436	Enlarged Plans - Administration & Guidance Suites	D	12/28/23	1/12/24
A437	Enlarged Plans - Nurse & Special Education Suites	D	12/28/23	1/12/24
A438	Enlarged Plans - Media Center	D	12/28/23	1/12/24
A439	Enlarged Plans - Teaching Academy	D	12/28/23	1/12/24
A441	Int. Elevations - Auditorium	D	12/28/23	
A442	Int. Elevations - Auditorium & Details	D	12/28/23	1/25/24
A443	Int. Elevations - Multi-Purpose Rooms	D	12/28/23	
A444	Int. Elevations Cafeteria	D	12/28/23	
A445	Int. Elevations - Cafeteria	D	12/28/23	
A446	Int. Elevations - Gym	D	12/28/23	
A447	Int. Elevations - Gym	D	12/28/23	1/19/24
A448	Int. Elevations- Elevator and Shop Lobbies	D	12/28/23	1/12/24
A449	Int. Elevations - Lobby E101 and Misc	D	12/28/23	1/12/24
A450	Int. Elevations - Wrestling Room	D	12/28/23	
A451	Casework Elevations	D	12/28/23	1/12/24
A452	Casework Elevations	D	12/28/23	1/12/24
A453	Casework Elevations	D	12/28/23	
A454	Casework Elevations	D	12/28/23	
A456	Casework Elevations - Science Rooms	D	12/28/23	
A461	Casework Sections & Details	D	12/28/23	1/12/24
A470	Millwork Details	D	12/28/23	1/25/24
A500	Custom Masonry Shapes	D	12/28/23	1/25/24
A501A	Exterior Plan Details - First Floor	D	12/28/23	1/25/24
A501B	Exterior Plan Details - Second Floor	D	12/28/24	1/25/24
A502A	Exterior Plan Details - First Floor	D	12/28/23	1/25/24
A502B	Exterior Plan Details - Second Floor	D	12/28/24	1/25/24
A503A	Exterior Plan Details - First Floor	D	12/28/23	1/19/24
A503B	Exterior Plan Details - Second Floor	D	12/28/24	
A504	Exterior Plan Details - Upper Gymnasium	D	12/28/23	
A504A	Exterior Plan Details - First Floor	D	12/28/23	
A504B	Exterior Plan Details - Second Floor	D	12/28/24	
A505A	Exterior Plan Details - First Floor	D	12/28/23	1/19/24
A505B	Exterior Plan Details - Upper Gymnasium	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
A510A	Exterior Plan Details - First Floor	D	12/28/23	
A510B	Exterior Plan Details – Second Floor	D	12/28/23	
A511	Plan Details - Interior	D	12/28/23	
A512	Plan Details - Interior	D	12/28/23	
A512A	Plan Details – Interior	D	12/28/23	
A513A	Exterior Plan Details - First Floor	D	12/28/23	1/25/24
A513B	Exterior Plan Details – Second Floor	D	12/28/23	
A514A	Exterior Plan Details - First Floor	D	12/28/23	1/19/24
A514B	Exterior Plan Details – Second Floor	D	12/28/23	1/19/24
A515A	Exterior Plan Details - First Floor	D	12/28/23	
A515B	Exterior Plan Details – Second Floor	D	12/28/23	
A516A	Exterior Plan Details - First Floor	D	12/28/23	
A516B	Exterior Plan Details – Second Floor	D	12/28/23	
A517A	Exterior Plan Details - First Floor	D	12/28/23	
A517B	Exterior Plan Details – Second Floor	D	12/28/23	
A518A	Exterior Plan Details - First Floor	D	12/28/23	
A518B	Exterior Plan Details – Second Floor	D	12/28/23	
A519A	Exterior Plan Details - First Floor	D	12/28/23	
A519B	Exterior Plan Details – Second Floor	D	12/28/23	
A520A	Exterior Plan Details - First Floor	D	12/28/23	
A520B	Exterior Plan Details – Second Floor	D	12/28/23	
A521	Ceiling Details	D	12/28/23	1/12/24
A522	Ceiling Section Details	D	12/28/23	
A523	Ceiling Section Details	D	12/28/23	
A531	Railing Details	D	12/28/23	1/19/24
A532	Railing Details	D	12/28/23	1/19/24
A541	Door Details - Interiors	D	12/28/23	
A542	Door Details - Interior	D	12/28/23	
A543	Hollow Metal Door Details – Exterior	D	1/25/24	
A551	Section Details	D	12/28/23	1/25/24
A560	Architectural Site Details	D	12/28/23	1/25/24
A561	Architectural Site Details	D	12/28/23	
A562	Architectural Site Details	D	12/28/23	
A563	Architectural Site Details	D	12/28/23	
A564	Architectural Site Details	D	12/28/23	
A565	Architectural Site Details	D	12/28/23	
A590	Roofing Details	D	12/28/23	
A591	Roofing Details	D	12/28/23	
A601	Door Schedule	D	12/28/23	1/19/24
A602	Door Schedule	D	12/28/23	1/25/24
A603	Door Schedule - Exterior	D	12/28/23	1/25/24

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
A604	Door and Frame Types	D	12/28/23	1/25/24
A610	Exterior Storefront Types	D	12/28/23	
A611	Exterior Storefront Details	D	12/28/23	1/19/24
A612	Exterior Storefront Details	D	12/28/23	1/25/24
A613	Exterior Storefront Details	D	12/28/23	
A613A	Exterior Storefront Details	D	1/25/24	
A614	Interior Storefront Types	D	12/28/23	1/25/24
A621	Curtain Wall Types	D	12/28/23	1/25/24
A622	Curtain Wall Details	D	1/25/24	
A631	Translucent Wall Panel Types & Louver Types	D	12/28/23	1/19/24
A632	Translucent Wall Panel Types	D	12/28/23	
A633	Translucent Wall Panel Types	D	12/28/23	1/19/24
A634	Translucent Wall Panel Types	D	12/28/23	
A641	Glazing Details - Interior	D	12/28/23	1/19/24
A651	Exterior MCM Panel Schedule	D	12/28/23	
A701	Stair #1 & 8 - Plans and Sections	D	12/28/23	1/19/24
A702	Stair #2 & 3 & 6 - Plans and Sections	D	12/28/23	1/25/24
A703	Stair #4 & 7 - Plans and Sections	D	12/28/23	1/12/24
A704	Monumental Stair in Lobby A102- Plans and Sections	D	12/28/23	1/12/24
A705	Monumental Stair #5 – Plans and Sections (Add Alternate #7-BP-D)	D	12/28/23	
A706	Misc. Stairs, Ramps, and Details	D	12/28/23	1/25/24
A707	Elevator #1 – Plans and Sections	D	12/28/23	
Interiors				
I-001	Finish Legend	D	12/28/23	1/25/24
I-002	Overall First Floor Plan – Flooring Alternate	D	12/28/23	1/25/24
I-111	First Floor Finish Plan - Keyplan 1	D	12/28/23	1/19/24
I-112	First Floor Finish Plan - Keyplan 2	D	12/28/23	1/25/24
I-113	First Floor Finish Plan - Keyplan 3	D	12/28/23	1/25/24
I-114	First Floor Finish Plan - Keyplan 4	D	12/28/23	1/25/24
I-115	First Floor Finish Plan - Keyplan 5	D	12/28/23	1/25/24
I-116	First Floor Finish Plan - Keyplan 6	D	12/28/23	
I-116A	First Floor Finish Plan – Keyplan 6 – Alternate #3	D	12/28/23	
I-117	First Floor Finish Plan - Keyplan 7	D	12/28/23	1/19/24
I-118	First Floor Finish Plan - Keyplan 8	D	12/28/23	1/25/24
I-119	First Floor Finish Plan - Keyplan 9	D	12/28/23	1/25/24
I-120	First Floor Finish Plan - Keyplan 10	D	12/28/23	1/25/24
I-121	First Floor Finish Plan - Keyplan 11	D	12/28/23	1/19/24
I-131	Second Floor Finish Plan – Keyplan 4	D	12/28/23	1/25/24
I-132	Second Floor Finish Plan - Keyplan 5	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
I-133	Second Floor Finish Plan - Keyplan 7	D	12/28/23	1/19/24
I-134	Second Floor Finish Plan - Keyplan 8	D	12/28/23	
I-135	Second Floor Finish Plan - Keyplan 9	D	12/28/23	
I-136	Second Floor Finish Plan - Keyplan 10	D	12/28/23	
I-211	First Floor Furniture Plan - Keyplan 1	D	12/28/23	
I-212	First Floor Furniture Plan - Keyplan 2	D	12/28/23	
I-213	First Floor Furniture Plan - Keyplan 3	D	12/28/23	
I-214	First Floor Furniture Plan - Keyplan 4	D	12/28/23	
I-215	First Floor Furniture Plan - Keyplan 5	D	12/28/23	
I-216	First Floor Furniture Plan - Keyplan 6	D	12/28/23	
I-217	First Floor Furniture Plan - Keyplan 7	D	12/28/23	
I-218	First Floor Furniture Plan - Keyplan 8	D	12/28/23	
I-219	First Floor Furniture Plan - Keyplan 9	D	12/28/23	
I-220	First Floor Furniture Plan - Keyplan 10	D	12/28/23	
I-221	First Floor Furniture Plan - Keyplan 11	D	12/28/23	
I-231	Second Floor Furniture Plan - Keyplan 4	D	12/28/23	
I-232	Second Floor Furniture Plan - Keyplan 5	D	12/28/23	
I-233	Second Floor Furniture Plan - Keyplan 7	D	12/28/23	
I-234	Second Floor Furniture Plan - Keyplan 8	D	12/28/23	
I-235	Second Floor Furniture Plan - Keyplan 9	D	12/28/23	
I-236	Second Floor Furniture Plan - Keyplan 10	D	12/28/23	
Mechanical				
G001	Cover Sheet – Volume 3	D	12/28/23	
G002	Drawing List	D	12/28/23	
M001	Legend And Abbreviations - HVAC	D	12/28/23	
M111	First Floor – Keyplan 1 – HVAC	D	12/28/23	
M112	First Floor – Keyplan 2 – HVAC	D	12/28/23	
M113	First Floor – Keyplan 3 – HVAC	D	12/28/23	1/25/24
M114	First Floor – Keyplan 4 – HVAC	D	12/28/23	
M115	First Floor – Keyplan 5 – HVAC	D	12/28/23	
M116	First Floor – Keyplan 6 – HVAC	D	12/28/23	
M117	First Floor – Keyplan 7 – HVAC	D	12/28/23	
M118	First Floor – Keyplan 8 – HVAC	D	12/28/23	
M119	First Floor – Keyplan 9 – HVAC	D	12/28/23	
M120	First Floor – Keyplan 10 – HVAC	D	12/28/23	
M121	First Floor – Keyplan 11 – HVAC	D	12/28/23	
M131	Second Floor – Keyplan 1 – HVAC	D	12/28/23	
M132	Second Floor – Keyplan 2 – HVAC	D	12/28/23	
M133	Second Floor – Keyplan 3 – HVAC	D	12/28/23	
M134	Second Floor – Keyplan 4 – HVAC	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
M135	Second Floor – Keyplan 5 – HVAC	D	12/28/23	
M136	Second Floor – Keyplan 6 – HVAC	D	12/28/23	
M137	Second Floor – Keyplan 7 – HVAC	D	12/28/23	
M138	Second Floor – Keyplan 8 – HVAC	D	12/28/23	
M139	Second Floor – Keyplan 9 – HVAC	D	12/28/23	
M140	Second Floor – Keyplan 10 – HVAC	D	12/28/23	
M141	Second Floor – Keyplan 11 – HVAC	D	12/28/23	
MP111	First Floor – Keyplan 1 – Mechanical Piping	D	12/28/23	
MP112	First Floor – Keyplan 2 – Mechanical Piping	D	12/28/23	
MP113	First Floor – Keyplan 3 – Mechanical Piping	D	12/28/23	
MP114	First Floor – Keyplan 4 – Mechanical Piping	D	12/28/23	1/12/24
MP115	First Floor – Keyplan 5 – Mechanical Piping	D	12/28/23	1/12/24
MP116	First Floor – Keyplan 6 – Mechanical Piping	D	12/28/23	
MP116A	First Floor – Keyplan 6 – Alternate - Mechanical Piping	D	12/28/23	
MP117	First Floor – Keyplan 7 – Mechanical Piping	D	12/28/23	
MP118	First Floor – Keyplan 8 – Mechanical Piping	D	12/28/23	
MP119	First Floor – Keyplan 9 – Mechanical Piping	D	12/28/23	
MP120	First Floor – Keyplan 10 – Mechanical Piping	D	12/28/23	
MP121	First Floor – Keyplan 11 – Mechanical Piping	D	12/28/23	
MP131	Second Floor – Keyplan 1 – Mechanical Piping	D	12/28/23	1/19/24
MP132	Second Floor – Keyplan 2 – Mechanical Piping	D	12/28/23	
MP133	Second Floor – Keyplan 3 – Mechanical Piping	D	12/28/23	
MP134	Second Floor – Keyplan 4 – Mechanical Piping	D	12/28/23	1/12/24
MP135	Second Floor – Keyplan 5 – Mechanical Piping	D	12/28/23	
MP136	Second Floor – Keyplan 6 – Mechanical Piping	D	12/28/23	
MP137	Second Floor – Keyplan 7 – Mechanical Piping	D	12/28/23	1/12/24
MP138	Second Floor – Keyplan 8 – Mechanical Piping	D	12/28/23	1/12/24
MP139	Second Floor – Keyplan 9 – Mechanical Piping	D	12/28/23	
MP140	Second Floor – Keyplan 10 – Mechanical Piping	D	12/28/23	
MP141	Second Floor – Keyplan 11 – Mechanical Piping	D	12/28/23	
M151	Roof Plan – Areas 1 & 2 – HVAC	D	12/28/23	
M152	Roof Plan – Areas 2 3 & 6 – HVAC	D	12/28/23	
M153	Roof Plan – Areas 3 6, 8 & 11 – HVAC	D	12/28/23	
M154	Roof Plan – Areas 4, 5, 7, 8, 9 & 20 – HVAC	D	12/28/23	1/12/24
M201	Part Plans – HVAC	D	12/28/23	
M202	Part Plans – HVAC	D	12/28/23	
M203	Part Plans – HVAC	D	12/28/23	
M204	Part Plans – HVAC	D	12/28/23	
M205	Part Plans – HVAC	D	12/28/23	
M301	Details - HVAC	D	12/28/23	
M302	Details - HVAC	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
M303	Details - HVAC	D	12/28/23	
M304	Details - HVAC	D	12/28/23	
M305	Details - HVAC	D	12/28/23	
M306	Details - HVAC	D	12/28/23	
M307	Details - HVAC	D	12/28/23	
M308	Details - HVAC	D	12/28/23	
M309	Details - HVAC	D	12/28/23	
M310	Details - HVAC	D	12/28/23	
M311	Details - HVAC	D	12/28/23	
M312	Details - HVAC	D	12/28/23	
M313	Details - HVAC	D	12/28/23	
M314	Details - HVAC	D	12/28/23	
M315	Details - HVAC	D	12/28/23	
M316	Details - HVAC	D	12/28/23	
M319	Details - HVAC	D	12/28/23	
M401	Automatic Temperature Controls	D	12/28/23	
M402	Automatic Temperature Controls	D	12/28/23	
M403	Automatic Temperature Controls	D	12/28/23	
M404	Automatic Temperature Controls	D	12/28/23	
M405	Automatic Temperature Controls	D	12/28/23	
M406	Automatic Temperature Controls	D	12/28/23	
M407	Automatic Temperature Controls	D	12/28/23	
M408	Automatic Temperature Controls	D	12/28/23	
M409	Automatic Temperature Controls	D	12/28/23	
M410	Automatic Temperature Controls	D	12/28/23	
M411	Automatic Temperature Controls	D	12/28/23	
M412	Automatic Temperature Controls	D	12/28/23	
M413	Automatic Temperature Controls	D	12/28/23	
M414	Automatic Temperature Controls	D	12/28/23	
M415	Automatic Temperature Controls	D	12/28/23	
M416	Automatic Temperature Controls	D	12/28/23	
M417	Automatic Temperature Controls	D	12/28/23	
M418	Automatic Temperature Controls	D	12/28/23	
M419	Automatic Temperature Controls	D	12/28/23	
M420	Automatic Temperature Controls	D	12/28/23	
M501	Schedules - HVAC	D	12/28/23	
M502	Schedules - HVAC	D	12/28/23	
M503	Schedules - HVAC	D	12/28/23	
M504	Schedules - HVAC	D	12/28/23	
M505	Schedules - HVAC	D	12/28/23	1/25/24
M506	Schedules - HVAC	D	12/28/23	1/25/24

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
M507	Schedules - HVAC	D	12/28/23	1/25/24
M508	Schedules - HVAC	D	12/28/23	
M509	Schedules - HVAC	D	12/28/23	
M510	Schedules - HVAC	D	12/28/23	
M601	Site Plan – HVAC	D	12/28/23	
Fire Protection				
F101	Fire Protection Zoning Plan – First Floor	D	12/28/23	
F102	Fire Protection Zoning Plan – Second Floor	D	12/28/23	
F111	First Floor - Keyplan 1 - Fire Protection	D	12/28/23	
F112	First Floor - Keyplan 2 - Fire Protection	D	12/28/23	
F113	First Floor - Keyplan 3 - Fire Protection	D	12/28/23	
F114	First Floor - Keyplan 4 - Fire Protection	D	12/28/23	
F115	First Floor - Keyplan 5 - Fire Protection	D	12/28/23	
F116	First Floor - Keyplan 6 - Fire Protection	D	12/28/23	
F117	First Floor - Keyplan 7 - Fire Protection	D	12/28/23	
F118	First Floor - Keyplan 8 - Fire Protection	D	12/28/23	
F119	First Floor - Keyplan 9 - Fire Protection	D	12/28/23	
F120	First Floor - Keyplan 10 - Fire Protection	D	12/28/23	
F121	First Floor - Keyplan 11 - Fire Protection	D	12/28/23	
F131	Second Floor Plan - Keyplan 1 - Fire Protection	D	12/28/23	
F132	Second Floor Plan - Keyplan 2 – Fire Protection	D	12/28/23	
F133	Second Floor Plan - Keyplan 3 - Fire Protection	D	12/28/23	
F134	Second Floor Plan - Keyplan 4 - Fire Protection	D	12/28/23	
F135	Second Floor Plan - Keyplan 5 - Fire Protection	D	12/28/23	
F136	Second Floor Plan - Keyplan 6 - Fire Protection	D	12/28/23	
F137	Second Floor Plan - Keyplan 7 - Fire Protection	D	12/28/23	
F138	Second Floor Plan - Keyplan 8 - Fire Protection	D	12/28/23	
F139	Second Floor Plan - Keyplan 9 - Fire Protection	D	12/28/23	
F140	Second Floor Plan - Keyplan 10 - Fire Protection	D	12/28/23	
F141	Second Floor Plan - Keyplan 11 - Fire Protection	D	12/28/23	
F301	Details – Fire Protection	D	12/28/23	
F302	Details & Schedules - Fire Protection	D	12/28/23	
Plumbing				
P001	Legend & Abbreviations – Plumbing	D	12/28/23	1/12/24
P111	First Floor – Keyplan 1 – Plumbing	D	12/28/23	1/25/24
P112	First Floor – Keyplan 2 – Plumbing	D	12/28/23	1/12/24
P113	First Floor – Keyplan 3 – Plumbing	D	12/28/23	1/12/24
P114	First Floor – Keyplan 4 – Plumbing	D	12/28/23	1/12/24
P115	First Floor – Keyplan 5 – Plumbing	D	12/28/23	1/12/24

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
P116	First Floor – Keyplan 6 – Plumbing	D	12/28/23	1/12/24
P116A	First Floor – Keyplan 6 – Plumbing – Alternate - Plumbing	D	12/28/23	1/12/24
P117	First Floor – Keyplan 7 – Plumbing	D	12/28/23	1/12/24
P118	First Floor – Keyplan 8 – Plumbing	D	12/28/23	1/12/24
P119	First Floor – Keyplan 9 – Plumbing	D	12/28/23	1/12/24
P120	First Floor – Keyplan 10 – Plumbing	D	12/28/23	1/12/24
P121	First Floor – Keyplan 11 – Plumbing	D	12/28/23	1/12/24
P131	Second Floor – Keyplan 1 – Plumbing	D	12/28/23	1/12/24
P132	Second Floor – Keyplan 2 – Plumbing	D	12/28/23	1/12/24
P133	Second Floor – Keyplan 3 – Plumbing	D	12/28/23	1/12/24
P134	Second Floor – Keyplan 4 – Plumbing	D	12/28/23	1/12/24
P135	Second Floor – Keyplan 5 – Plumbing	D	12/28/23	1/12/24
P136	Second Floor – Keyplan 6 – Plumbing	D	12/28/23	1/12/24
P137	Second Floor – Keyplan 7 – Plumbing	D	12/28/23	1/12/24
P138	Second Floor – Keyplan 8 – Plumbing	D	12/28/23	1/12/24
P139	Second Floor – Keyplan 9 – Plumbing	D	12/28/23	1/12/24
P140	Second Floor – Keyplan 10 – Plumbing	D	12/28/23	1/12/24
P141	Second Floor – Keyplan 11 – Plumbing	D	12/28/23	1/12/24
P151	Roof - Areas 1 & 2 - Plumbing	D	12/28/23	1/12/24
P152	Roof - Areas 3 & 6 - Plumbing	D	12/28/23	1/12/24
P153	Roof - Areas 6, 8 & 11 - Plumbing	D	12/28/23	1/12/24
P154	Roof - Areas 4, 5, 7, 8, 9 & 10 - Plumbing	D	12/28/23	1/12/24
P201	Part Plans - Plumbing	D	12/28/23	1/12/24
P202	Part Plans – Plumbing	D	12/28/23	1/12/24
P203	Part Plans - Plumbing	D	12/28/23	1/12/24
P204	Part Plan - Plumbing	D	12/28/23	1/12/24
P205	Part Plans - Plumbing	D	12/28/23	1/12/24
P206	Part Plans - Plumbing	D	12/28/23	1/12/24
P207	Part Plans - Plumbing	D	12/28/23	1/12/24
P208	Part Plans - Plumbing	D	1/12/24	
P301	Details – Plumbing	D	12/28/23	1/12/24
P302	Details – Plumbing	D	12/28/23	1/12/24
P303	Details – Plumbing	D	12/28/23	1/12/24
P304	Details – Plumbing	D	12/28/23	1/12/24
P305	Details – Plumbing	D	12/28/23	1/12/24
P306	Details – Plumbing	D	12/28/23	1/12/24
P307	Details – Plumbing	D	12/28/23	1/12/24
P308	Details – Plumbing	D	12/28/23	1/12/24
P309	Details – Plumbing	D	12/28/23	1/12/24
P310	Details – Plumbing	D	12/28/23	1/25/24
P311	Details – Plumbing	D	12/28/23	1/12/24

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
P312	Details – Plumbing	D	12/28/23	1/12/24
P313	Details – Plumbing	D	12/28/23	1/12/24
P314	Details – Plumbing	D	12/28/23	
P315	Details – Plumbing	D	12/28/23	
P316	Details - Plumbing	D	12/28/23	
P317	Details - Plumbing	D	12/28/23	
P401	Schedules – Plumbing	D	12/28/23	1/25/24
P402	Schedules - Plumbing	D	12/28/23	
P501	Risers – Plumbing	D	12/28/23	1/25/24
P502	Risers – Plumbing	D	12/28/23	1/12/24
P503	Risers – Plumbing	D	12/28/23	1/12/24
P504	Risers – Plumbing	D	12/28/23	1/12/24
P505	Risers – Plumbing	D	12/28/23	1/12/24
P506	Risers – Plumbing	D	12/28/23	1/12/24
P507	Risers – Plumbing	D	12/28/23	1/12/24
P508	Risers – Plumbing	D	12/28/23	1/12/24
P509	Risers – Plumbing	D	12/28/23	1/12/24
P510	Risers – Plumbing	D	12/28/23	1/12/24
P511	Risers – Plumbing	D	12/28/23	1/12/24
P512	Risers – Plumbing	D	12/28/23	1/12/24
P513	Risers – Plumbing	D	12/28/23	1/25/24
P514	Risers – Plumbing	D	12/28/23	1/12/24
P515	Risers – Plumbing	D	12/28/23	1/12/24
P516	Risers – Plumbing	D	12/28/23	1/12/24
P517	Risers – Plumbing	D	12/28/23	1/12/24
P518	Risers – Plumbing	D	12/28/23	1/12/24
P519	Risers – Plumbing	D	12/28/23	1/12/24
P520	Risers – Plumbing	D	12/28/23	1/12/24
P521	Risers – Plumbing	D	12/28/23	1/12/24
P522	Risers – Plumbing	D	12/28/23	1/12/24
P523	Risers – Plumbing	D	12/28/23	1/12/24
P524	Risers – Plumbing	D	12/28/23	1/12/24
P525	Risers – Plumbing	D	12/28/23	1/12/24
P526	Risers – Plumbing	D	12/28/23	1/12/24
P527	Risers – Plumbing	D	12/28/23	1/12/24
P528	Risers – Plumbing	D	12/28/23	1/12/24
P529	Risers – Plumbing	D	12/28/23	1/12/24
P530	Risers – Plumbing	D	12/28/23	1/12/24
P531	Risers – Plumbing	D	12/28/23	1/12/24
P532	Risers – Plumbing	D	12/28/23	1/12/24
P533	Risers – Plumbing	D	12/28/23	1/12/24

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
P534	Risers – Plumbing	D	12/28/23	1/12/24
P535	Risers – Plumbing	D	12/28/23	1/12/24
P536	Risers – Plumbing	D	12/28/23	1/12/24
P537	Risers – Plumbing	D	12/28/23	1/12/24
Electrical				
G001	Cover Sheet – Volume 4	D	12/28/23	
G002	Drawing List	D	12/28/23	
E001	Electrical Legend, Schedules & Abbreviations	D	12/28/23	1/12/24
E002	Lighting Fixture Schedule	D	12/28/23	1/25/24
E003	Lighting Fixture Schedule	D	12/28/23	1/25/24
E004	Site Plan Electrical	D	12/28/23	1/12/24
E005	Site Plan Electrical	D	12/28/23	
E006	Site Plan Electrical	D	12/28/23	1/12/24
E101	First Floor - Keyplan 1 - Power	D	12/28/23	1/25/24
E102	First Floor - Keyplan 2 - Power	D	12/28/23	1/25/24
E103	First Floor - Keyplan 3 - Power	D	12/28/23	1/25/24
E104	First Floor - Keyplan 4 - Power	D	12/28/23	
E105	First Floor - Keyplan 5 - Power	D	12/28/23	1/12/24
E106	First Floor - Keyplan 6 - Power	D	12/28/23	
E106A	First Floor - Keyplan 6A – Alternate #3 - Power	D	12/28/23	
E107	First Floor - Keyplan 7 - Power	D	12/28/23	1/25/24
E108	First Floor - Keyplan 8 - Power	D	12/28/23	1/12/24
E109	First Floor - Keyplan 9 - Power	D	12/28/23	1/25/24
E110	First Floor - Keyplan 10 - Power	D	12/28/23	1/25/24
E111	First Floor - Keyplan 11 - Power	D	12/28/23	1/12/24
E121	Second Floor - Keyplan 4 - Power	D	12/28/23	
E122	Second Floor - Keyplan 5 - Power	D	12/28/23	1/12/24
E123	Second Floor - Keyplan 6 - Power	D	12/28/23	
E124	Second Floor - Keyplan 7 - Power	D	12/28/23	1/12/24
E125	Second Floor - Keyplan 8 - Power	D	12/28/23	1/12/24
E126	Second Floor - Keyplan 9 - Power	D	12/28/23	
E127	Second Floor - Keyplan 10 - Power	D	12/28/23	1/12/24
E128	Second Floor - Keyplan 11 - Power	D	12/28/23	
E129	Roof Plan - Overall - Power	D	12/28/23	
E201	First Floor - Keyplan 1 - Lighting	D	12/28/23	1/25/24
E202	First Floor - Keyplan 2 - Lighting	D	12/28/23	1/19/24
E203	First Floor - Keyplan 3 - Lighting	D	12/28/23	1/12/24
E204	First Floor - Keyplan 4 - Lighting	D	12/28/23	
E205	First Floor - Keyplan 5 - Lighting	D	12/28/23	1/12/24
E206	First Floor - Keyplan 6 - Lighting	D	12/28/23	1/12/24

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
E206A	First Floor – Keyplan 6A – Alternate #3 Lighting	D	12/28/23	
E207	First Floor - Keyplan 7 - Lighting	D	12/28/23	1/12/24
E208	First Floor - Keyplan 8 - Lighting	D	12/28/23	1/12/24
E209	First Floor - Keyplan 9 - Lighting	D	12/28/23	1/12/24
E210	First Floor - Keyplan 10 - Lighting	D	12/28/23	
E211	First Floor - Keyplan 11 - Lighting	D	12/28/23	
E221	Second Floor - Keyplan 4 - Lighting	D	12/28/23	
E222	Second Floor - Keyplan 5 - Lighting	D	12/28/23	
E223	Second Floor - Keyplan 6 - Lighting	D	12/28/23	
E224	Second Floor - Keyplan 7 - Lighting	D	12/28/23	
E225	Second Floor - Keyplan 8 - Lighting	D	12/28/23	
E226	Second Floor - Keyplan 9 - Lighting	D	12/28/23	
E227	Second Floor - Keyplan 10 - Lighting	D	12/28/23	1/19/24
E228	Second Floor - Keyplan 11 - Lighting	D	12/28/23	1/12/24
E301	First Floor - Keyplan 1 - Fire Alarm	D	12/28/23	1/25/24
E302	First Floor - Keyplan 2 - Fire Alarm	D	12/28/23	1/25/24
E303	First Floor - Keyplan 3 - Fire Alarm	D	12/28/23	
E304	First Floor - Keyplan 4 - Fire Alarm	D	12/28/23	1/12/24
E305	First Floor - Keyplan 5 - Fire Alarm	D	12/28/23	1/12/24
E306	First Floor - Keyplan 6 - Fire Alarm	D	12/28/23	
E306A	Firs Floor – Keyplan 6A – Alternate #3 – Fire Alarm	D	12/28/23	
E307	First Floor - Keyplan 7 - Fire Alarm	D	12/28/23	
E308	First Floor - Keyplan 8 - Fire Alarm	D	12/28/23	
E309	First Floor - Keyplan 9 - Fire Alarm	D	12/28/23	
E310	First Floor - Keyplan 10 - Fire Alarm	D	12/28/23	1/12/24
E311	First Floor - Keyplan 11 - Fire Alarm	D	12/28/23	1/12/24
E321	Second Floor - Keyplan 4 - Fire Alarm	D	12/28/23	
E322	Second Floor - Keyplan 5 - Fire Alarm	D	12/28/23	
E323	Second Floor - Keyplan 6 - Fire Alarm	D	12/28/23	
E324	Second Floor - Keyplan 7 - Fire Alarm	D	12/28/23	1/19/24
E325	Second Floor - Keyplan 8 - Fire Alarm	D	12/28/23	
E326	Second Floor - Keyplan 9 - Fire Alarm	D	12/28/23	
E327	Second Floor - Keyplan 10 - Fire Alarm	D	12/28/23	
E328	Second Floor - Keyplan 11 - Fire Alarm	D	12/28/23	
E401	Part Plan - Main Electrical/Mechanical Room	D	12/28/23	1/12/24
E402	Electrical Part Plans	D	12/28/23	
E403	Electrical Part Plans	D	12/28/23	1/25/24
E404	Part Plan - Kitchen E105	D	12/28/23	1/12/24
E405	Part Plan - Culinary Lab D101	D	12/28/23	1/25/24
E406	Part Plan - Electrical Shop D110	D	12/28/23	
E407	Part Plan - Masonry Shop - D114	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
E408	Part Plan - Plumbing Shop D116	D	12/28/23	1/25/24
E409	Part Plan - Carpentry Shop C101	D	12/28/23	1/12/24
E410	Part Plan - Cosmetology Lab C102B & C102K	D	12/28/23	1/12/24
E411	Part Plan - Industrial Millwright C118	D	12/28/23	1/25/24
E412	Part Plan - Autobody Shop C120	D	12/28/23	1/19/24
E413	Part Plan - Auto Tech Shop C124	D	12/28/23	1/12/24
E414	Part Plans - Mezzanine	D	12/28/23	
E415	Part Plans - Mezzanine	D	12/28/23	
E416	Part Plans - Mezzanine	D	12/28/23	
E417	Part Plan – Auditorium Theater Equipment Rough-Ins	D	12/28/23	1/12/24
E418	Part Plan – Auditorium Theater Equipment Lighting Rough-Ins	D	12/28/23	1/19/24
E419	Part Plan – Auditorium Theater Elevations	D	12/28/23	
E501	Schematic Power Riser Diagram	D	12/28/23	
E502	Schematic Power Riser Diagram	D	12/28/23	
E503	Schematic Power Riser Diagram	D	12/28/23	
E504	Schematic Power Riser Diagram	D	12/28/23	
E505	Schematic Power Riser Diagram	D	12/28/23	
E506	Schematic Fire Alarm Riser Diagram	D	12/28/23	1/25/24
E507	Fire Alarm Static Graphic Annunciator	D	12/28/23	
E601	Panel Schedules	D	12/28/23	1/25/24
E602	Panel Schedules	D	12/28/23	
E603	Panel Schedules	D	12/28/23	
E604	Panel Schedules	D	12/28/23	
E605	Panel Schedules	D	12/28/23	1/12/24
E606	Panel Schedules	D	12/28/23	1/12/24
E607	Panel Schedules	D	12/28/23	
E608	Panel Schedules	D	12/28/23	1/19/24
E609	Panel Schedules	D	12/28/23	
E610	Panel Schedules	D	12/28/23	1/25/24
E611	Panel Schedules	D	12/28/23	1/25/24
E612	Panel Schedules	D	12/28/23	1/25/24
E613	Panel Schedules	D	12/28/23	1/25/24
E614	Panel Schedules	D	12/28/23	1/25/24
E615	Panel Schedules	D	12/28/23	1/25/24
E616	Panel Schedules	D	12/28/23	
E617	Panel Schedules	D	12/28/23	1/25/24
E618	Panel Schedules	D	12/28/23	
E619	Panel Schedules	D	12/28/23	
E620	Mechanical Equipment Connection Schedule	D	12/28/23	
E621	Mechanical Equipment Connection Schedule	D	12/28/23	1/25/24

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
E622	Mechanical Equipment Connection Schedule	D	12/28/23	1/25/24
E623	Mechanical Equipment Connection Schedule	D	12/28/23	
E624	Mechanical Equipment Connection Schedule	D	12/28/23	
E625	Mechanical Equipment Connection Schedule	D	12/28/23	
E626	Kitchen Equipment Connection Schedule	D	12/28/23	1/12/24
E701	Electrical Details	D	12/28/23	
E702	Electrical Details	D	12/28/23	
E703	Electrical Details	D	12/28/23	
E704	Electrical Details	D	12/28/23	
E705	Electrical Details	D	12/28/23	
E706	Electrical Details	D	12/28/23	1/19/24
E707	Electrical Details	D	12/28/23	1/19/24
E708	Electrical Details	D	12/28/23	
E709	Electrical Details	D	12/28/23	
E710	Electrical Details	D	12/28/23	
E711	Electrical Details	D	12/28/23	1/12/24
E712	Electrical Details	D	12/28/23	1/25/24
E713	Electrical Details	D	12/28/23	
E714	Electrical Details	D	12/28/23	
E715	Electrical Details	D	12/28/23	
E716	Corridor Lighting Control Zones	D	12/28/23	
E717	Switched Receptacle Control Zones	D	12/28/23	1/25/24
Theater				
G001	Cover Sheet – Volume 5	D	12/28/23	
G002	Drawing List	D	12/28/23	
AV-001	AV Systems - Schedules	D	12/28/23	
AV-002	AV Systems - Technical Power Concept	D	12/28/23	
AV-101	AV Systems - Level 1 Plan	D	12/28/23	
AV-201	AV Systems - Loudspeaker & Projection Centerline	D	12/28/23	
AV-301	AV Systems - Combo Panel Details	D	12/28/23	
AV-302	AV Systems - SVC Device Details	D	12/28/23	
AV-303	AV Systems - Rack Panel Details	D	12/28/23	
AV-304	AV Systems - Rack Elevations	D	12/28/23	
AV-401	AV Systems – Signal Flows 1	D	12/28/23	
AV-402	AV Systems – Signal Flows 2	D	12/28/23	
TE-110	Performance Lighting Systems	D	12/28/23	
TE-120	Performance Lighting Systems	D	12/28/23	
TE-130	Performance Lighting Systems	D	12/28/23	
TE-140	Performance Lighting Systems	D	12/28/23	
TE-150	Performance Lighting Systems	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
TE-160	Performance Lighting Systems	D	12/28/23	
TR-101	Keyplan 2 – Stage Rigging Plan	D	12/28/23	
TR-201	Keyplan 2 – Stage Rigging Section	D	12/28/23	
TR-301	Keyplan 2 – Stage Rigging Elevations	D	12/28/23	
TR-302	Keyplan 2 – Stage Rigging Elevations	D	12/28/23	
TR-401	Keyplan 2 – Stage Rigging Details	D	12/28/23	
TR-402	Keyplan 2 - Stage Rigging Details	D	12/28/23	
TS-101	Keyplan 2 – Auditorium Seating Plan	D	12/28/23	1/25/24
TS-102	Keyplan 2 – Auditorium Seating Centerline Section	D	12/28/23	1/19/24
Kitchen				
FS-1.0	Foodservice Equipment Plan - Overall	D	12/28/23	
FS-1.1	Foodservice Equipment Plan - Cafeteria	D	12/28/23	
FS-1.2	Foodservice Equipment Plan - Food Lab	D	12/28/23	
FS-1.3	Foodservice Equipment Schedule	D	12/28/23	1/19/24
FS-1.4	Foodservice Electrical Schedule	D	12/28/23	
FS-1.5	Foodservice Plumbing Schedule	D	12/28/23	
FS-1.6	Foodservice Details	D	12/28/23	
FS-1.7	Foodservice Plumbing Plan - Cafeteria	D	12/28/23	
FS-1.8	Foodservice Plumbing Plan - Food Lab	D	12/28/23	
FS-1.9	Foodservice Plumbing Schedule	D	12/28/23	
FS-1.10	Foodservice Details	D	12/28/23	
FS-2.0	Foodservice Exhaust Hood Details	D	12/28/23	
FS-2.1	Foodservice Exhaust Hood Details	D	12/28/23	
FS-2.2	Foodservice Exhaust Hood Details	D	12/28/23	
FS-2.3	Foodservice Exhaust Hood Details	D	12/28/23	
FS-2.4	Foodservice Exhaust Hood Details	D	12/28/23	
FS-2.5	Foodservice Exhaust Hood Details	D	12/28/23	
FS-2.6	Foodservice Exhaust Hood Details	D	12/28/23	
FS-2.7	Foodservice Exhaust Hood Details	D	12/28/23	
FS-2.8	Foodservice Utility Distribution System Details	D	12/28/23	
FS-2.9	Foodservice Utility Distribution System Details	D	12/28/23	
FS-2.10	Foodservice Utility Distribution System Details	D	12/28/23	
FS-2.11	Foodservice Utility Distribution System Details	D	12/28/23	
FS-3.0	Foodservice Walk-In Details	D	12/28/23	
FS-3.1	Foodservice Walk-In Details	D	12/28/23	
FS-3.2	Foodservice Walk-In Details	D	12/28/23	
FS-3.3	Foodservice Walk-In Details	D	12/28/23	
FS-4.0	Foodservice Equipment Plan – Support Kitchen	D	12/28/23	
Technology				

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
T000	Symbols And Notes	D	12/28/23	
T100	Site Plan	D	12/28/23	
T101	Overall First Floor Plan	D	12/28/23	
T102	Overall Second Floor Plan	D	12/28/23	
T103	Floor Plan - Shops - Mezzanine Level	D	12/28/23	
T111	First Floor Plan - Keyplan 1	D	12/28/23	1/25/24
T112	First Floor Plan - Keyplan 2	D	12/28/23	
T113	First Floor Plan - Keyplan 3	D	12/28/23	
T114	First Floor Plan - Keyplan 4	D	12/28/23	
T115	First Floor Plan - Keyplan 5	D	12/28/23	
T116	First Floor Plan - Keyplan 6	D	12/28/23	
T116A	First Floor Plan - Keyplan 6 Alternate	D	12/28/23	
T117	First Floor Plan - Keyplan 7	D	12/28/23	
T118	First Floor Plan - Keyplan 8	D	12/28/23	
T119	First Floor Plan - Keyplan 9	D	12/28/23	
T120	First Floor Plan - Keyplan 10	D	12/28/23	
T121	First Floor Plan - Keyplan 11	D	12/28/23	
T131	Second Floor Plan - Keyplan 4	D	12/28/23	
T132	Second Floor Plan - Keyplan 5	D	12/28/23	
T133	Second Floor Plan - Keyplan 7	D	12/28/23	
T134	Second Floor Plan - Keyplan 8	D	12/28/23	
T135	Second Floor Plan - Keyplan 9	D	12/28/23	
T136	Second Floor Plan - Keyplan 10	D	12/28/23	
T500	Main Telecom Room Details	D	12/28/23	
T501	Telecom Rooms First Floor 1	D	12/28/23	
T502	Telecom Rooms First Floor 2	D	12/28/23	
T503	Telecom Rooms Second Floor 1	D	12/28/23	
T504	Pathways	D	12/28/23	
T505	Faceplates	D	12/28/23	
T507	Intercom & Clock System	D	12/28/23	
T508	Cafeteria Audio System	D	12/28/23	
T509	Gymnasium Audio System	D	12/28/23	
T510	Demo Camera System	D	12/28/23	
Security				
TY000	Security Symbols and Notes	D	12/28/23	
TY100	Site Security Plan	D	12/28/23	
TY101	Overall First Floor Security Plan	D	12/28/23	
TY102	Overall Second Floor Security Plan	D	12/28/23	
TY103	Floor Plan - Shops - Mezzanine Level Security	D	12/28/23	
TY111	First Floor Security Plan - Keyplan 1	D	12/28/23	

DRWG NO.	DRAWING NAME	BID PACKS	ISSUE DATE	LATEST REV. DATE
TY112	First Floor Security Plan - Keyplan 2	D	12/28/23	1/25/24
TY113	First Floor Security Plan - Keyplan 3	D	12/28/23	1/25/24
TY114	First Floor Security Plan - Keyplan 4	D	12/28/23	
TY115	First Floor Security Plan - Keyplan 5	D	12/28/23	1/25/24
TY116	First Floor Security Plan - Keyplan 6	D	12/28/23	
TY116A	First Floor Security Plan - Keyplan 6 Alternate	D	12/28/23	
TY117	First Floor Security Plan - Keyplan 7	D	12/28/23	
TY118	First Floor Security Plan - Keyplan 8	D	12/28/23	
TY119	First Floor Security Plan - Keyplan 9	D	12/28/23	1/25/24
TY120	First Floor Security Plan - Keyplan 10	D	12/28/23	
TY121	First Floor Security Plan - Keyplan 11	D	12/28/23	
TY131	Second Floor Security Plan - Keyplan 4	D	12/28/23	
TY132	Second Floor Security Plan - Keyplan 5	D	12/28/23	
TY133	Second Floor Security Plan - Keyplan 7	D	12/28/23	
TY134	Second Floor Security Plan - Keyplan 8	D	12/28/23	
TY135	Second Floor Security Plan - Keyplan 9	D	12/28/23	
TY136	Second Floor Security Plan - Keyplan 10	D	12/28/23	
TY500	Intrusion Detection System	D	12/28/23	
TY501	Access Control System	D	12/28/23	1/25/24
TY502	Video Surveillance System	D	12/28/23	

END OF SECTION

CONTRACT NO: D-04 CARPENTRY AND GENERAL WORK

BID FORM

For Bids Due: _____

To: NCCVT School District
1417 Newport Road
Wilmington, DE 19804

Name of Bidder: _____

Bidder Address: _____

Contact Name: _____ E-Mail Address: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____

(A copy of Bidder's Licenses must be attached to this form.)

Phone No.: (____) _____ - _____ Fax No.: (____) _____ - _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

\$ _____ (\$ _____)

ALLOWANCES

We/I confirm that an Allowances in the amount of \$40,000.00 **and \$100,000.00** have been included in the Base Bid price listed above. ~~This allowance is~~ **These allowances are** to be used at the Owner and Construction Manager's discretion **and for temporary window opening protection**. All remaining allowance shall be returned to the Owner at completion.

ALTERNATES

Alternate prices conform to applicable project specification section. Refer to specifications for a complete description of the following Alternates. An "ADD" or "DEDUCT" amount is indicated by the crossed-out part that does not apply.

Alternate No. 3: Provide exterior shell of future tech and shop expansion.

Add/Deduct _____ (\$ _____)

Alternate No. 6: ~~Provide 380 Salto wireless handle sets in lieu of manual locksets.~~ **Provide Salto wireless handle sets in lieu of manual locksets.**

Add/Deduct _____ (\$ _____)

Alternate No. 7: Provide monument stair #5 complete.

Add/Deduct _____ (\$ _____)

Alternate No. 8: Provide vertically retractable partition between room MP1 & MP2.

Add/Deduct _____ (\$ _____)

Alternate No. 13: Provide lightning protection system.

Add/Deduct _____ (\$ _____)

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for sixty (60) days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (if required).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within the durations included in the BP-D bid schedule provided and Section 013216 Const. Schedule.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am/We are an Individual/a Partnership/a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(SEAL) (Authorized Signature)

(Title)

Date: _____

ATTACHMENTS

Sub-Contractor List
Non-Collusion Statement
Bid Bond
Consent of Surety
Affidavit of Employee Drug Testing Program
Affidavit of Contractor Qualifications
DBE Subcontractor List
New Castle County Contractor License
(Others as Required by Project Manuals)

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b of the Delaware Code, the following subcontractor listing must accompany any bid submittal. The bidder must list **in each category** the full name and address (City & State) of the sub-contractor that the bidder will be using to perform the work and provide material for that subcontractor category. Should the bidder's listed subcontractor intend to provide any of their subcontractor category of work through a third-tier contractor, the bidder shall list that third-tier contractor's full name and address (City & State). **If the bidder intends to perform any category of work itself, it must list its full name and address.** For clarification, if the bidder intends to perform the work themselves, the bidder **may not** insert "not applicable", "N/A", "self" or anything other than its own full name and address (City & State). To do so shall cause the bid to be rejected. In addition, the failure to produce a completed subcontractor list with the bid submittal shall cause the bid to be rejected. If you have more than three (3) third-tier contractors to report in any subcontractor category, print out additional page(s) containing the appropriate category, complete the rest of your list of third-tier contractors for that category, notate the addition in parentheses as (CONTINUATION) next to the subcontractor category and an asterisk (*) next to any additional third-tier contractors, and submit it with your bid.

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>	<u>Subcontractors tax-payer ID # or Delaware Business license #</u>
1. <u>Carpentry</u>			
2. <u>Metal Fencing</u>			
3. _____			
4. _____			
5. _____			
6. <u>NO ADDITIONAL ENTRIES REQUIRED</u>			

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date _____.

All the terms and conditions of Contract: _____ have been thoroughly examined and are understood.

NAME OF BIDDER: _____

AUTHORIZED REPRESENTATIVE
(TYPED): _____

AUTHORIZED REPRESENTATIVE
(SIGNATURE): _____

TITLE: _____

ADDRESS OF BIDDER: _____

E-MAIL: _____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

CONSENT OF SURETY

DATE _____

To: NCC Vocational Technical School District
1417 Newport Road
Wilmington, DE 19804

Gentlemen:

We, the _____

(Surety Company's Address)

a Surety Company authorized to do business in the State of Delaware hereby agrees that if

(Contractor)

(Address)

is awarded the Contract No. _____

We will write the required Performance and/or Labor and Material Bond required by Paragraph 9 of the Instructions to Bidders.

(Surety Company)

By _____
(Attorney-in-Fact)

AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors, that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor's qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

DBE SUBCONTRACTOR LIST

DBE Name	DBE Address	DBE Phone Number	DBE Email address	DelDOT or OSD Registration Number	DBE % of Contract	Description of Work

Total DBEs on project: _____

END OF SECTION

CONTRACT NO: D-11 HOLLOW METAL, WOOD DOORS, AND FINISH HARDWARE

BID FORM

For Bids Due: _____

To: NCCVT School District
1417 Newport Road
Wilmington, DE 19804

Name of Bidder: _____

Bidder Address: _____

Contact Name: _____ E-Mail Address: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____

(A copy of Bidder's Licenses must be attached to this form.)

Phone No.: (____) _____ - _____ Fax No.: (____) _____ - _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

\$ _____ (\$ _____)

ALTERNATES

Alternate prices conform to applicable project specification section. Refer to specifications for a complete description of the following Alternates. An "ADD" or "DEDUCT" amount is indicated by the crossed-out part that does not apply.

Alternate No. 3: Provide exterior shell of future tech and shop expansion.

Add/Deduct _____ (\$ _____)

Alternate No. 6: ~~Provide 380 Salto wireless handle sets in lieu of manual locksets.~~ **Provide Salto wireless handle sets in lieu of manual locksets.**

Add/Deduct _____ (\$ _____)

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for sixty (60) days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (if required).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within the durations included in the BP-D bid schedule provided and Section 013216 Const. Schedule.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am/We are an Individual/a Partnership/a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(SEAL) (Authorized Signature)

(Title)

Date: _____

ATTACHMENTS

Sub-Contractor List
Non-Collusion Statement
Bid Bond
Consent of Surety
Affidavit of Employee Drug Testing Program
Affidavit of Contractor Qualifications
DBE Subcontractor List
New Castle County Contractor License
(Others as Required by Project Manuals)

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b of the Delaware Code, the following subcontractor listing must accompany any bid submittal. The bidder must list **in each category** the full name and address (City & State) of the sub-contractor that the bidder will be using to perform the work and provide material for that subcontractor category. Should the bidder's listed subcontractor intend to provide any of their subcontractor category of work through a third-tier contractor, the bidder shall list that third-tier contractor's full name and address (City & State). **If the bidder intends to perform any category of work itself, it must list its full name and address.** For clarification, if the bidder intends to perform the work themselves, the bidder **may not** insert "not applicable", "N/A", "self" or anything other than its own full name and address (City & State). To do so shall cause the bid to be rejected. In addition, the failure to produce a completed subcontractor list with the bid submittal shall cause the bid to be rejected. If you have more than three (3) third-tier contractors to report in any subcontractor category, print out additional page(s) containing the appropriate category, complete the rest of your list of third-tier contractors for that category, notate the addition in parentheses as (CONTINUATION) next to the subcontractor category and an asterisk (*) next to any additional third-tier contractors, and submit it with your bid.

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>	<u>Subcontractors tax-payer ID # or Delaware Business license #</u>
1. <u>Doors/Frames/Hardware</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. <u>NO ADDITIONAL ENTRIES REQUIRED</u>			

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date _____.

All the terms and conditions of Contract: _____ have been thoroughly examined and are understood.

NAME OF BIDDER: _____

AUTHORIZED REPRESENTATIVE
(TYPED): _____

AUTHORIZED REPRESENTATIVE
(SIGNATURE): _____

TITLE: _____

ADDRESS OF BIDDER: _____

E-MAIL: _____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

CONSENT OF SURETY

DATE_____

To: NCC Vocational Technical School District
 1417 Newport Road
 Wilmington, DE 19804

Gentlemen:

We, the _____

(Surety Company's Address)

a Surety Company authorized to do business in the State of Delaware hereby agrees that if

(Contractor)

(Address)

is awarded the Contract No. _____

We will write the required Performance and/or Labor and Material Bond required by Paragraph 9 of the Instructions to Bidders.

(Surety Company)

By _____
(Attorney-in-Fact)

AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors, that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20_____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor's qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

DBE SUBCONTRACTOR LIST

DBE Name	DBE Address	DBE Phone Number	DBE Email address	DelDOT or OSD Registration Number	DBE % of Contract	Description of Work

Total DBEs on project: _____

END OF SECTION

CONTRACT NO: D-35 SPECIAL SYSTEMS

BID FORM

For Bids Due: _____

To: NCCVT School District
1417 Newport Road
Wilmington, DE 19804

Name of Bidder: _____

Bidder Address: _____

Contact Name: _____ E-Mail Address: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____

(A copy of Bidder's Licenses must be attached to this form.)

Phone No.: (____) _____ - _____ Fax No.: (____) _____ - _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

\$ _____ (\$ _____)

ALLOWANCES

We/I confirm that an Allowances in the amount of \$20,000.00 have been included in the Base Bid price listed above. This allowance is to be used at the Owner and Construction Manager's discretion. All remaining allowance shall be returned to the Owner at completion.

ALTERNATES

Alternate prices conform to applicable project specification section. Refer to specifications for a complete description of the following Alternates. An "ADD" or "DEDUCT" amount is indicated by the crossed-out part that does not apply.

Alternate No. 3: Provide exterior shell of future tech and shop expansion.

Add/Deduct _____ (\$ _____)

Alternate No. 6: Provide 380 Salto wireless handle sets in lieu of manual locksets. Provide Salto wireless handle sets in lieu of manual locksets.

Add/Deduct _____ (\$ _____)

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for sixty (60) days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (if required).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within the durations included in the BP-D bid schedule provided and Section 013216 Const. Schedule.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am/We are an Individual/a Partnership/a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(SEAL) (Authorized Signature)

(Title)
Date: _____

ATTACHMENTS

Sub-Contractor List
Non-Collusion Statement
Bid Bond
Consent of Surety
Affidavit of Employee Drug Testing Program
Affidavit of Contractor Qualifications
DBE Subcontractor List
New Castle County Contractor License
(Others as Required by Project Manuals)

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b of the Delaware Code, the following subcontractor listing must accompany any bid submittal. The bidder must list **in each category** the full name and address (City & State) of the sub-contractor that the bidder will be using to perform the work and provide material for that subcontractor category. Should the bidder's listed subcontractor intend to provide any of their subcontractor category of work through a third-tier contractor, the bidder shall list that third-tier contractor's full name and address (City & State). **If the bidder intends to perform any category of work itself, it must list its full name and address.** For clarification, if the bidder intends to perform the work themselves, the bidder **may not** insert "not applicable", "N/A", "self" or anything other than its own full name and address (City & State). To do so shall cause the bid to be rejected. In addition, the failure to produce a completed subcontractor list with the bid submittal shall cause the bid to be rejected. If you have more than three (3) third-tier contractors to report in any subcontractor category, print out additional page(s) containing the appropriate category, complete the rest of your list of third-tier contractors for that category, notate the addition in parentheses as (CONTINUATION) next to the subcontractor category and an asterisk (*) next to any additional third-tier contractors, and submit it with your bid.

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>	<u>Subcontractors tax-payer ID # or Delaware Business license #</u>
1. <u>Structured Cable</u>	_____	_____	_____
2. <u>Audio Video Systems</u>	_____	_____	_____
3. <u>Intrusion Detection System</u>	_____	_____	_____
4. <u>Access Control Systems</u>	_____	_____	_____
5. <u>Video Surveillance Systems</u>	_____	_____	_____
6. <u>NO ADDITIONAL ENTRIES REQUIRED</u>			

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date _____.

All the terms and conditions of Contract: _____ have been thoroughly examined and are understood.

NAME OF BIDDER: _____

AUTHORIZED REPRESENTATIVE
(TYPED): _____

AUTHORIZED REPRESENTATIVE
(SIGNATURE): _____

TITLE: _____

ADDRESS OF BIDDER: _____

E-MAIL: _____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

CONSENT OF SURETY

DATE _____

To: NCC Vocational Technical School District
1417 Newport Road
Wilmington, DE 19804

Gentlemen:

We, the _____

(Surety Company's Address)

a Surety Company authorized to do business in the State of Delaware hereby agrees that if

(Contractor)

(Address)

is awarded the Contract No. _____

We will write the required Performance and/or Labor and Material Bond required by Paragraph 9 of the Instructions to Bidders.

(Surety Company)

By _____
(Attorney-in-Fact)

AFFIDAVIT

OF
EMPLOYEE DRUG TESTING PROGRAM

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors, that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20_____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor's qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

DBE SUBCONTRACTOR LIST

DBE Name	DBE Address	DBE Phone Number	DBE Email address	DelDOT or OSD Registration Number	DBE % of Contract	Description of Work

Total DBEs on project: _____

SECTION 011100 - SUMMARY OF WORK

1. **RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Sections, apply to work of this Section.

2. **CONTRACTS**

- A. The work will be performed under separate prime contracts managed by the Construction Manager.

3. **ALTERATIONS & COORDINATION**

- A. Contractor shall be responsible to coordinate their work with the work of others, including, but not limited to, the preparation of general coordination drawings, diagrams and schedules, and control of site utilization, from the beginning of activity, through project close-out and warranty periods.

4. **KNOWLEDGE OF CONTRACT REQUIREMENTS**

- A. The Contractor and his Subcontractors, Sub-subcontractors and material men shall consult in detail the Contract Documents for instructions and requirements pertaining to the Work, and at his and their cost, shall provide all labor, materials, equipment and services necessary to furnish, install and complete the work in strict conformance with all provisions thereof.
- B. The Contractor will be held to have examined the site of the Work prior to submitting his proposal and informed himself, his Subcontractors, Sub-subcontractors and material men of all existing conditions affecting the execution of the Work.
- C. The Contractor will be held to have examined the Contract Documents and modifications thereto, as they may affect subdivisions of the Work and informed himself, his Subcontractors, Sub-subcontractors and material men of all conditions thereof affecting the execution of the Work.
- D. The Scope of Work for the Contract is not necessarily limited to the description of each section of the Specifications and the illustrations shown on the Drawings. Include all minor items not expressly indicated in the Contract Documents, or as might be found necessary as a result of field conditions, in order to complete the Work as it is intended, without any gaps between the various subdivisions of work.
- E. The Contractor will be held to be thoroughly familiar with all conditions affecting labor in the area of the Project including, but not limited to, Unions, incentive pay, procurements, living, parking and commuting conditions and to have informed his Subcontractors and Sub-subcontractors thereof.

5. **CONTRACT DOCUMENTS INFORMATION**

- A. The Contract Documents are prepared in accordance with available information as to existing

conditions and locations. If, during construction, conditions are revealed at variance with the Contract Documents, notify the Construction Manager immediately, but no more than three (3) days from the day the variance is first known. Failure to give timely notice shall operate to waive any claim Contractor might otherwise have for an adjustment to Contract Time or Sum as a consequence of such variance.

- B. The Specifications determine the kinds and methods of installation of the various materials, the Drawings establish the quantities, dimensions and details of materials, the schedules on the Drawings give the location, type and extent of the materials.
- C. Dimensions given on the Drawings govern scale measurements and large scale drawings govern small scale drawings, except as to anything omitted unless such omission is expressly noted on the large scale drawings.
- D. The techniques or methods of specifying to record requirements varies throughout text, and may include "prescriptive", "open generic/descriptive", "compliance with standards", "performance", "proprietary", or a combination of these. The methods used for specifying one unit of work has no bearing on requirements for another unit of work.
- E. Whenever a material, article or piece of equipment is referred to in the singular number in the Contract Documents, it shall be the same as referring to it in the plural. As many such materials, articles or pieces of equipment shall be provided as are required to complete the Work.
- F. Whenever a material, article or piece of equipment is specified by reference to a governmental, trade association of similar standard, it shall comply with the requirements of the latest publication thereof and amendments thereto in effect on the bid date.
- G. In addition to the requirements of the Contract Documents, Contractor's work shall also comply with applicable standards of the construction industry and those industry standards are made a part of Contract Documents by reference, as if copied directly into Contract Documents, or as if published copies were bound herein.
- H. Where compliance with two (2) or more industry standards, contract requirements, or sets of requirements is specified, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, then the most stringent requirements, which are generally recognized to be also the most costly, is intended and will be enforced, unless specifically detailed language written into the Contract Documents clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently equal but different requirements, and uncertainties as to which level of quality is more stringent, to Architect for decision before proceeding.
- I. Reference standards referenced directly in Contract Documents or by governing regulations have precedence over non-reference standards which are recognized in industry for applicability of work.
- J. Contractor's bid is based on the complete set of Contract Documents including documents not specifically issued as part of the bid pack but referenced in same.

6. SCOPE OF WORK/GENERAL INFORMATION

- A. A Scope of Work for each contract to be awarded on the project follows in this section. When a Contract has been awarded to a Contractor, the successful Contractor will be listed after the title of the Contract. When no Contract has yet been awarded, no Contractor's name will be listed. Previous Scopes of Work include addendum changes.
- B. Contractor is responsible for performing the work listed in the Summary of Work for his contract. Contractor is also responsible for knowing the work that has been assigned to preceding contracts. No additional compensation or extension of time will be allowed a Contractor due to his ignorance of the work assigned to his Contract or to other contracts which may affect his work. The Contractor is responsible, however, for all items which are covered in the Specifications and Drawings relating to their Contract if not specifically mentioned in the Summary of Work.
- C. The Construction Manager will provide on-site a source for temporary electric, temporary water and portable sanitation facilities only. It is each Contractor's responsibility to make the necessary connections, including all material for temporary electric and water. Please note that utility charges for office trailers will be the responsibility of the individual Contractors.
- D. A dumpster will be provided on site for free use by Contractors to dispose of non-hazardous, common, work-related refuse. Clean-up is the responsibility of each Contractor. Clean up shall be performed on a daily basis. Contractors not complying will be advised in writing and back charged for all costs associated with the cleanup of their work.
- E. Contractors are reminded that there are limited storage areas available on site. Off-site storage will be the responsibility of each individual Contractor.
- F. Office trailer permits off site will be the responsibility of each individual Contractor. On site Contractor's field offices, one (1) per Contractor, if required, will be located as directed by the Construction Manager.
- G. Contractor will be prepared to discuss and submit a detailed project schedule seven (7) days after receipt of Notice to Proceed and to begin its submittal process. The Project Schedule is an integral part of this contract. Certain construction sequences and priorities must take place in order to meet the target dates. Concentrated work periods will occur and each Contractor is responsible to staff the project as required by the current Construction Schedule or as directed by the Construction Manager. Contractor will cooperate with the Construction Manager in planning and meeting the required sequences of work and Project Schedule as periodically updated by the Construction Manager.
- H. All bids must include insurance limits in accordance with Article 11 of the Section 007300 SUPPLEMENTARY CONDITIONS.
- I. Hoisting, scaffolding and material handling is the responsibility of each Contractor, unless otherwise noted.
- J. Contractor will be responsible for layout of its own work. The Construction Manager will provide benchmark and layout of the building line.

- K. Contractor will be responsible to keep clean public roadways soiled by construction traffic on a daily basis. If cleaning is not done, the Construction Manager may perform the cleaning on an overtime basis and backcharge the Contractor responsible.
- L. Contractor Scopes of Work and Schedule are interrelated. Familiarity with each is required.
- M. The Construction Manager will provide testing services for soil, concrete and steel. Other testing as required by the Contract Documents will be in accordance with the technical specifications and/or the individual scope of work. Refer to Specification Section 004500 - QUALITY CONTROL.
- N. Safety is the responsibility of each individual Contractor. The project will be governed under the guidelines of OSHA.
- O. Inter-Contractor shop drawing distribution will be performed by the Construction Manager. Contractor is individually responsible for either coordinating his work with these distributed drawings or notifying the Construction Manager, in writing, of any discrepancies.
- P. Coordination with other trades will be required. The Contractor will be required to attend periodic coordination meetings with other trades where requirements, conflicts and coordination issues will be discussed and resolved. Attendance when requested will be mandatory. If inter-Contractor coordination is not satisfactorily performed, the conflicting Contractors shall mutually share the cost to relocate and/or reinstall their work.
- Q. Contractor shall submit a schedule of values to the Construction Manager prior to the submission of their first invoice for approval through Building Blok.
- R. Contractor is expected to review and coordinate its Work with the complete set of Contract Documents, including all items noted as by his trade whether or not shown on that particular set of drawings. Documents are available at the site for review.
- S. Contractor is responsible for obtaining all necessary permits required for his work, including street permits. Unless otherwise noted, building permit shall be secured by the Construction Manager. Any subcontractor who will be restricting access to street, right of way or adjacent property must notify the Construction Manager 48 hours in advance.
- T. Contractor's License: Submit a copy of all business licenses required by local and state agencies.
- U. Contractor shall absorb, without additional compensation, any and all costs of working beyond normal hours to maintain job progress in accordance with the current construction schedule.
- V. No asbestos or PCB's in or on any material or equipment will be accepted or allowed on this project. All hazardous materials will be treated in accordance with all State and Federal regulations.
- W. Daily cleanup of the work is the responsibility of each individual Contractor which includes broom cleaning of their debris as required. Contractor will be individually back charged by the

Construction Manager for cleanup not satisfactorily performed by the Contractor.

- X. In the event asbestos is uncovered, the Contractor shall notify the Construction Manager of the areas requiring removal of asbestos. The Construction Manager shall then coordinate the removal with the Owner.
- Y. This project is to be constructed adjacent to existing buildings. Contractor shall exercise all due precautions to minimize noise, air pollution and any other construction hazards which in any way would cause discomfort or danger to the occupants of the existing building in the area.
- Z. The Safety Cable System shall not be altered or removed without a written request submitted to the Project Manager with a copy to the Field Manager. It shall be the responsibility of each and every Contractor that is removing or altering the Safety Cable System to maintain the fall protection safety provided by the safety cable and not leave the area unprotected. Each and every Contractor shall be responsible to re-install the Safety Cable System immediately after work is completed. Each and every Contractor shall be responsible to re-install the Safety Cable System in accordance to OSHA standards.
- AA. Normal work hours for this project are from 7:00 a.m. to 3:30 p.m. Any work to be performed outside of these hours must receive prior approval from the Construction Manager. Requests to work beyond normal work hours shall be submitted at least 48 hours prior.
- AB. Contractor is responsible for having a competent project superintendent/foreman on-site during all work performed under its contract.
- AC. In the event the Contractor has non-English speaking employees or subcontractors on the project, they shall have a superintendent or foreman on site, at all times, who speaks English and can communicate with Contractor's employees. Should the Contractor fail to meet this requirement, at any time, Construction Manager may direct all Work to stop until the proper supervision is on site. The Contractor will be responsible for maintaining the project work schedule and make up at its own expense, any delay to the Schedule resulting from the work stoppage.
- AD. **Punch List Procedures:** Contractor shall be given a copy of the punch list with his appropriate work identified. Contractor shall have nine (9) calendar work days to complete its punch list work. On the 10th day or as determined by the Construction Manager, the Construction Manager shall employ other contractors, as required, to complete any incomplete punch list work and retain from the appropriate Contractors retainage all costs incurred.
- AE. Contractor shall provide the necessary safety barricades and railings required to complete their work and comply with all OSHA, local code and contract specifications.
- AF. **Prohibition of Using Photographs on EDiS Projects:** The Contractor and all associated subcontractors agrees to not issue any news release or advertising pertaining to the Work or the Project, including references to the Project on the Contractor's/subcontractor website or other social media outlets, without obtaining EDiS' prior written approval, in each instance. The Contractor, for itself, its employees, vendors and subcontractors, agrees to not use the name of the Owner, the Project, EDiS or any photographs, videos, or other images of the Project in connection with any of

Contractor's business promotion activities, advertising, website, social media outlets, or operations, without EDiS' prior written approval in each instance.

- AG. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
- AH. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
- AI. All contractors must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA requirements before any work can commence. At a minimum, it must be implemented into the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
- AJ. All contractors shall be responsible to protect all non-metallic piping within the building envelope from overspray of the Applied Fireproofing, intumescent coatings, fire caulking and fire safing as it pertains to the scope of your course of work. The contractor shall be familiar with and comply with the NFPA regulations, including but not limited to the following 6.3.7.5 Firestopping materials intended for use on nonmetallic piping penetrations shall be investigated for compatibility with the nonmetallic pipe materials. 6.3.7.5 Protection plan shall be submitted and reviewed with the CM prior to implementation.
- AK. For all contracts which include allocations for COOP hours with NCCVT students, any unutilized COOP hours shall be returned to the district at the rates published in the documents, as a credit change order.

CONTRACT NO. D-01 - UNIT MASONRY

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 033000	Concrete (coordination)
Section 042000	Unit Masonry
Section 044316	Stone Fabrications (Addendum No. 4)
Section 047200	Cast Stone Masonry
Section 321413.13	Interlocking Concrete Unit Paving
Section 070553	Fire and Smoke Assembly Identification
Section 072100	Insulation
Section 072640	Sprayed Polyurethane Foam Insulating Air Barrier
Section 072500	Weather Barriers
Section 076200	Sheet Metal Flashing and Trim
Section 078400	Firestopping
Section 079100	Preformed Joint Sealers
Section 007900	Joint Sealers

This contract provides and includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide masonry units, cast stone, reinforcing, accessories and related work. This contract includes all masonry work except the work provided by BP-C Foundation Masonry contract. This contractor owns coordination with the BP-C contractor and must review and understand the BP-C scope of work.
2. Provide all concrete interlocking pavers, grading, subbase, concrete substrate, grouting and cleaning as required to provide a complete brick pavers system.
3. **This contractor to provide Detail F2 sheet A106 complete for all areas. Including concrete subbase and 8" thick concrete slab section. (Addendum No. 2)**
4. **This contractor to provide the colored concrete medallion in the courtyard complete. (Addendum No. 2)**
5. **Provide work specified in Section 044316 Stone Fabrications. (Addendum No. 4)**
6. Provide all special shape, cast stone masonry and custom masonry units as defined in the construction documents.
7. This contract shall provide all Sprayed Polyurethane Foam Insulating Air Barrier with intumescent coatings, special paint layer per NFPA 285, and all "Self-Adhering Flashing Tape" at all locations (vertical and horizontal) behind vertical brick, block, metal panels, canopies and overhangs. The Flashing tape shall be applied to seal all exterior openings, including but not limited to doors, louvers,

- windows, curtain walls, storefronts etc. This includes all exterior sheathed areas, and block back up areas, whether behind masonry or not. Include spray insulation termination angles as needed for the spray foam insulation installation Coordination of work with other trades shall be required and final installation work to be coordinated with project schedule and CM. Provide a “complete system” in its entirety for this project.
8. This contractor shall include multiple mobilizations within their base bid amount to accommodate the exposure time recommendation for the sprayed insulation, special coatings and self-adhering flashing tape in all areas per the construction schedule and project phasing.
 9. This contractor shall provide installation and coordination of sleeves required to go through any masonry walls above finished floor elev. 0.00. Coordinate with the MEP contractors for sleeves (to be provided by MEP contractor) and coordinated/installed by the Masonry contractor.
 10. Provide Fire and Smoke Identify markings on all masonry walls that require marking per governing jurisdictions. Coordinate marking walls with pant. \stencils with the CM on site.
 11. ~~Provide all caulking and sealants for masonry to masonry conditions.~~ **(Addendum No. 4)** Masonry to dissimilar materials provided by Caulking contractor. **Masonry to Masonry Caulking to be provided by Caulking Contractor D-10. (Addendum No. 4)**
 12. Integral masonry flashings, expansion joints, insulation and other related items as required.
 13. Mock up as required. Provide a complete mockup of all masonry items within a sample wall to be coordinated by the CM. This contractor to provide and install the concrete footing required for the mock up. Include demolition, removal and clean up of the mock up area.
 14. This contractor shall include within their bid the incorporation of **2000 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5.
 15. Grouting of door frames at all masonry openings. Include grouting of HM vision panels in CMU and grouting of after-set frames in stair towers built by BP-C masonry contractor.
 16. Weather protection and temporary heat as required to perform the work and maintain the project schedule. This would include tenting, tarping, heating (providing fuel and equipment), installation, maintenance and removal. Kerosene is not an acceptable fuel for work within the interior spaces.
 17. Layout of the work including responsibility for all elevations and dimensions as they affect other Contractor’s work.
 18. Lintels either required by this Contract or install loose lintels furnished by others. Include bolting or welding of lintels as per details.
 19. Provide mixing stations as required to perform your work. The station locations shall be coordinated with the CM (include 5 separate locations and the remobilization of the station 5 times) The mixing area shall be protect as required by DNREC and it shall be this contractors responsibility to maintain

the station area at all times. Remove all components and restore area when work of this contract complete.

20. Concrete fill/grout at all masonry units as identified.
21. Purchasing and installing reinforcing steel in block walls.
22. Provide all fire safing/fire stopping, and continuous fire sealant at top and bottom of masonry walls as shown on the contract documents. Also include these sealants at all steel penetrations through the provided masonry.
23. Silicone waterproofing/sealant if specified.
24. This contractor shall provide the required firewall/smoke wall assembly identification for work of this contract. (labelling of the walls with fire rating)
25. Interior exposed masonry walls shall be cleaned and scraped thoroughly; a second pass of scraping and refining the cleaning shall be included in the base bid. CM to review and coordinate second pass with the masonry foreman in the field.
26. Temporary protection for final wash down/cleaning of masonry. This includes covering and protecting the curtain wall, storefronts, Kalwall and all door window openings.
27. This contractor shall supply and install straw at the base of wall when work of this contract has been completed to stop splashing of mud and water on completed walls.
28. Flashing at locations indicated on drawings for your work.
 - a) Thru wall and cavity flashing below the roof line shall be by the Masonry Contractor.
 - b) Thru wall and cavity flashing above the roof line shall be by the Roofing Contractor.
 - c) Flashings at rising wall conditions shall be provided by this contractor.
29. Cutting, fitting and building into masonry work, embedments provided by others. Coordinate all work with other trades as required.
30. Provide all firesafing and fire caulking as required for your course of work.
31. Provide masonry veneer anchors as required for your course of work.
32. Bond beams including supplying and installing reinforcing and fill.
33. Elevator shaft masonry block in BP-C contractors scope. All veneer and finish masonry shall be provided by this contractor. Include the final infill toothing of the block around the elevator door frames at each level in this contract. Include sealing and fire safing as required at top of shaft wall.
34. Furnish and install all masonry veneer anchors where required. Welding of anchors that are not shown to be fabricated with the structural steel shall be welded in place as needed by this contractor.

35. Masonry contractor shall supply and manage dumpsters for use in removal of masonry debris. The project dumpsters may not be used for masonry debris.
36. Mock up as required. Provide your portion of a complete mock-up of the exterior wall assembly for areas of masonry, metal panel, translucent panels and others as detailed. within a sample wall to be coordinated by the CM.
37. Provide generators and services as required to provide temp power, water etc. as needed for your course of work.
38. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
39. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
40. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.
41. This contractor must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA requirements before any work can commence. At a minimum, it must be implemented into the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
42. Include within this contracts base bid an allocation of \$40,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-02 - MISCELLANEOUS METALS, STAIRS, AND RAILS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 055000	Metal Fabrications
Section 055100	Metal Stairs
Section 055133	Metal Ladders
Section 055213	Pipe and Tube Railings
Section 057300	Decorative Metal Railing

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide stairs, loose lintels, misc. metal angles, plates, handrails, railings, metal ladders and accessories.
2. Furnish loose steel lintels, angles, plates and embedded items to the Concrete and Masonry contractors.
3. **This contract shall provide to Contract D37 Misc. Concrete the Mechanical yard pipe rack anchors bolts and leveling plates referenced on drawing M315 (typical.) (Addendum No. 4)**
4. Review Alternates as per the Bid Form and Alternate section for work related to Stair #5.
5. **This contractor will be required to coordinate work of this contract with the Structural Steel, Joist and Deck contract which is part of BP-C. Review and understand the BP-C contract as it relates to your work. (Addendum No. 2)**
6. This is not a secure site. All contractors are responsible for concealing , locking and/or removing any materials on a daily basis. EDis will not be responsible for any lost tools, materials or equipment.
7. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
8. Provide miscellaneous rough hardware, iron shapes, framing and support angles.
9. ~~Provide pipe bollards and specified covers per spec section 055000-11.~~ **(Addendum No. 4)**
10. Provide powder coated downspout boots per section 055000-10.
11. Provide stair nosing's.
12. Provide gratings.

13. Overhead door frames, furnished and installed.
14. Elevator hoist beams, provide and coordinate installation with BP-C masonry contractor.
15. Elevator sill angles, provide and coordinate anchoring systems, bolts etc. and installation with other trades.
16. Toilet partition supports, if not part of the manufactured toilet partition frame shall be supplied by this contractor.
17. ~~Dock bumpers and loading dock equipment. Provide (furnish and install.)~~ **(Addendum No. 4)**
18. Provide ships ladder, access ladders and related fastening devices and accessories.
19. Galvanizing and other special coatings as required.
20. Anchoring devices, fasteners, inserts and other related items associated with the installation of the above items.
21. Field touch-up paint.
22. No electrical power for welders will be provided.
23. Verify all field dimensions prior to fabrication.
24. No electrical power for this contractors equipment or welders will be provided. Electrical power to be provided as needed by this contractor.
25. This contractor must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
26. Include within this contracts base bid an allocation of \$20,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-03 - EXTERIOR STRUCTURAL STUD ASSEMBLY

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 054000	Cold-Formed Metal Framing
Section 070553	Fire and Smoke Assembly Identification
Section 072100	Thermal Insulation
Section 072129	Sprayed Acoustical Insulation (coordination)
Section 072640	Spray Polyurethane Foam Insulating Air barrier (coordination)
Section 072500	Weather Barriers (coordination with mason contractor)
Section 079100	Preformed Joint Sealants
Section 079200	Joint Sealants
Section 078400	Firestopping
Section 092116	Gypsum Board Assemblies

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide structural stud assembly for the exterior skin of the building. Including but not limited to Metal Studs, gyp sheathing, Fire safing and delegated design on the exterior wall assembly.
2. Provide rock wool thermal insulation at area where exterior walls create parapets and at edge of floor slab connections.
3. This contractor shall be responsible to coordinate with the masonry contractor as related to the exterior wall assembly and the installation of the spray foam insulation system.
4. Steel stud construction as related to the roof parapet construction.
5. Steel stud construction related to framing out for openings in exterior walls.
6. Provide secondary support framing as required.
7. Clips, anchors, supports and other accessories that interface between steel framing and steel studding and steel studding with masonry interaction.
8. Expansion systems as required for performance of your course of work.
9. Scaffolding, lifts, and all necessary equipment required for your contract's course of work.
10. Provide engineered drawings (delegated design requirements.)

11. This contractor shall be responsible for coordinating with other trades for exterior openings and layout of design features.
12. Comebacks and out-of-sequence work may be required and as such should be included in your base bid proposal.
13. No power for welding equipment will be provided. This contractor shall provide portable generators, fuel, etc. to power equipment required for their scope of work.
14. Coordinate Self Sealing Flashing installation at base of wall assemblies and flashed areas. with Masonry contractor who is providing. This contract (D-30 Ext Wall) to provide any required metal flashings for your course of work.
15. This contractor shall supply and install any access panels in the exterior wall assembly that are required by the contract documents. In addition the contractor shall install (40) 2'X2' Access panels provided by other. (exterior walls only)
16. Provide fire resistant joint sealants, fire safing, fire stopping, as it relates the work of your contract.
17. Bidders are advised to pay particular attention to top of wall conditions, fire and smoke safing of slabs and acoustical sealants.
18. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
19. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented into the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
20. Layout of the work including responsibility for all elevations and dimensions as they affect other Contractor's work.
21. Mock up as required. Provide your portion of a complete mock-up of the exterior wall assembly for areas of masonry, metal panel, translucent panels and others as detailed. within a sample wall to be coordinated by the CM.
22. This contractor shall include within their bid the incorporation of **750 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5.
23. This contract shall include in their bid the necessary crews to complete the work as per the project schedule. Provide additional crews as required to maintain schedule at no additional cost to the project.

24. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
25. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
26. Include within this contracts base bid an allocation of \$40,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-04 - CARPENTRY AND GENERAL WORK

A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 055800	Architectural Metal Column Covers
Section 06100	Rough Carpentry
Section 06200	Finish Carpentry
Section 062023	Interior Finish Carpentry (Addendum No. 2)
Section 079200	Joint Sealants
Section 081113	Hollow Metal Doors and Frames (coordination, handing, installation)
Section 081416	Flush Wood Doors (coordination, handing, installation)
Section 081613	Integrated Door Opening Assemblies (coordination, handling, installation) (Addendum No. 3)
Section 083100	Access Doors and Panels
Section 087100	Door Hardware (coordination, handing, installation)
Section 080671	Door Hardware Schedule (coordination, handing, installation) (Addendum No. 4)
Section 089100	Louvers
Section 101101	Visual Display Boards and Display Cases (coordinate blocking and supports)
Section 102113	Plastic Toilet Compartments (coordinate blocking and supports)
Section 102123	Cubicle Curtains and Track (coordinate blocking and supports)
Section 102601	Door and Wall Protection (coordinate blocking and supports)
Section 102800	Toilet Accessories (coordinate blocking and supports)
Section 104400	Fire Protection Specialties (coordinate blocking and supports)
Section 129300	Site Furnishings
Section 116625	Gymnasium Equipment
Section 116653	Gymnasium Dividers
Section 323119	Decorative Metal Fences and Gates

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide labor and materials to perform the work related to all carpentry and general work.
2. All rough carpentry related to the exterior skin of the building and roof areas, including wood nailers and blocking, roof blocking, curb blocking, MEP blocking coordinated with MEP trade, fire shutter blocking etc. as required. Include blocking for roller shades.
3. All rough carpentry related to the interior of the building including blocking, wood nailers, etc. for the installation of fire extinguishers, doors, windows, toilet accessories, cabinets, toilet partitions, casework, millwork, AED's, gas and air cabinets, rollup doors, coiling doors, kitchen equipment and accessory blocking, etc. including fire treating as required.
4. Provide interior architectural metal column covers as required. (Note the MCM exterior column

enclosures are provided by the Metal Panel contractor)

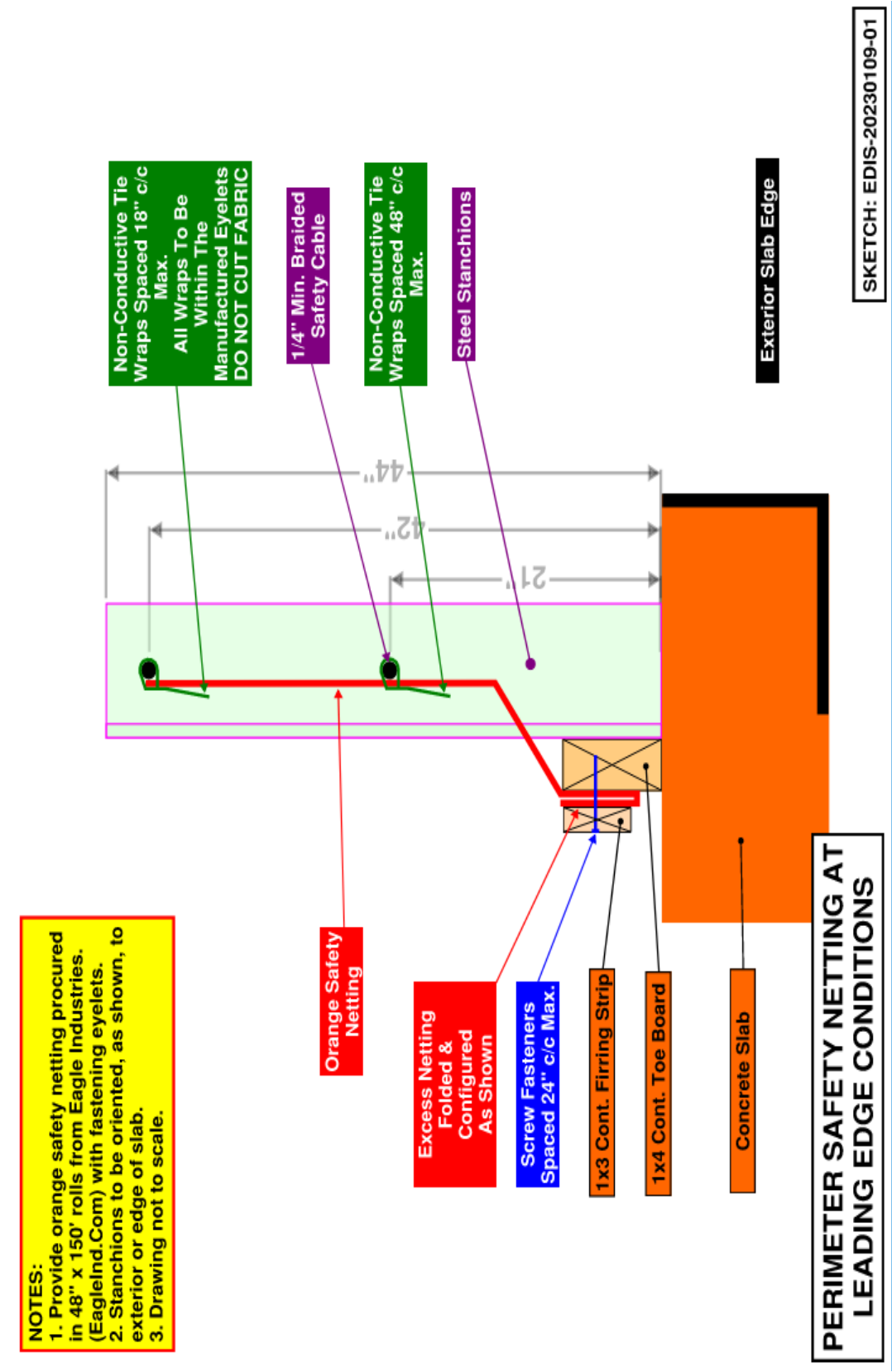
5. Provide all decorative metal fencing and gates as per contract documents. Include complete installation and coordination with electrical and special systems contractor for the locking interface and card access.
6. Provide and install plywood back boards on all wall areas, floor to ceiling in all electric, MDF and IDF rooms. Backboards to be ¾ inch plywood, painted one side with white Fire Proof paint and fire caulked to the walls tightly.
7. **This contract shall provide all bollards complete as indicated on the contract documents,. This includes the bollards that are shown and detailed on the MEP documents as well as the architectural other documents. (Addendum No. 3)**
8. This contractor shall include the installation of the key box system and all required blocking and anchoring systems.
9. Provide blocking and anchoring for all roof ladders, TV and monitor mounts, Smart Board displays, Visual display boards, chalk, tack and white board assemblies. Coordinate with other trades for locations and installation direction.
10. Provide blocking for door hold opens, wall mounted closers, and wall door stops. **Hold open hardware is to be provided by Contract D-11 HM, Doors and Hardware and installation provided by this contract. (Addendum No. 3)**
11. **This contractor shall install the interactive displays as furnished by the owner. Work shall be coordinated with Contract D-35 Special Systems. (Addendum No. 3)**
12. Provide all Gymnasium equipment and Gymnasium dividers as part of this contract.
13. **This contract shall provide all Mseal expansion joints required on the interior wall systems of the building. This includes but is not limited to Masonry to masonry, Masonry to drywall etc.) For chase walls and enclosure walls this contract shall supply the Mseal Expansions as well. Detail A6/A512A identifies Expansion Joint Covers, This contract to provide the covers in this detail and all other interior details identifying these types of expansion cover. (typical) (Addendum No. 4)**
14. Install metal and wood doors and frames, including receipt of doors and frames at the curb side. Contractor shall receive the doors, frames and hardware and inventory immediately. This contractor responsible for safe keeping of all materials and shall provide written documentation that all materials were received. All hardware shall be secured in a fully locked and protected area. By this contractor.
15. Install finish hardware related to all doors (hollow metal, wood and coordinate keying with aluminum hardware) including receipt of hardware at the curb side. This contractor is responsible for coordinating door hardware with their work to ensure each opening is properly prepped for hardware being supplied by others. All low voltage wiring within the doors and frames to be installed by this contractor. Conduits and raceways will be provided by the electrical contractor, as well as installation of the electrical supply power and the final power connections to equipment. Final connections of low voltage wiring to hardware to be provided by the Special Systems contractor. This contractor to work with the electrical contractor and Special Systems contractor to provide a complete installation.

16. This contractor shall advise the hardware supply contractor of any deficiencies or missing item immediately after initial inventory (in writing) as installation takes place. Reporting and tracking is the responsibility of this contractor.
17. All field trimming required to adjust to the existing in place conditions shall be part of this contractors scope of work. Field measuring and verification is to be included.
18. Anchoring devices, fasteners, inserts and other related items associated with the installation of the above items.
19. Provide all architectural louvers, including insulated panels etc. All louvers are to be included within this contract, they are shown on the architectural drawings and specs and referenced by MEP documents. Provide 'custom' color costs in the base bid. Coordinate the louvers provided within the Kalwall System for custom color, sizing, design or other integrated features. This contractor shall coordinate with other trades for integration of the louvers into their course of work. All material handling and on site protection of the louvers is this contractors responsibility.
20. Provide blocking and support for the Visual Display Boards and Display Cases.
21. Provide all blocking as required for Toilet Partitions, Cubicle Curtains, Door and Wall Protection, Toilet Accessories and Fire Protection Specialties. Coordinate with the BP-D contract for "Specialties" on all required blocking. Volleyball sleeves and installation shall be coordinated and installed by this contractor,
22. This contractor shall provide and install all Gymnasium Equipment a per contract documents, to include blocking, supports, material handling etc. 100% protection of the gym floor while performing your work is required by this contract. Floor protection shall be as provided by the wood floor manufacturers recommendations.
23. This contractor shall provide al Gymnasium scoreboards as indicated on A-111 (3 scoreboards in total)
24. This contractor shall provide and install all Site Furnishings as detailed in the contract documents. Include all work related to this course of work, concrete pads, anchoring, touch up paint etc.
25. This contractor to coordinate all card reader blocking requirements with Special Systems contractor.
26. Provide protection at Elevator door openings at each floor. Include the required mesh protection fabric and the necessary wooden framing that allow easy access by other trades. Include maintenance for a period of 30 months from initial installation. Once elevator is installed, provide ¾" blue board foam insulation on all surfaces taped and secured so as not to damage finishes of elevator. Provide maintenance of this protection until substantial completion of project.
27. Provide and maintain temporary wood railings and handrails at stairs. Provide wood infill of stair pans and landing pans. Each tread to have abrasive edge tape applied immediately after installation of infill.
28. This Contractor shall include in the base bid 600 hours of Journeyman carpenter time and 250 hours of common labor time for work to be directed by the Construction Manager.

29. This Subcontractor shall at a minimum provided, maintained, and inspect for the length of the project, one temporary fire extinguisher for each 3,000 sq. ft of the protected building area. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 100 feet. In multistory buildings, at least one fire extinguisher shall be located adjacent to stairway. Fire extinguishers shall be at least 10lb, Multi-Purpose (ABC) dry chemical, UL labeled, with a rating of 3a:40bc. Maintain for the duration of the project until substantial completion to insure coverage and compliance.
30. Coordinate electrical requirements with any automatic door operations. This contractor owns all controls, switches and wiring as required for a complete system. Power to be supplied by Electrical contractor.
31. Gate hardware ~~provided by others shall be~~ **provided and installed by this contractor , Contract D-04 Carpentry. installed and completed by this contract. (Addendum No. 3)**
32. Provide three Knox Boxes coordinated with the local fire company for installation at locations identified by the owner/CM.
33. Coordinate and install hold open closers with fire alarm interface. Power wiring by Electrical Contractor. Fire alarm ties in by Electrical Contractor.
34. This contractor will work with the Special Systems contract to allow the installation of harnesses, whips and connections while installing frames, doors, hardware and access controls.
35. Provide (2) separate scaffold stairways, each must be erected to accommodate access to the roof area from the exterior of the building. The scaffold must provide a landing with stairs at the roof area. Each scaffold leg should have adjustable base plates to accommodate the installation of roofing material without the disassembly of the unit. An 8 foot plywood "wall" must surround the bottom of the stairway with a hinged plywood door installed with a hasp to accept a lock. The scaffold must be installed per OSHA regulations, inspected and tagged for use. **Include for a period of 18 months. (Addendum No. 3)**
36. Provide and maintain perimeter netting at each floor level including all floor openings. Perimeter rail or cable to be provided by the steel contractor. This work shall include toe boards at all location. **Netting to be included as detailed on the "Perimeter Safety Netting at Leading Edge Conditions" sketch included as part of this scope of work. (Addendum No. 3)**
37. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
38. This contractor must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA requirements before any work can commence. At a minimum, it must be implemented into the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.

39. Layout of the work including responsibility for all elevations and dimensions as they affect other Contractor's work.
40. Provide all work related to the building mock up, blocking, installation of door frame, doors, hardware, flashings, fasteners etc. as it relates to mocking up of the systems included in the Carpentry Scope. **Contract D-04 shall install the doors and hardware for the project mock up. Contract D-11 shall provide the door, frame and hardware for the mock up. (Addendum No. 3)**
41. This contractor shall include within their bid the incorporation of **2000 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5.
42. Provide and maintain temporary handrails per OSHA standards at all stair assemblies. The below section is a guideline and doesn't replace the OSHA regulations Stairs having two or more risers or rising more than 30 inches (76 cm), whichever is less, shall be equipped with: At least one handrail; and one stairrail system along each unprotected side or edge. The height of stairrails shall be not less than 36 inches from the upper surface of the stairrail system to the surface of the tread, in line with the face of the riser at the forward edge of the tread. Handrails shall provide an adequate handhold for employees grasping them to avoid falling. Handrails that will not be a permanent part of the structure being built shall have a minimum clearance of 3 inches (8 cm) between the handrail and walls, stairrail systems, and other objects. Midrails, and intermediate vertical members, or equivalent intermediate structural members, shall be provided between the top rail of the stairrail system and the stairway steps. Midrails, when used, shall be located at a height midway between the top edge of the stairrail system and the stairway steps. When intermediate vertical members, such as balusters, are used between posts, they shall not be more than 19 inches (48 cm) apart.
43. This contractor shall provide temporary rails at all exterior opening on the building until permanent window/doors/curtainwall etc. installed.
44. This contractor shall include protective wooden covers and marking for any floor openings, holes, shafts etc. Include labelling of the covers with clear ad readable markings or stickers.
45. Provide temporary protective handrails at stage front, steps, stairs and ramp locations.
46. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
47. Provide **fall** protection at Elevator door openings at each floor. Include the required mesh protection fabric and the necessary wooden framing that allow easy access by other trades. Include maintenance for a period of 30 months from initial installation. Meeting the minimum requirements provided by the elevator vendor.
48. This contractor shall provide within the base bid, (8) sets of exterior steps to be constructed to create safe and easy access to the building first floor from the exterior grade. The step assemblies shall be figured to manage a 24" rise from grade to the first floor elevation, be 40" wide and shall have no-slip tread tape applied to each tread.

49. Provide, maintain and remove a prefabricated manufactured trash chute from the second floor to the dumpster below for a period of 24 months. This chute shall be maintained and all safety barriers, restraints etc. managed until substantial completion of the project.
50. This contractor shall provide and include all costs associated with installing temporary doors at the exterior of the building (all openings) and a cattle chute on the 2nd floor for accepting deliveries to the second floor. Safety equipment, gates, railings and tie-offs as required by OSHA safety standards shall be included.
51. **This contractor shall include within their base bid an allowance of \$100,000 for work relate to temporary enclosures at window, storefront and curtainwall areas as directed by the Owner and CM. (Addendum No. 2)**
52. Provide wood safety barricades to extend top of roof parapets to OSHA required height during construction. Coordinate removal and replacement of wood safety barricades with metal wall cap installation.
53. Provide within this contracts base bid an allocation of \$40,000 for work to be directed by the owner and CM. Unused portions of the allocation shall be returned to the owner.



CONTRACT NO. D-05 - EXTERIOR METAL PANELS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 054000	Cold-Formed Metal Framing
Section 050500	Metal Fabrications
Section 074213.13	Metal Wall Panels
Section 074213.23	Metal Composite Material Wall Panels
Section 076200	Flashing and Sheet Metal
Section 079100	Preformed Joint Sealants
Section 079000	Joint Sealants

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide all metal panels, framing, sub girts, Z furring, insulation and all other components to provide a complete metal panel system.
2. Provide Flashing and complete "engineered and sealed" (Delegated Design) as shown in detail D1/A612. Include all flashing, closures, jamb reveal detail, self-adhered flashing tape etc. to provide a complete system at all locations. This contractor must work with and in conjunction with the spray foam system installation and sealing.
3. This contractor shall provide the MCM metal column enclosures color 2 as indicated on A-202, A-203 and A-207. Provide a complete and sealed systems.
4. The spray installation system will be provided by the Masonry contractor, however this contractor is responsible to coordination. Specifically for installation durations and the completeness of the installation of the Z furring system this contract is providing. Timely installation to not impact the spray foam installation is required by this scope of work.
5. Provide all composite metal panel return systems as identified in detail A1/A612, A7/A612 and similar details as indicated. Jamb return needs to be coordinated with the window installation.
6. Provide all fascia's, soffits, overhangs etc. as required for a complete system.
7. Flashing of panels integral with the panel system.
8. Coordinating, cutting and fitting around the work of other trades is required by this contract and should be part of your base bid work.
9. Caulking of panels as required to provide a complete system. Vertical joints where metal panels meet adjacent materials shall be caulked by the Caulking and Salant contractor.

10. Miscellaneous metal items necessary to support panels other than required structural steel.
11. Furnish anchorage items for embedding into other construction for support of panels.
12. Touch up of all welding.
13. Galvanized, epoxy or stainless steel, etc. anchors as specified.
14. Metal fascia's and copings related to the panel system.
15. This Contractor shall coordinate his shop drawings with the Window Contractor's shop drawings and the overall construction schedule.
16. Coordinate all work of this contract with the Carpentry contractor for the installation, flashing and complete installation of the louvers into the metal panel system. Close coordination of shop drawings is required by these two contracts.
17. All material handling, lifts, cranes etc. are the responsibility of this contractor.
18. Verification of field dimensions is the responsibility of this Contractor. Coordination and review window openings, door openings and others during the shop drawing process is required so materials can be ordered to accommodate schedule. Material may be required to be ordered in advance of the ability to field measure. This coordination is the responsibility of this contractor.
19. Provide all flashing as identified with the metal panel installation. Provide all hat channels and sub-girts for the panel installation. Coordinate with the work of other contractors related to the spray foam installation.
20. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
21. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.
22. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
23. Include within this contracts base bid an allocation of \$30,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-06 – DRYWALL AND INTERIOR METAL FRAMING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 051200	Structural Steel (related work)
Section 055000	Metal Fabrications (related work)
Section 054000	Cold-Formed Metal Framing
Section 061000	Rough Carpentry
Section 070553	Fire and Smoke Assembly
Section 072100	Thermal Insulation
Section 078400	Firestopping
Section 079200	Joint Sealers
Section 092116	Gypsum Board Assemblies
Division 15	Mechanical (coordination)
Division 16	Electrical (coordination)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide metal studs, framing, insulation, gypsum wallboard, taping, spackling and specified wall finishes. (Level 5 where identified) Include all trims and finish pieces for a complete installation.
2. **This contract shall provide Ceiling Type Acoustical Gyp Board (Gyp-2) as defined by the contract documents. (Addendum No. 4)**
3. This contract shall provide all insulation in the exterior walls of the building system. Coordinate all insulation work and interior drywall work with the exterior Metal Framing contractor.
4. Provide secondary support framing and fastening devices as required. If Misc. metals are required by your installation and not identified in the documents this contractor shall provide and install.
5. Provide Fireproofing at the exterior wall and the edge of slab as shown in the typical wall sections. (A1/A312 example and all related details) Sealants required to complete this system shall be provided by this contractor.
6. Provide all interior metal framing at required for back up of other materials.
7. Provide batt insulation, both thermal and acoustical and related work.
8. ~~Include molded shapes if specified.~~ **(Addendum No. 3)**
9. Acoustical sealants, fire safing and fire caulking as required for penetrations and top of wall conditions.

10. Removal of spray fireproofing to expose points of attachment to structural steel is to be performed in a workmanlike manner. Removal of spray fireproofing in excess of 3" greater than the attached item will require repatching which will be back charged to this Contractor.
11. This contractor shall coordinate with the other trades for all box outs, penetrations, framed openings etc. as required.
12. This contractor shall provide cleaning of the floor areas of all drywall spackle, mud, finishes etc. that are used by this contractor. Review and acceptance by the CM will be required.
13. Access panel installation (assume 100 total). Assume panels to be 30"x 30" for framing purposes.
14. Coordinate work of this contract with the Carpentry contract for wood blocking and support installation.
15. Coordination of door and interior framed openings with the Carpentry contractor who will install the door and lite frames.
16. Coordinate interior louver extensions and incorporation of louver installation with Carpentry contractor as necessary.
17. Include fire taping and sealing at perimeter edge and as shown or indicated in the contract documents.
18. Provide architectural expansion joint systems, including joint covers materials at concrete slab, drywall and masonry construction (interior only).
19. Scaffolding, lifts and material handling equipment for the course of your work.
20. Comebacks and out-of-sequence work may be required and as such should be included. Include (4) additional mobilization/return trips for touch up and repairs. Each trip shall include 16 hours of carpenter/finisher time as well as materials required for general patching. **Comebacks and out-of-sequence work may be required by this contract and as such should be included. This shall include but not be limited to, mobilization for topping out of the drywall partitions including utilizing "paperless drywall" to accommodate environmental conditions and ratings to allow the mechanical systems to be roughed in. Additionally sequencing of the exterior drywall system with the temporary opening protection and the final blocking, door/window returns and the window system installation shall be considered and additional mobilizations included as needed.** (Addendum No. 3)
21. Include all necessary field measurements.
22. Include three (3) passes per floor to "touch-up" mechanical penetrations to ensure ratings required. The first pass will be required prior to ceiling grid installation and the second pass will be required prior to final inspection for Certificate of Occupancy.
23. Bidders are advised to pay particular attention to top of wall conditions, fire and smoke safing of slabs and acoustical sealants. This work is include within the scope of this contract.
24. This contractor to provide caulking at the base and top of drywall partitions, furred walls and all

drywall conditions.

25. This contractor shall work with other trades to install openings that are in wall assemblies being constructed.
26. Provide metal furring as required.
27. ~~Provide all glass fiber reinforced gypsum work including materials, taping (interior only.)~~ (Addendum No. 3)
28. Provide all backing board (cement board) for tile areas and as directed by the contract documents. Coordinate with the Tiling contractor for requirements of this work.
29. Engineered shop and installation drawings. (delegated design)
30. This Contractor shall include a \$175,000 allocation in his contract to supply, install, inspect and maintain a complete scaffold system to accommodate the construction of the Auditorium framing, ceiling systems, clouds, MEP installation etc. This contractor shall be the responsible contractor for this scaffolding system throughout construction until all work is completed and the CM authorized the removal of the system. All contractors shall provide signed waiver forms to the controlling contractor (this contractor) before they may access the scaffold system.
31. This contractor shall include within their bid the incorporation of **1000 hours of COOP participation** by an NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5
32. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
33. This contractor must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
34. Provide trash and debris removal daily. This means everything leaves the building and goes to the dumpsters. No piling of trash inside building will be permitted.
35. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
36. Include within this contracts base bid an allocation of \$30,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-07 – GENERAL LABOR AND CLEAN-UP

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Procurement and Contract Requirements
Division 1	General Requirements

This contract also includes, but is not necessarily limited to, all labor, materials, and equipment for the following:

1. This contractor shall provide General labor to the project the direction of the owner and project manager.
2. Include within the Base Bid for this contract \$7,500 worth of material handling tools. To include but not limited to, wheeled bins for trash removal, shovels, brooms, trash bags etc. purchased materials shall be tracked with receipts and verified. Any funds left unspent will be returned to the owner via credit change order. (all tools purchased under this allocation shall be organized and turned over to the owner at completion of the work)
3. The contract shall include a total of 6,000 manhours of general labor to be scheduled by the Construction Manager. The work will start Feb 15 2024 and the duration of the coverage could extend to 15 May 2026. This work may be scheduled anytime within the scheduled date range without penalty or additional costs to NCCVT or the CM.
4. A unit price will be provided by this contractor that will pertain to any hours that may be deducted or added to this contract.
5. Pay Applications each month will be backed up with daily tickets and a complete accounting of the monthly hours utilized. Field Superintendent or hid designated representative shall sign all daily tickets.
6. The owner and CM have the right to request replacement of any personnel provide to service this contract, without out obligation or explanation.
7. **Include within this contracts base bid an allocation of \$7,500 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order. (Addendum No. 2)**

CONTRACT NO. D-08 - ROOFING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 072100	Thermal Insulation
Section 075300	Elastomeric Membrane Roofing
Section 076200	Sheet Metal Flashing and Trim
Section 077100	Roof Specialties
Section 077123	Manufactured Gutters and Downspouts
Section 077200	Roof Accessories
Section 079100	Preformed Joint Sealants
Section 07900	Joint Sealants
Division 23	HVAC (controls coordination)
Division 26	Electrical (power, fire alarm, lightning protection)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide single ply flexible roofing system, including rigid and tapered insulation and all related accessories.
2. This contractor shall carefully review the edge of roof details to determine if the roof can be placed before the exterior wall assembly is complete. This contractor shall include all costs associated with returning to the jobsite to complete the roof perimeter after wall assembly is complete.
3. Provide caulking and joint assemblies related to roofing, flashing and roof accessories.
4. Roof drains and associated plumbing shall be provided by the Mechanical Contractor. Flashing of the roof drains shall be by the Roofing Contractor. Openings for the roof drains in the roofing materials shall be cut by the Roofing Contractor. Openings in the metal deck shall be cut by others. This contractor shall be responsible to coordinate the roof drain locations as needed by the steel contractor and plumbing contractor so reinforcing of the decking and roof support frames may be installed in accordance with the sequence of work.
5. Metal parapet coping, receiver system and all components required for a complete coping assembly. Caulking and sealing of all copings is the responsibility of this contractor.
6. Provide boot for piping and conduits that penetrate the roofing assembly. Coordinate with other trades.
7. Coordinate the roofing installation and flashing required for line sets, piping, electric and control penetrations. Coordinate with MEP contractors.
8. Roof hatches, smoke vents, smoke hatches, access covers etc. are to be provided by this contractor.

Coordination of this work with other trades and the MEP vendors are required by this contract. Rail systems and curbs to be provided by this contract. The smoke hatches are not accessible shall be provided with remote controllers to test and re-set.

9. Walk pads and walk pad layout shop drawings are required by this contract.
10. ~~Perform cutting, patching and maintenance of temporary patch for work performed by others on existing roofs intended to be re-roofed as part of this work.~~ (Addendum No. 2)
11. Metal drip edges, complete including all caulking and sealants.
12. Gravel stops, complete including all caulking and sealants.
13. Roof curbs to be installed by this contractor, provided by the MEP trades as identified in the contract documents. Coordination with the Carpentry contractor on the roof blocking thickness is required by this contractor. Provide detail shop drawings identifying the insulation thickness so blocking can be installed accordingly.
14. This contractor shall coordinate with the carpentry contractor on location of wood blocking, curbing, etc. to facilitate the installation of the tapered insulation, crickets etc.
15. Provide expansion joints that are integral to the roof. Including but not limited to edge of wall Details E3/A590 and B1/A590.
16. Gutters, downspouts, splash pans, splash blocks. This contractor shall be responsible to coordinate with the plumbing contractor for the connection to the RW system. Provide membrane flashing, metal flashings, sealants, drip edge, gutters, drain covers etc. as related the gutter systems for this course of work.
17. Metal scuppers, over flows, drains etc. as required by the contract documents are this contractors responsibility.
18. Provide a means to lift materials to the roof for materials not stored on the roof at initial time of delivery. All costs shall be the responsibility of the roofing contractor.
19. This contractor shall manage, handle, lift and install the insulation materials supplied by the steel contractor for the areas of acoustical decking. Lifting of these materials to the roof when needed is the responsibility of the roofing contractor. At areas of Acoustical Decking below, fasteners for the first layer of roof insulation shall be installed so they "do not" penetrate the bottom surface of the decking. All layers of insulation above are to be imbedded into full bed of adhesive in accordance with roofing and insulation manufacturer's instructions.
20. This contractor shall provide waterproof seals around lightning protection system as required by roof manufacturer requirements. If location of lightning protection conduits are not clearly shown on the roof plan, include within your base bid an additional; cost to seal one penetration for every 1000 sf of roof area.
21. This contractor shall review the schedule for the roofing scope of work and include within the base bid

considerations (costs) for cold weather roofing installations. This shall include but is not limited to providing a warming hut/enclosure to keep material warm and allow the roof installation to continue in cold temperatures. All costs related to cold weather roof installation shall be the responsibility of this contractor.

22. The owner may at any time select to have a third party roof inspector review and inspect the roofing installation and finished roof system. This contractor shall work with and allow access to this third party inspector as needed.
23. All trash shall be removed from this contractors work area daily to the dumpsters. No trash may be stored on the roof area.
24. Flashing and sheet metal systems related to the scope of this contract work.
25. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
26. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
27. This contractor shall include within the base bid proposal (2) additional roofing inspections of the entire roofing assembly to facilitate any damage or overuse repairs that may be required. These inspections will be schedule by the CM within the duration of the construction schedule. These inspections do not in any way take the place of the final warranty inspections as required by the contract documents.
21. Flashing Summary:
 - a. Thru wall and cavity flashing below the roof line shall be by the Masonry Contractor.
 - b. Thru wall and cavity flashing above the roof line shall be by the Roofing Contractor.
22. Include within this contracts base bid an allocation of \$35,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of credit change order.

CONTRACT NO. D-09 - FIREPROOFING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 072129	Sprayed Acoustical Insulation
Section 078100	Applied Fireproofing
Section 078400	Firestopping

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide all fireproofing, both exposed and concealed as required by the contract documents.
2. Provide all intumescent and special coatings required by the code documents, identified in contract drawings, plans and details.
3. Provide Sprayed Acoustical Insulation as required by the contract documents. The Alternates apply to this area of work.
4. Clean up on a daily basis, all over spray materials. Remove all excessive water from spraying operation.
5. This contractor shall be responsible to protect all non-metallic piping within the building envelope from over spray of the Applied Fireproofing, intumescent coatings, fire caulking and fire safing as it pertains to the scope of your course of work. The contractor shall be familiar with and comply with the NFPA regulations, including but not limited to the following
6.3.7.5 Firestopping materials intended for use on nonmetallic piping penetrations shall be investigated for compatibility with the nonmetallic pipe materials.
6.3.7.5
Protection plan shall be submitted and reviewed with the CM prior to implementation.
6. Inspection of the fireproofing for compliance will be provided by a third party inspector provided by the owner.
7. Protect fireproofing according to advice of fireproofing manufacturer and installer from damage resulting from construction operations or other causes so that fireproofing will be without damage or deterioration at time of Substantial Completion.
8. Coordinate installation of fireproofing with other work in order to minimize the need for other trades to cut or remove fireproofing. As other trades successively complete installation of their work, maintain protection of structure afforded by fireproofing by patching any areas which have been removed or damaged prior to concealment of fireproofing by other work.
9. This contractor to include and submit as a shop drawing for review a detailed mshop drawing of all

areas of fireproofing and the required coatings on floor plans and elevations, to clearly illustrate where the fireproofing materials and special coatings will be applied.

10. This shop drawing will be shared with the Steel contractor for review and incorporation into their steel and joist preparation plan. (no primer, coatings, primers etc.)
11. Repair or replace work which has not been successfully protected.
12. Prepare all surfaces including priming of substrate if required.
13. Provide all required steel frame fireproofing whether clearly shown or not on the drawings. Do not include concrete fire proofing.
14. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
15. Provide Alternate pricing as required by the contract documents. (k-12 Sprayed Insulation at Shop Areas)
16. Include within you base bid 80 hours of labor and ~~\$15,000~~ **\$20,000** **(Addendum No. 2)** of materials required to touch up fireproofing systems as required by the governing agencies (FM) or the construction manager.

CONTRACT NO. D-10 – JOINT SEALANTS AND PREFORMED JOINT ASSEMBLIES

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 078400	Firestopping
Section 079100	Preformed Joint sealants
Section 079200	Joint Sealants

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide required caulking at control and construction joints.
2. Provide all preformed joint sealant products including but not limited to Emseal expansion joint as required. **This contract shall provide all Mseal expansion joints as it relates to the exterior of the building. (Addendum No. 4)**
3. Provide caulking of masonry to masonry and to dissimilar materials. **(Addendum No. 2)**
4. Provide within your Base Bid proposal (240) man hours and \$7,500 in materials to be utilized for Misc. fire safing and Fire sealants that may be required due to agency walk throughs and inspections. This work shall only be authorized by NCCVT or EDiS. Any remaining funds shall be returned to the owner via credit change order.
5. Provide caulking of vertical joints on exterior metal panels to adjacent materials (Metal Panel contractor to provide sealants and caulking between panels and as required to seal their assembly, including where metal panels sit on masonry.)
6. Provide caulking related to interior glazing. Caulking of interior perimeter of new aluminum windows, storefront and curtainwall to finished surfaces to be provided by this contract. ~~To include all rated sealants and Ballistic sealants at required areas.~~ **(Addendum No. 2)**
7. ~~Provide all caulking and sealants for of kitchen equipment and laboratory furniture to adjacent surfaces.~~ **(Addendum No. 2)**
8. Provide caulking of exterior perimeter of hollow metal door frames. **(including overhead doors) (Addendum No. 2)**
9. Provide caulking of interior perimeter of hollow metal door frames to masonry. (HM frames to drywall shall be provided by the Painting contractor)
10. Provide caulking of all hollow metal frames to the floor. Coordinate caulking with flooring materials.

11. Provide caulking of all interior exposed drywall to masonry and metal wall panels.
12. Provide caulking at the tops and bottoms of all exterior and interior column covers.
13. Provide caulking of all interior exposed concrete slab control joints, expansion joints and perimeter slab to walls.
14. Provide caulking for interior perimeter of sinks, urinals, toilets, bath accessories, toilet partitions, fire extinguisher cabinets, hose reel cabinets, gas cabinets and any other accessories identified on the contract documents. **(work as indicated on contract documents) (Addendum No. 2)**
15. Provide caulking of joints in ceramic tile areas, including ~~inside corners, floors~~ **(Addendum No. 2)** and ceilings.
16. Provide caulking of the top and sides of all finished stair stringers to adjacent materials. Include caulking of all stair stringers and bottom riser to floor.
17. ~~Provide caulking for penetrations through wall, floors, etc. including cutting, patching, sleeves, angle rings, and fire safing.~~ **(Addendum No. 2)**
18. Examine areas and conditions where joint sealers are to be installed and correct any conditions detrimental to the proper and timely completion of this scope of work. Do not proceed with work until unsatisfactory conditions are corrected to permit proper installation.
19. Provide mock ups of all products and adhesion tests for exterior caulking.
20. Provide custom colors or all caulks and sealants.
21. Protection and cleaning of adjacent surfaces to be the responsibility of this contractor.
22. This contractor shall include the Pollution Insurance coverage as specified in the contract documents.
23. This is not a secure site, the contractor is responsible for the safe storage of all of their materials. NCCVT and EDiS will not be responsible for lost or stolen materials
24. All subbase preparation, priming etc. to be performed before caulking is applied.
25. ~~Include caulking and preparation of all painted materials prior to painting~~ **(Addendum No. 2)**
26. Include within this contracts base bid an allocation of \$15,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-11 - HOLLOW METAL, WOOD DOORS, AND FINISH HARDWARE

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 081113	Hollow Metal Doors and Frames
Section 081416	Flush Wood Doors
Section 081700	Integrated Door Opening Assemblies
Section 087100	Door Hardware
Section 080671	Door Hardware Schedule
Section 088000	Glass and Glazing (coordinate with glazing contractor)
Section 084313	Aluminum Framed Storefronts (coordination of keying)
Section 089100	Louvers (as related to doors)
Division 26	Electrical (coordination)
Division 27	Communications (coordination)
Division 28	Electronic Safety and Security (Coordination)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Furnish only hollow metal doors, frames, vision panels, wood doors and finish hardware.
2. **This contract shall furnish and deliver the Integrated Door Opening Assemblies Section 081613. (Addendum No. 3)**
3. **Furnish all work related to the building mock up of doors frames, hardware for each type of door on the project. Contract D-04 shall install the doors and hardware for the project mock up. Contract D-11 shall provide the door, frame and hardware for the mock up. (Addendum No. 3)**
4. Keying for Aluminum Entrance doors to be coordinated and provided by this contract.
5. Keying. All lock sets. Provide Owner with a complete schedule of all keying and pin schedules as required.
6. Provide hex keys or flat keys for hardware not keyed to building hardware.
7. Provide cylinders and keying for elevator, light switches, panic bar dogging and door openers.
8. Construction door cylinders shall be provided by this contractor to the Carpentry contractor for use during construction. Plan and include the cost of providing (3) three separate levels of cylinders (green, red, blue) to allow areas to be secured separately as required by the CM. Provide (25) keys per color system.
9. All exterior Hollow Metal frames shall include a box and raceway built into the door frame for locations

at the latch and hinge as required. Provide a box and raceway at the head of the frames for door contact access and installation.

10. This contractor shall pay close attention to the Alternate section of the specifications as they relate to the scope of this contracts scope of work. (Access Control System- Salto Alternate)
11. This contractor shall coordinate the hardware and door materials with the Carpentry contractor prior to ordering materials. Including but not limited to all coordination meetings with the Owner, CM Carpentry contractor and Special Systems contractor as required to properly coordinate all doors, frames, hardware and connections, prior to ordering of materials.
12. This contractor shall deliver all materials as coordinated with the installer to the project site in an orderly organized manner. Deliveries will not be received unless the Carpentry contractor is notified and the delivery is coordinated. The Owner and EDiS will receive any materials. Additionally provide 48 hour notice prior to delivery. All deliveries are to be between 7:00 AM and 3:30 PM (allow time for check in of all hardware when scheduling)
13. Provide field assistance to Electrical and Carpentry Contractor as required to facilitate the installation of the materials supplied by your course of work.
14. This contractor to coordinate with the Special Systems contractor and Electrical contractor to ensure that all cut outs, plates, receiver etc. that are required to be built into your doors and frames are fully coordinated. In person attendance at review and coordination meetings for the doors, hardware, special systems, raceway and electrical connections shall be the responsibility of this contractor.
15. As changes are made to the hardware schedule, whether due to issued ASI's, RFI's, architectural changes etc., this contractor shall make updates to the hardware schedule and re-issue so the schedule is always updated and submitted to EDiS.
16. Coordinate electrical requirements with any automatic door operations.
17. Provide harness lengths to reach above accessible ceilings. Coordination of this work and the lengths required is the responsibility of this contractor. Provide any harness adapters and connectors required allow hardware to have a splice free system.
18. This contractor shall provide all magnetic hold open hardware, including extensions as required.
19. Provide a key box system to hold up to 25% over the amount of keys being supplied.
20. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.

CONTRACT NO. D-12: OVERHEAD COILING DOORS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 055000	Metal Fabrications
Section 083313	Overhead Counter Doors (Addendum No. 2)
Section 083323	Overhead Coiling Doors
Division 26	Electrical (coordination)
Division 28	Electronic Safety and Security (coordination)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide all overhead coiling doors as required by the contract documents. To include but not limited to exterior and interior coiling doors systems. Hardware, openers, buttons and controllers required for a complete system shall be provided by this contractor.
2. Provide all overhead coiling grilles.
3. **Provide all overhead counter doors. (Addendum No. 2)**
4. Include all wall framed openings and openings including trims, flashings, and sealants as required to perform your course of work.
5. Provide additional supports for overhead coiling doors. Structural members identified on the structural drawings are not part of this contract scope. Provide ancillary steel, connectors, all thread and other misc. items as required. Coordinate all electrical and special systems requirements for work of this contract with the appropriate contractors. Provide keyed switches for both electric and low voltage to match building keying.
6. Keying coordination for all lock sets. (coordinate with same hardware system as Dor Hardware supply contract..
7. Coordinate electrical requirements with any automatic overhead door operations.
8. Provide low-voltage wiring required for overhead doors automatic door operations. Include all raceways, boxes and switches required for a complete installation.
9. Ensure that all garage doors fully open the entire height of the door opening and close with the bottom edge touching the ground. Garage doors will fit square in the openings with no gaps along the top, bottom or sides when the door is closed.

10. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDis will not be responsible for any lost tools, materials or equipment.
11. Provide all sensing and safety devices as specified for each assembly to provide a complete assembly.
12. Exterior overhead doors and grilles shall have the appropriate specified seals, and weatherstripping at all edges. Top, sides and bottom. Seals shall maintain water tightness when installed.
13. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
14. Include within this contracts base bid an allocation of \$10,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-13 - CURTAIN WALL/GLAZING/STOREFRONTS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 054000	Cold Formed Metal Framing (coordination)
Section 055000	Metal Fabrication (as required for work)
Section 072500	Weather Barriers
Section 079100	Preformed Joint Sealants
Section 079200	Joint Sealers
Section 089100	Louvers
Section 084313	Aluminum Framed Storefronts
Section 084333	Folding Glass Storefronts
Section 084413	Glazed Aluminum Curtain Walls
Section 084523	Translucent Wall Assemblies
Section 008710	Door Hardware
Section 088000	Glazing
Section 088723	Safety and Security Films
Division 26	Electrical (coordination)
Division 28	Electronic Safety and Security (coordination)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide curtain wall, storefront, glass and glazing systems, Fiberglass Sandwich Panel Systems, complete.
2. Provide all Safety and Security Films required by Section 088723 and the contract documents.
3. Provide aluminum door systems and handling.
4. Provide automatic aluminum door systems, including hardware, low voltage wiring, coordination of power and all hardware. Coordinate with Division 26 and Division 28 for access of their work in to your framing system.
5. All work of this contract shall be coordinated thoroughly with Division 26 Electrical and Division 28 Electronic Safety and Security.
6. Curtain wall systems complete, including all Delegated Design requirements required to provide a complete system. Coordinate your work with the envelope systems and contractors to insure sealing of the units for a tight seal. (pressure caps and Blueskin seals)
7. Furnish hardware for aluminum doors only. (all other finish hardware by Door and Hardware contract. (coordinate the keying and keying systems, including card reader systems)

8. All glass and glazing at exterior of building.
9. Caulking related to storefront doors and curtain wall systems.
10. Mock-ups as required by the Drawings and Specifications.
11. Custom breakmetal trim and infill.
12. Hoisting/scaffolding/cranes and all other material handling or access equipment. This contractor owns all material and manpower handling.
13. Coordinate edge of slab tolerances and field verify all rough openings. Field verification of edge of slab details is required by this contractor.
14. Provide all caulking and sealants, including any Preformed Sealants, required for your systems. All exterior caulking of your system and caulking to adjacent exterior surfaces by this contractor. The caulking and Sealant contractor shall caulk interior surfaces to your Alum frames.
15. Provide interior glass and glazing systems. Coordinate with the door and frame contractor and carpentry contractor.
16. Interior door, partition, vision panel and window glass.
17. Caulking and sealants related to interior glazing.
18. Do not provide interior hollow metal or hardware. These items will be provided by the Door and Hardware contractor.
19. Any openings that are missing glass (due to this contractors issues) during construction shall have plywood installed to secure and weatherproof the building by this contractor.
20. Clean up of all trash and debris related to this contract shall performed daily and removed to the dumpsters. All material shall always be stored neatly and orderly.
21. Coordinate glass types with partition and door fire ratings. Contact Construction Manager with any discrepancies. Shop drawings, samples and product data must be submitted within 3 weeks after award of contract.
22. This contract shall coordinate and work with the Special Systems contractor to allow the installation of harnesses, whips and connections while installing frames and hardware.
23. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
24. Include within this contracts base bid an allocation of \$35,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-14 – TILING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 090561	Common Work Results for Flooring Preparation
Section 093000	Tiling

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide ceramic tile, marble tile, quarry tile, base material and thresholds as required by the contract documents, complete.
2. Provide all mortar bed installations as directed by the specifications and drawings.
3. Grout, including Epoxy grout and custom colors as specified.
4. Cutting and fitting around work installed by others.
5. Provide waterproofing and crack-isolation systems as required by contract documents.
6. **Precast mop receptors as per contract documents. (Addendum No. 2)**
7. Patching and leveling of “new” concrete system to be included in this contracts base bid. Contractor to review concrete floor installations and report any deficiencies in tolerance prior to mobilizing for any tile installation. Float inconsistent defects as needed to bridge tile for wall assemblies receiving wall tile.
8. Provide protection of finished products until acceptance by Construction Manager. This contract shall include the material and labor to cover all ceramic tile areas with Ramboard panels (not roll material or corrugated plastic panels. Seams to be taped and sealed for effective protection.
9. Attic stock, delivered and unloaded into owner storage room.
10. Provide crack suppression membrane for this set tile installation.
11. This contractor to coordinate work of this contract with contractor installing cement backer boards to receive your tile.
12. Provide metal strips and Schluter strips installed as part of the tile installation.
13. This contractor must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or

equipment modifications such as adding water to equipment during exposed work and keep records of exposure.

14. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
15. Include within this contracts base bid an allocation of \$15,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-15 - ACOUSTICAL CEILINGS AND SPECIALTY CEILINGS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 072100	Thermal Insulation
Section 079200	Joint Sealants
Section 095100	Acoustical Ceilings
Section 095420	Specialty Ceiling Systems
Section 098400	Acoustical Room Components

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide complete acoustical ceiling systems to include suspension system, hangers and all required components for a complete system.
2. Provide specialty ceiling systems complete, including framing, supports and necessary components.
3. Provide acoustical wall treatments and acoustical room components complete.
4. This contract includes all Sound Reflecting Tiles, Sound Diffusing tiles, Suspension grids, struts, metal panel ceiling systems and architectural metal wall panel systems. Provide cutting, fitting and coordination with MEP trades for outlets, grilles, cable access etc.
5. **This contract to provide Decorative Metal panels shown on A441, A442, and A443. (Addendum No. 3)**
6. Acoustical lay in insulation blankets and rigid panels above ceilings and behind wall grid systems as identified in the contract documents.
7. Supplemental suspension hangers at large ducts above ceilings and at openings for lighting fixtures shall be provided and coordinated to minimize exposed clips, anchors, and wires.
8. Continuous acoustical sealant on back of vertical leg before installing moldings as indicated.
9. Furnish and install hold down clips where required by governing regulations for fire resistant ratings.
10. Provide all material handling, scaffolds, lifts, Spyder cranes, access to work etc. as required for the scope of this contracts work.
11. Expansion joints for all acoustical ceilings, specialty ceilings and acoustical systems.
12. Provide ceiling grid layout on floor for cassette and duct placement in ceiling grid system.

13. This contractor shall review all documents, shop drawings, plans, and drawing model for ceiling height issues. All issues shall be reported to the EDiS prior to installing wall angles.
14. Reflected ceiling layout plans and shop drawings for approval and installation must be provided for all ceiling systems, clouds, acoustical panels, metal wall systems, etc.
15. This Contractor shall cut openings in ceilings for sprinkler heads, lights, mechanical diffusers and grilles, etc. Coordinate work with other trades.
16. Coordinate with other trades for layout and install of their materials into the grid system provided by this contract.
17. Attic stock as per the contract documents, delivered, inventoried, and moved to a storage area within the building at the owner's direction.
18. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
19. Include within this contracts base bid an allocation of \$20,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner via credit change order.

CONTRACT NO. D-16 - FLOORING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 090561	Common Work Results for Flooring Preparation
Section 096500	Resilient Flooring
Section 096813	Tile Carpeting
Section 096816	Sheet Carpeting
Section 096933	Low-Profile Fixed Height Access Flooring

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide flooring in accordance with the contract documents.
2. Prepare subfloor for finished flooring including leveling and patching. Base bid shall include all flashing patching and surface preparation required to perform the work of this Contractor.
3. Provide all Resilient flooring, LVT, Sheet vinyl, rubber tile, rubber treads, rubber base, resilient base, carpeting, carpet tile complete.
4. Provide Low-Profile fixed height access flooring system, complete.
5. Provide all moldings, transitions and edge strips as required.
6. Provide recessed flooring systems at specified areas, to include a shop drawings for approval, recessed floor system, carpet inset and required attic stock materials.
7. Resilient transition and reducer strips at edges of resilient flooring and at edges of carpeting.
8. Cleaning and protection of floors after installation shall be required by the cope of this contract.
9. Seaming diagrams are required to be submitted for approval.
10. Provide mock up's as defined by the contract documents.
11. Attic stock to be delivered to the site, inventoried and then moved to a storage area within the building at the direction of the owner.
12. This contractor shall own all material handling and means to unload, move and lift materials to second floor locations.
13. Provide entrance mat systems complete.

14. Provide finish floor material in elevator cab as specified.
15. Provide cutting and fitting around work of others.
16. This contractor shall protect the adjacent work of other trades while performing the scope of this contract.
17. Include within this contracts base bid an allocation of ~~\$15,000~~ **\$25,000** (Addendum No. 2) for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-17: RESILIENT ATHLETIC FLOORING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 090561	Common Work Results for Flooring Preparation
Section 096566	Resilient Athletic Flooring

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide flooring in accordance with the finish schedule and specifications.
2. Provide resilient athletic flooring, base, and associated striping, logos, sealants etc.
3. Provide moisture level testing and reporting as part of this contract scope.
4. This contract includes removal of curing and sealing coatings that may be incompatible with the flooring adhesives of your product. Shot blasting, grinding or any required floor preparation is the responsibility of this contractor.
5. Prepare subfloor for finished flooring including leveling and patching. Base bid shall include all flashing patching and surface preparation required to perform the work of this Contractor. This shall include ~~any moisture barriers that may be required.~~ **within the base bid the cost required to prepare and provide 10,000 sf of the Remedial Floor Coating Material specified in Section 090561 Part 2 Products, item 2.01 Remedial Floor Coating Materials. (Addendum No. 4)**
6. Provide required flashing and transitions to adjacent materials. This include ramping of existing concrete floor if required for the fit and completeness of the Resilient Athletic Flooring system.
7. Provide cleaning, sealing and protection. Protection will be with Ramboard Pro panels with taped seams or Masonite with taped seams. Cover floor immediately after installation.
8. Seaming diagrams, and shop drawings for approval/installation.
9. Include within this contracts base bid an allocation of \$15,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner via credit change order.

CONTRACT NO. D-18 - RESINOUS MATRIX TERRAZZO FLOORING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 090561	Common Work Results for Flooring Preparation
Section 096623	Resinous Matrix Terrazzo Flooring
Section 096616	Precast Cement Terrazzo Treads and Landings (Addendum No. 2)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide vapor retarding sealer prior to terrazzo application' include required cost in this contracts base bid.
2. Provide all thresholds, reducers etc. as required to perform the work of this contract.
3. **Provide all Precast Cement Terrazzo Treads and landings as defined by the contract documents. (Addendum No. 2)**
4. Prepare subfloor for finished flooring including leveling and patching. Include in the base bid, leveling and patching as per the manufacturer's recommendations for the resinous terrazzo flooring. Include shot blasting, grinding, and moisture barriers as required for a complete installation.
5. Provide moisture vapor treatment on all slabs on grade.
6. Provide crack suppression membrane as required. Crack suppression, control joints and expansion joints shall be clearly identified in a shop drawing of all Terrazzo areas for design team approval.
7. Provide standard and custom samples for approval. Include three (3) in-field mock ups for final selection and approval.
8. Prep all floors for terrazzo application per manufacture and industry standard.
9. Cutting and fitting around work installed by others.
10. Provide protection of finished products until acceptance by Construction Manager. Protection shall RamBoard pro Sheets with Ram tape.
11. Attic stock, delivered, unloaded and moved to owners storage area within building.
12. Protection of surrounding surfaces and work of others.

13. Provide joint sealants required for Terrazzo installation.
14. Protect materials from damage and contamination in storage or delivery, including moisture, heat, cold, direct sunlight, etc.
15. Maintain temperature of storage area between 60 and 80 degrees F (15 and 26 degrees C).
16. Keep containers sealed until ready for use.
17. Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with Resinous Terrazzo materials. Include all bead blasting required to perform the work of this contract.
18. Close spaces to traffic during Terrazzo application. Coordinate traffic on unpolished Terrazzo with CM and construction schedule.
19. Maintain proper ventilation of the area during application and curing time period.
20. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
21. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.
22. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
23. Contractor must provide additional crews as needed to maintain the project schedule.
24. Provide pricing for all alternates as described in Section 012300-Alternates.
25. Include within this contracts base bid an allocation of \$10,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-19 - FLUID-APPLIED FLOORING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 079200	Joint Sealants
Section 090561	Common Work Results for Flooring Preparation
Section 096700	Fluid Applied Flooring

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide fluid-applied flooring and integral base.
2. Provide mock-ups as required by plans and specifications.
3. Provide standard and custom color samples for review and approval.
4. Provide vapor retarding sealer prior to resinous application, as required by specifications or manufacturer's installation instructions.
5. Provide protection of work of others as well as cutting and fitting around work installed by others.
6. Patching and leveling of areas to receive resinous flooring to be included in the base bid of this contract.
7. Provide cleaning, finishes and protection. Protection shall be RamBoard Pro sheets with Ram tape. Provide protection of finished products until acceptance by Construction Manager.
8. Provide crack suppression membrane required for the work of this contract. The submitted shop drawing for the Resinous Flooring areas shall reflect all control joints, expansion joints and crack suppression locations for review and approval.
9. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
10. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.
11. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records

of exposure.

12. Contractor must provide additional crews as needed to maintain the project schedule.
13. Provide multiple out of sequence installations. Each area shall be considered a separate mobilization and all costs shall be included in the base bid.
14. Provide pricing for all alternates as described in Section 012300-Alternates.
15. Include within this contracts base bid an allocation of \$10,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-20 - PAINT AND VWC

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 079200	Joint Sealants
Section 099113	Exterior Painting
Section 099123	Interior Painting

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide all painting and vinyl or fabric wall covering (all walls and ceilings indicated on the finish schedule) include all preparation of surfaces, trims and finish wood locations.
2. Provide sealing of all interior joints between dissimilar materials that require sealants before painting.
3. This contractor shall provide "all" interior and exterior painting complete.
4. Paint all exposed block work and concrete work as shown on the room finish schedule and contract documents. Include painting of the elevator shaft from F.F. down to the bottom of pit (white)
5. Prime, stain or seal, all wood trim and doors as required by the contract documents.
6. Paint exposed piping (sprinkler, plumbing, gas piping, electrical) and ductwork in accordance with the contract documents. Include preparation work for all items specified. Review and coordinate any color requirements specified in the contract documents or as required by code. Pay close attention to MEP documents for specific locations of piping colors.
7. Provide supplementary ventilation as required in enclosed spaces.
8. Paint and caulk all hollow metal frames and doors as shown on the door schedule.
9. Paint metal stairs and railings.
10. Prefinished items will not be painted by this Contractor.
11. Paint all semi-exposed wood blocking as indicated on the drawing.
12. Include "preparation" of all surfaces and items required to be covered by the scope of this contract.
13. This contractor shall allow a touch up pass from drywall contractor/mason contractor between prime coat and first coat of finish.

14. Protection of adjacent surfaces required by this contractor.
15. Minor patching prior to application of finishes shall be included in the base bid.
16. This contractor shall provide sealing/hardener of concrete floors, including scraping, brushing, removal of markings, grease, foreign materials and thoroughly cleaning all the floors prior to installation of the sealer/hardener materials. Coordination with other finishes will require multiple mobilizations for the sealer/hardener preparation and installation. Include within your base bid a (6) additional mobilizations for this work.
17. Installation of rated wall identification to be provided by this contractor. Access, lifts, ladders etc. to be provided by this contractor.
18. Provide painting of all exterior bollards and gates that are not prefinished.
19. Paint gas lines at both the interior and exterior of the building.
20. All lintels shall be painted by this contractor.
21. Paint all railings and handrails that are not prefinished.
22. Provide cleanup of your work areas and storage areas on a daily basis. Removal of spent paint cans and buckets is the responsibility of this contractor.
23. This contractor shall protect all areas, materials and work of others from over-spray from the work of this contract.
24. This Contractor to allow 240 man hours and all required paint materials for these man hours to be used as directed by the Construction Manager.
25. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
26. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.
27. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
28. Contractor must provide additional crews as needed to maintain the project schedule.
29. Provide pricing for all alternates as described in Section 012300-Alternates
30. Include within this contracts base bid an allocation of \$20,000 for work to be determined by owner and

construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-21 - WOOD STRIP FLOORING - GYM FLOORING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 062000	Finish Carpentry (coordination of work)
Section 079200	Joint Sealants
Section 090561	Common Work Results for Flooring Preparation
Section 096429	Wood Strip Flooring

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide complete gymnasium floor system including sleepers, base, plywood, finishes, transitions, and striping (including logos). Flooring installation shall be coordinated and installed so the integrity of the concrete floor is not impacted. Include within your base bid a penetrating water/vapor sealer application prior to starting the Gym floor assembly.
2. Provide underfloor ventilation fan as required by the specification or manufacturer's requirements. Power connection provided by the electrical contractor, all interconnection wiring or low voltage work to complete work shall be provided by this contractor.
3. Provide wood strip flooring, hardboard floors in, and accessories at all areas indicated by the contract documents. This contract to provide all stage flooring and the required painting.
4. Provide wall base and trims associated with wood strip flooring.
5. Coordination with the bleacher contractor and other trades with the installation of the wood floor.
6. This contractor shall include patching and leveling of low areas identified after the slab floor analysis. The high areas will be reviewed and the concrete contractor will be responsible to adjust.
7. Sealants and caulking associated with your course of work shall be provided by this contractor.
8. Provide thresholds as required to finish your course of work. Threshold locations and types shall be submitted for Owner/Design Team approval.
9. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
10. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.

11. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
12. Moisture and humidity readings are the responsibility of this contractor, monitoring and reporting results will be required. Results shall be provided each day in your daily reports, with photos of measuring device and reading. In addition provide the CM with a separate set of humidity sensors and a testing device for concrete floor moisture content.
13. All work to be coordinated with the carpentry contractor installing the gym equipment. Sequencing and timing shall be discussed and agreed to by this contractor.
14. Contractor must provide additional crews as needed to maintain the project schedule.
15. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
16. Provide pricing for all alternates as described in Section 012300-Alternates.
17. Include within this contracts base bid an allocation of \$10,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-22 - SPECIALTIES

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 061000	Rough Carpentry
Section 062000	Finish Carpentry
Section 079200	Joint Sealers
Section 101101	Visual Display Boards and Display Cases
Section 102113.19	Plastic Toilet Compartments
Section 102123	Cubicle Curtains and Track
Section 102600	Wall Protection
Section 102800	Toilet Accessories
Section 104400	Fire Protection Specialties
Section 105100	Metal Lockers
Section 107316.13	Metal Canopies

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following: (provide and install)

1. Provide and install all specialties listed within this contract specification sections and scope.
2. Provide White boards, Markerboards (including glass markerboards), Chalk boards, tack boards, and tack strips.
3. Provide display boards and display cases.
4. This contractor shall own providing, engineering and installation of the Metal Canopies Section 107316.13. Coordinate all work with other trades.
5. Provide Projection screens if identified on documents. Electric service is the responsibility of the Electrical Contractor. All other control wiring, raceways and special boxes as specified will be the responsibility of this Contractor.
6. Provide Lockers including locker bases that are not identified as "concrete bases" (concrete locker bases provided by the Misc. Concrete and Grouting contract.)
7. Provide Toilet partitions. Coordinate any structural requirements with the structural steel and blocking requirements with the Carpentry contractor.
8. Provide toilet and bath accessories, complete. This contract shall include installing all owner supplied toilet accessories and specialties.
9. Provide all accessories as indicated on the contract documents.

10. Provide Fire extinguishers, cabinets and accessories. Include labeling of extinguishers and cabinets. Coordinate with other trades for opening size and placement.
11. ~~Provide Vertically Retractable Walls coordinate any structural requirements with the structural steel and carpentry contractors. Provide all supplementary steel as needed to hang partitions from structural support steel, provided by the Structural Steel Contractor. It is assumed, no additional steel will be required below structural support steel. If so, it will be provided by this contractor.~~
(Addendum No. 4)
12. ~~Provide all signage and plaques (interior and exterior.)~~ **(Addendum No. 4)**
13. Provide wall and corner protection. Including FRP Paneling.
14. Provide Mirrors (both framed and frameless.)
15. Verification of field dimensions is the responsibility of this Contractor.
16. Anchoring devices, fasteners, inserts and other related items associated with the installation of the above items.
17. All blocking and bracing requirements for all work of this contract shall be coordinated with the Carpentry contractor for correct installation of blocking etc. Include any blocking not specified to be provided by the carpentry contractor.
18. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
19. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.
20. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
21. Provide hand dryers and installation, electrical power connection by electrical contractor.
22. Contractor must provide additional crews as needed to maintain the project schedule.
23. This contractor shall include within their bid the incorporation of **500 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5
24. Provide pricing for all alternates as described in contract documents.
25. This contractor must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA

requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.

26. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
27. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.
28. This contractor shall be on site to coordinate when walls are being installed for penetrations and sleeve installations. If penetrations and sleeves are missed, this will be the responsibility of this contractor to cover associated costs of fixing.
29. Provide \$20,000 allowance to be used as directed by the owner and CM. All funds not expended will be returned to the owner via a credit change order by means of a credit change order.

CONTRACT NO. D-23 - FOOD SERVICE EQUIPMENT

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 11400	Food Service Equipment
Division 22	Plumbing
Division 24	HVAC
Division 26	Electrical

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide food service equipment, hoods, connective ductwork and accessories All final connections shall be made by the Electrical and Mechanical Contractors.
2. Any discrepancies between the Drawings, Specifications and site conditions or ambiguities in the documents shall immediately be reported to the Construction Manager in writing. Inconsistencies shall be corrected in writing or by reissuing the drawings. If the Contract Documents disagree with the quality or quantity of work required, the better quality or greater quantity shall be supplied unless otherwise instructed in writing by the Construction Manager. Any work performed by the Contractor at locations in question after his discovery of discrepancies, inconsistencies, ambiguities, or errors, without securing resolution, shall be at the Contractor's risk.
3. This Contractor shall verify all measurements at the site and assume full responsibility for their correctness before proceeding with his work. No extra compensation will be allowed because of differences between site conditions and those indicated on the drawings.
4. Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer and shall be protected from damage until acceptance. Prefinished products which are damaged before or after installation shall be replaced with new and perfect materials. Materials finished after installation which are damaged shall be refinished or replaced as the Construction Manager may direct. No additional charge will be honored by the Construction Manager for repair or replacement of finished materials.
5. Should this Contractor feel that the Contract Documents call for work which he cannot guarantee, he shall so state, in writing, prior to bidding. Proceeding with any operation shall be construed as acceptance of all guarantee conditions.
6. Secure certificates of inspection and occupancy required by authorities having jurisdiction. Deliver copies of certificates to the Construction Manager prior to filing application for final payment.
7. Supply and install any pedestals, curbs or doghouses required for equipment on the roof in this contract. This should be a finished product so the roofer can flash to the system complete.

8. Any penetrations for work of this contract are the responsibility of this contractor whether through walls, floors or roof areas. Sealing of all penetrations (sealant, fire sealant or otherwise) and coordination with others is part of this contract.
9. This contractor shall include any blocking requirements required on a drawing that shall be coordinate with the carpentry contractor for blocking installation.
10. This contractor is responsible to make field visits to review rough in of underground utilities/piping/electric conduit, for placement in relationship to equipment locations.
11. This contractor to provide complete hood assemblies, including the hood fire protection assembly (Ansul) complete.
12. **Provide licensed electrician to make all interconnections within equipment furnished by this contract. This includes, but is not limited to power and control wiring interconnecting the kitchen hoods and make up air units provided by the mechanical contractor. (Addendum No. 3)**
13. This contractor shall coordinate and provide assistance to the electrical, fire alarm and controls contractor for interconnection into your hood assemblies and attached equipment.
14. Provide technicians on site to test all systems, hoods, equipment in advance of any required inspections.
15. This contractor is to accept delivery of their equipment and supplies, CM will not receive and unload equipment. Provide any and all material handling and unloading equipment and man power.
16. It is this Contractor's responsibility to make certain statutes, building codes, and regulations including those of the appropriate health agencies having jurisdiction over this type of facility are met.
17. Any items furnished as part of this Scope of Work that require mechanical or electrical rough ins or services that are different from those shown on the Contract Drawings shall be so noted at the time of bid. Failure to do so shall make this Contractor liable for costs of any changes required by same.
18. Provide all caulking and sealants for proper installation and in accordance with public health regulations. This contractor provides caulking and sealants for your own course of work.
19. Start, test and demonstrate all equipment installed under this category of work. Provide proposed schedule, including names and telephone numbers of attending representatives (3) three weeks in advance of demonstration.
20. Obtain approvals and permits and coordinate inspections and testing with governing local and state agencies.
21. This contractor shall provide factory start up of all equipment and the reports to document the start up's. CM to receive reports following start up.
22. (2) preliminary inspection or walk through of the project with the Health Department is to be include within this contracts scope.

23. This contractor to provide and install all low voltage capacitors, contactors etc. and required connections to allow the kitchen hood system to communicate and interface with the fire alarm system and exhaust systems. Electrical contractor to provide power connection to units.
24. This Contractor shall verify all measurements at the site and assume full responsibility for their correctness before proceeding with his work. No extra compensation will be allowed because of differences between site conditions and those indicated on the drawings.
25. Provide protection of all equipment during and after installation has been completed.
26. Provide coordinated shop drawings that indicate all MEP requirements and accurately reflect the actual conditions and spacing of the area.
27. All foodservice components consist of those items identified in Section 114000 and the "K" Series drawings that identify the Food Service items. All items are to be included in the base bid of this contract to completely provide all systems in their entirety. This contractor shall pay particular attention to the "Standard Details" section of typical drawings within Specification section 114000.
28. Any items furnished as part of this Scope of Work that require mechanical or electrical rough ins or services that are different from those shown on the Contract Drawings shall be so noted at the time of bid. Failure to do so shall make this Contractor liable for costs of any changes required by same.
29. Provide licensed electrician to make all interconnections within equipment furnished by this contractor. This includes, but is not limited to, power and control wiring interconnecting the kitchen hoods and make-up air units provided by the mechanical contractors.
30. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
31. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.

32. CONTRACT PROVISIONS FOR THE DISTRICT CONTRACTS UNDER CNP AWARDS

(Addendum No. 4)

1.0 Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387)

Clean Air Act

- (1) The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
- (2) The contractor agrees to report each violation to the (name of the applicant entering into the contract) and understands and agrees that the (name of the applicant entering into the contract) will, in turn, report each violation as required to assure notification to the appropriate Environmental Protection Agency Regional Office, the Federal awarding agency, or the USDA.

- (3) The contractor agrees to include these requirements in each subcontract exceeding \$150,000.

Federal Water Pollution Control Act

- (1) The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
- (2) The contractor agrees to report each violation to the (name of the applicant entering into the contract) and understands and agrees that the (name of the applicant entering into the contract) will, in turn, report each violation as required to assure notification to the appropriate Environmental Protection Agency Regional Office, the Federal awarding agency, or the USDA.
- (3) The contractor agrees to include these requirements in each subcontract exceeding \$150,000.

2.0 Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708)

- (1) *Overtime requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (2) *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.
- (3) *Withholding for unpaid wages and liquidated damages.* The (write in the name of the Federal agency or the loan/grant recipient) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.
- (4) *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance

by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

3.0 Rights to Inventions Made Under a Contract or Agreement, applicable if the DISTRICT will be using the funding agreement for development, research, or experimental work. [37 CFR 401.14 – Standard patent rights clauses](#)

4.0 Equal Employment Opportunity:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States. The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract. The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance. The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain

from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

5.0 Debarment and Suspension

- (1) This contract is a covered transaction for purposes of 2 CFR pt. 180 and 2 CFR pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 CFR § 180.995) or its affiliates (defined at 2 CFR § 180.905) are excluded (defined at 2 CFR § 180.940) or disqualified (defined at 2 CFR § 180.935).
- (2) The contractor must comply with 2 CFR pt. 180, subpart C and 2 CFR pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- (3) This certification is a material representation of fact relied upon by (insert name of recipient/subrecipient/applicant). If it is later determined that the contractor did not comply with 2 CFR pt. 180, subpart C and 2 CFR pt. 3000, subpart C, in addition to remedies available to (insert name of recipient/subrecipient/applicant), the federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- (4) The bidder or proposer agrees to comply with the requirements of 2 CFR pt. 180, subpart C and 2 CFR pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion, Exhibit F, which is attached herein and incorporated by reference and made a part of this Contract. (2 CFR 180) or the DISTRICT includes documentation that Vendor is not listed on governmentwide exclusions in System for Award Management (SAM), which contains the names of parties debarred, suspended, or otherwise excluded by agencies, or declared ineligible under statutory or regulatory authority other than Executive Order 12549.

6.0 Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used federally-appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency. If applicable, the contractor must sign and submit to the non-federal entity, a certification regarding lobbying activities. The certification is attached herein and is incorporated and made a part of this Contract. If applicable, Vendor completed and submitted Standard Form-LLL, Disclosure Form to Report Lobbying, Exhibit G.

7.0 2 CFR 200.322 Domestic preference for procurements

The DISTRICT(s) participate(s) in the National School Lunch Program and School Breakfast Program and is required to use the nonprofit food service funds, to the maximum extent practical, to provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products) for the production of Program meals. For purposes of this contract, "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

8.0 2 CFR 200.323 Procurement of recovered materials

In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:

1. Competitively within a timeframe providing for compliance with the contract performance schedule;
2. Meeting contract performance requirements; or
3. At a reasonable price.

Information about this requirement, along with the list of EPA-designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensiveprocurement-guideline-cpg-program>. The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

Vendor has signed the Anti-Collusion Affidavit, Exhibit H, which is attached herein and is incorporated by reference and made a part of this Contract.

9.0 Buy American Provision

As required by the Buy American provision, all products must be of domestic origin as required by 7 CFR Part 210.21(d).

The District(s) participates in the National School Lunch Program and School Breakfast Program and is required to use the nonprofit food service funds, to the maximum extent practical, to buy domestic commodities or products for Program meals. A "domestic commodity or product" is defined as one that is either produced in the U.S. or is processed in the U.S. substantially using agricultural commodities that are produced in the U.S. as provided in 7 CFR Part 210.21(d). Substantially means that at least 51 percent of the final processed product consists of agricultural commodities that were grown domestically.

Exceptions to the Buy American provision should be used as a last resort; however, an alternative or exception may be approved upon request. To be considered for the alternative or exception, the request must be submitted in writing to a designated official, a minimum of __120__ day (s) in advance of delivery. The request must include the:

- (a) Alternative substitute(s) that are domestic and meet the required specifications:
 - (i) Price of the domestic food alternative substitute(s); and
 - (ii) Availability of the domestic alternative substitute(s) in relation to the quantity ordered

- (b) Reason for exception: limited/lack of availability or price (include price):**
- (i) Price of the domestic food product documenting a significant price difference; and**
- (ii) Price of the non-domestic product that meets the required specification of the domestic product.**

10.0 Civil Rights:

The Vendor and DISTRICT agree to adhere to the provisions set forth in the following regulations, as amended:

- i) FNS Instruction 113-1, Civil Rights Compliance and Enforcement – Nutrition Programs and Activities**
- ii) Title VI of the Education Amendments of 1972;**
- iii) Section 504 of the Rehabilitation Act of 1973;**
- iv) The Age Discrimination Act of 1975;**
- v) The Americans with Disabilities Act; and**
- vi) Title 7 CFR Parts 15, 15a, and 15b**

- 33. Include within this contracts base bid an allocation of \$15,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of credit change order.

CONTRACT NO. D-24 - WINDOW SHADES AND ROLLER SHADES

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 061000	Rough Carpentry
Section 062000	Finish Carpentry
Section 122400	Window Shades
Section 122413	Window Treatment – Roller Shades

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide window shades and rollers shades complete.
2. Do not fabricate shades until field dimensions for each opening have been taken.
3. Do not install shades until final surface finishes and painting are complete.
4. Provide manual window shades as indicated on the contract documents.
5. Do not install roller shades until construction and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
6. Field Measurements: Where roller shades are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
7. Do not install shades until construction and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
8. This contractor shall include any blocking not identified or specified in the Carpentry contractors scope.
9. Provide all material handling and access equipment required for your work. Including scaffolds and lifts as necessary. CM will not receive or unload an of this contracts materials.

CONTRACT NO. D-25 - LAMINATE CLAD CASEWORK, COUNTERTOPS, AND SILLS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 062000	Finish Carpentry
Section 079200	Joint Sealants
Section 123400	Manufactured Plastic Laminate Casework
Section 123600	Countertops, Backsplashes and Window Stools

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide labor and materials to perform the work related to all casework, millwork, counter tops, back splashes and window sills. Coordinate rubber base after installation with flooring contractor.
2. This contractor shall provide all plastic laminate and millwork required in the Auditorium. This shall include panels, sills, casework etc. as detailed in the contract documents.
3. Provide all SS Tops, trims and accessories as required by the contract documents.
4. Provide all field trimming required to adjust to conditions on site.
5. Coordinate power and data requirements and locations with the electrical contractor for locations and sizes of holes needed. Grommets provided by this contractor.
6. Include all venting of cabinets and casework as indicated in the contract documents.
7. Provide solid surface window stools, wood trim, aprons, wood veneer paneling, and plastic laminate veneer paneling.
8. Provide solid surface base.
9. Provide countertops and backsplashes
10. Coordinate cutting holes in casework with other trades, and provide grommets at all openings.
11. Coordinate blocking requirements with Carpentry contract.
12. Provide joint sealants integral to casework/millwork and to dissimilar materials.
13. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.

14. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.
15. This contractor shall include within their bid the incorporation of **1000 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5
16. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
17. Contractor must provide additional crews as needed to maintain the project schedule.
18. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
19. Provide pricing for all alternates as described in Section 012300-Alternates.
20. Include within this contracts base bid an allocation of \$15,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.
21. This contractor shall coordinate the installation of the Fume hood assembly with the HVAC contractor who is providing this work.

CONTRACT NO. D-26 - STAGE RIGGING, LIGHTING, AND ACCESSORIES

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 116133	Rigging Systems and Draperies
Section 111663	Loose Performance Lighting Fixtures

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide a complete theatrical rigging system as specified in Section 116133. Provide layout drawings and coordinate with electrical contractor for requirements of stage lighting and electric. This contract is responsible for any supplemental and miscellaneous steel/support required beyond the structural steel shown in the structural drawings to provide a complete and operational rigging system.
2. Provide theatrical draperies, operating systems, control wiring, motors etc. required to provide a complete system.
3. Provide Loose Lighting Fixtures and all low voltage wiring, motors, and controls to make system operational.
4. Provide (4) sets of any keys required to operate systems installed.
5. Provide specified warranties, attic stock, and as-builts. All attic stock to be delivered, inventoried, and delivered to a storage area on site directed by the owner.
6. Provide stage lighting systems including fixtures, controls, wiring, light grids, supports and attachments. Provide any Unistrut, support rods or other required anchoring devices for lighting support in theater. Coordinate work with electrical contractor for power connections.
7. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
8. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDis will not be responsible for any lost tools, materials or equipment.
9. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.

10. Provide BIM services as detailed in spec section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
11. Contractor must provide additional crews as needed to maintain the project schedule.
12. Provide pricing for all alternates as described in Section 012300-Alternates.
13. Include within this contracts base bid an allocation of \$10,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-27 - FIXED AUDITORIUM SEATING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 126113	Fixed Audience Seating

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide seating layout, numbering, shop drawings, product data, samples, etc.
2. Provide Fixed, Removable, and loose audience seating as detailed in the drawings and section 126113. Coordinate finishes, coverings, colors, mounting, etc. between the fixed and loose audience seating.
3. This contractor responsible for their own layout and drilling of anchors for fixed seating. After installation, each day the area shall be cleaned of concrete dust, debris, boxes, packing materials etc. All materials must go to dumpster each day. Provide dimensioned layout drawings for lighting box layout for chairs.
4. Provide specified warranty, attic stock, and as-builts. Attic stock shall be delivered, inventoried and move to a storage location on site as directed by the owner.
5. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
6. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDis will not be responsible for any lost tools, materials or equipment.
7. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
8. Provide BIM services as detailed in spec section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
9. Contractor must provide additional crews as needed to maintain the project schedule.
10. Provide pricing for all alternates as described in Section 012300-Alternates.

11. Provide a final clean, vacuuming and wipe down of all seating and support brackets by this contractor. Coordinate scheduling of this work with CM.
12. Include within this contracts base bid an allocation of \$10,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-28 - TELESCOPING BLEACHERS AND PLATFORMS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 061000	Rough Carpentry
Section 079200	Joint Sealers
Section 126613	Telescoping Bleachers
Section 126623	Telescoping Chair Platforms

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide all Telescoping Bleachers and Telescoping Chair Platforms as required by the contract documents.
2. Provide bleacher seating systems. Coordinate electrical requirements with electrical contractor. Low voltage wiring, motors and controls are to be provided and installed by this contractor. Power supply will be supplied by electrical contractor.
3. This contractor shall coordinate all work of this contract with the carpentry contractor and wood flooring installer.
4. Protection of the work of others including but not limited to protection of all finished flooring installed before your scope of work can be installed. Protection of the flooring shall be reviewed with the CM before installation.
5. Verification of field dimensions is the responsibility of this Contractor.
6. Anchoring devices, fasteners, inserts and other related items associated with the installation of the above items. Provide all material handling and access equipment required for the scope of your contract.
7. All material handling. Loading, moving, lifting of the materials of this contract shall be the responsibility of this contractor. The CM will not receive or unload your materials.
8. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
9. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.

10. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
11. Provide BIM services as detailed in spec section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
12. Provide pricing for all alternates as described in Section 012300-Alternates
13. Include within this contracts base bid an allocation of \$10,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-29 - HYDRAULIC HOLELESS PASSENGER ELEVATOR

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 142013	Hydraulic Holeless Passenger Elevator
Division 26	Electrical (power and communications)
Section 284621	Addressable Fire Alarm Systems (coordination)
Section 281100	Access Control Systems (coordinate elevator access controls)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide hydraulic elevator system complete. Including all shaft anchoring, framing and Misc. steel required to install the elevator.
2. Grouting of all elevator sill angles will be the responsibility of the Misc. Concrete contractor Contract D-43.
3. Splyders for elevator shaft installation shall be delivered to the site when required by the BP-C Masonry contractor.
4. Coordinate and work directly with the fire alarm contractor to meet all local, state, fire marshal and elevator inspector requirements.
5. Before the owner accepts the elevator for substantial completion, the elevator contractor shall train the owners maintenance personnel on operation of the elevator and review the contact operation and protocol for elevator service, warranty claims, etc. The training shall be professionally videotaped as part of the warranty package.
6. Provide control wiring and telephone signal wiring to top of elevator shaft as required.
7. Provide (2) sets of elevator protection padding, in addition to all other attic stock specified by contract documents. Provide CM one of these sets for use during construction.
8. This Contractor to furnish and install all rough wiring, low voltage wiring and devices (phones) necessary for the installation of emergency telephones.
9. Electric service and disconnect switch for the elevator are the responsibility of the Electrical Contractor. (This contractor shall work with electrical to coordinate type of disconnect with Fire Marshal and Elevator Inspector before installation) All other control wiring as required will be the responsibility of this Contractor.

10. This Contractor to submit for approval the layout and detailed dimensions of the elevator pit area, sump pump area, etc.
11. Provide BIM services as detailed in spec section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
12. Provide and include warranty extensions to include 9 months of temporary construction use. This contractor to include within the base bid 600 hours of temporary elevator operator to be utilized at the discretion of the owner and CM.
13. Include the costs associated with the inspections required for "construction" use in your base bid.
14. This contractor will work with other trades to insure access is given as needed to complete all work for a complete installation. This includes lifting contractors to the top of the shaft to complete work required. This includes but is not limited to fire sealing, sprinkler heads, lighting, smoke detectors, disconnects etc. Include within the base bid 4 separate mobilizations and 8 hours of operator time to allow contractors to access the shaft for work that requires installation.
15. This contractor shall own fire sealing of all penetrations for work of this contract.
16. This contractor to owns coordinating the final keying to the owners keyed system.
17. Provide all temporary signage required for machine room or elevator I order to facilitate inspections, until completion and final signage is installed.
18. Provide (2) complete sets of tools and keys to the owner. Provide and install key cabinet in the machine room, keyed to the building system for use by the owner to store the elevator keys.
19. Provide full and complete coordination with other trades for installations within the elevator shaft and machine room.
20. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.
21. Include within this contractor's base bid an allocation of \$10,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-30 - FIRE PROTECTION

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Division 22	Plumbing
Division 26	Electrical
Division 32	Site Improvements
Section 312300	Excavation and Backfill for pipelines and Structures
Section 03310	Cast in Place Concrete
Section 210500	Common Work Results for Fire protection
Section 210505	Fire Suppression System Piping, Fittings and Valves
Section 211000	Water Based Fire Suppression System- Fire Pump

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide piping, fittings, couplings, valves and sprinkler heads to provide a complete Fire Protection system.
2. The fire pump, and all related work shall be part of this contract.
3. Excavation and backfill related to fire protection work as detailed below is the responsibility of this Contractor. (Geo-Tech reports included for this contractor's review)
4. Backfilling is the responsibility of this Contractor. Soil types shall be in accordance with project documents. Backfill materials shall be covered after excavation and protected. If materials become wet and unusable this contractor shall remove the material from site and provide stone dust (#10 stone dust) to backfill all piping trenches and remove unsuitable material off site.
5. Provide As-built drawings in both hard copy and BIM format.
6. Provide concrete equipment pads, curbs and thrust blocks related to the Fire Protection work (sprinkler system) and Fire Pump system.
7. Permits, testing, inspections required for the Fire Protection work are to be provided by this contractor.
8. Providing of sleeve assemblies for work of this contract that penetrates the foundation wall, interior footings or any concrete footings shall be provided to the masonry and concrete contractor for installation. This contractor shall coordinate and assist with the sleeving install. Sleeves are to be sealed per contract documents.
9. Firesafing of all penetration is a requirement of this contract.

10. Design of the system, submissions to the Fire Marshall, review with Fire Marshall and expediting the permit for the Fire Suppression system is a priority of this contract scope.
11. Flow and tamper switches to be supplied by this Contractor and wired by the Electrical Contractor. It is this Contractors responsibility to provide flow and tamper switches to meet applicable state and local codes as well coordinate with the MEP contract documents.
12. Fire pump, controller and related work. Wiring of pump and controller to be by the Electrical Contractor.
13. If a water meter is required when the review process and permitting is completed, this contractor shall purchase, pay for, install and coordinate all work with the required authorities.
14. This Contractor to coordinate the need for and compatibility of his system to the emergency generator, supplied by other.
15. Pipe identification and labelling is a requirement of this contract. Valve labels, etc. are required as per the contract documents.
16. Provide fire main from +/- 5 feet outside building including connection in the building. Final connection of your fire line and the line provided by the site contractor shall be the Fire Protection contractors responsibility. Provide a registered plumbing contractor licensed to perform the tie in as part of you base bid.
17. This contractor will flush the UG system with the assistance of the site contractor and provide written documentation to the CM.
18. All cored walls require sleeves and are required to be sealed per contract documents. Any mess from the coring operation shall be immediately cleaned up by this contractor and shall not affect any installed finishes. If this work is not performed efficiently, the work will be performed by the owner and back charged to this contractor.
19. This contractor shall be onsite while walls are being constructed for layout and installation of valve cabinets, concealed, piping, etc.
20. The work of this contract will require out of sequence installations. This should be considered and included in your base bid.
21. This contractor shall provide all access panels required for the work of this contract. They should be lockable, fire rated where required. Panels shall meet the requirements of the contract documents.
22. This contractor shall include within their bid the incorporation of **750 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5.
23. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.

24. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
25. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
26. Provide the necessary coordination with trades to avoid interferences with other work and make corrections at no extra charge.
27. Include within this contracts base bid an allocation of \$20,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-31 – PLUMBING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Division 21	Fire Protection (coordination)
Division 22	Plumbing
Division 23	HVAC (coordination)
Division 26	Electrical (coordination)
Division 32	Site Improvements
Section 312300	Excavation and Backfill for pipelines and Structures
Section 03310	Cast in Place Concrete

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide a complete plumbing and piping system as indicated by the contract documents. All plumbing work/systems are to be fully coordinated with all other MEP trades as well as the other trades involved with the project.
2. This contractor shall provide all pipe insulation, insulation coverings, valve insulation, labelling, and identification of plumbing lines.
3. **This contractor shall provide the pre-fabricated trench drain as indicated on P302 and subsequent plumbing drawings (typical. The plumbing contractor will be responsible to coordinate the drain installation with the concrete contractor for the SOG pours. (Addendum No. 3)**
4. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.
5. Division 26 of the specifications should be reviewed as it relates to the power wiring to trap primers and controls within this contracts scope of work. Coordinate this work with the electrical contractor.
6. Permits, testing, inspections required for the Plumbing system work are to be provided by this contractor. This contractor shall pay all permit and inspection fees for the work of their contract.
7. This Contractor shall be responsible to designate an individual within his organization, intimately familiar with this project and assigned on site, to act as the System Start-up Coordinator. This individual must be pre-approved by the Construction Manager. This individual's responsibilities shall include, but not be limited to, coordinating the start-up of all mechanical equipment, including the coordination between the Electrical Contractor, the Controls Contractor, and all testing, adjusting and balancing work. This individual shall report on a weekly basis, in written form, to the Construction Manager. These reports shall include a summary of current conditions including manufacturers' start-ups, systems' deficiencies noted to date and the remediation of same, coordination issues between trades,

system interfacing and forecasting, as necessary to project the completion of each individual system within the building.

8. Excavation and backfill for underground plumbing work as detailed below is the responsibility of this Contractor. Soil types shall be in accordance with the contract documents Refer Section 312300 for requirements on soils. (Geo-Tech reports included for reference and use)
9. Backfilling is the responsibility of this Contractor. Soil types shall be in accordance with project documents. It is the intent to use on site material and not imported fill. The use of this on site material shall conform with the compaction requirements identified in Section 312300. Excavated materials shall be covered immediately and protected from moisture mitigation. If Materials become unusable, this contractor shall own purchasing #10 stone dust to utilize as backfill in all trench or structure locations. Excess unsuitable materials from plumbing excavations shall be removed from the site by this contractor. (includes water meter pit installation) it is not acceptable for any UG piping to be in the stone layer installed by the concrete contractor, all UG piping must be installed in the subbase with adequate soil coverage.
10. The Concrete Contractor shall furnish, install and maintain stone fill under slab. The Sitework Contractor shall leave the building pad site at subgrade to the required tolerance in the contract documents to receive stone fill. The Plumbing, Mechanical and Electrical contractors shall complete their work under the slab on grade and shall be responsible to return the pad to the subgrade elevation left by the Sitework Contractor. The Concrete Contractor shall then adjust the select material to final subgrade, fine grade the slab and place the vapor barrier and stone fill. Note: while working on the building pad area this contractor shall utilize track drive equipment only. No rubber tire equipment will be allowed. Preservation of the building pad shall be the responsibility of this contractor. The onsite testing and inspection agency provided the owner will monitor the excavation, travel and backfilling operation.
11. The plumbing and concrete contractor and CM will meet to review the building pad for turnover to the next trade. If not accepted correction will need to be made to correct concerns and sign off.
12. Equipment bases and housekeeping pads identified on the structural drawings are to be provided by the BP-C concrete contractor. Any required pads or bases for the scope of this contract not identified on the documents will be provided by this contractor.
13. Permits, testing, inspections required for the Plumbing system work is to be provided by this contractor.
14. Providing of sleeve assemblies for work of this contract that penetrates the foundation wall, interior footings or any concrete footings shall be provided to the masonry and concrete contractor for installation. This contractor shall coordinate and assist with the sleeving install. All sleeves must be provided with the appropriate seals, this contract owns sealing the sleeves related to this contract's work.
15. Pipe insulation, insulation coverings, valve insulation, labelling and identification of plumbing lines shall be provided by this contractor.
16. Valve tags, charts, and labelling shall be part of this contractor's responsibility.
17. **Provide Mop sinks and Receptors as indicated on the contract documents. (Addendum No. 2)**

18. Penetrations through wall, floors, etc. including cutting, patching and fire safing.
19. Testing and balancing shall be provide by a separate contract however the Plumbing contractor shall coordinate and communicate with the testing and balancing contractor for all testing required on the plumbing system.
20. Clean up shall be provided daily, all trash, debris, crates, boxes etc. shall be moved out of the building to the dumpsters each day. No storage of trash will be allowed inside the building or courtyards.
21. All guarantees and warranties to begin at the substantial completion of the entire project. Maintain equipment prior to substantial completion.
22. This contractor shall provide all necessary material handling equipment, cranes, scaffolds, hoisting and rigging equipment and supplies for work associated with this contracts.
23. Coordination with the ATC contractor is required by this contractor.
24. Roof drains, pans, sumps and all related anchoring, support and adjustment elements that are required per the contract documents.
25. This contractor is responsible for providing, setting, bracing, anchoring, and aligning all floor drains, floor basins etc. required by the contract documents. The plumbing contractor shall have a plumber on site 100% of the time when the concrete contractor is pouring S.O.G. floors or elevated slabs. Drains that are misaligned will be demolished, removed, and replaced by this contractor. Including but not limited to replacing and re-engineering floor reinforcement and paying the concrete contractor to re-pour the slab areas.
26. Piping work associated with the emergency generator (including fuel piping, exhaust piping, regulators etc.). Include initial fill up of fuel tanks if Diesel and provide and coordinate the gas piping system is natural gas fueled. The DNREC permit submission will be provided by the Electrical contractor however this contractor must supply any required documentation for the permitting as well as coordinate all work with electrical contractor and other trades.
27. Fuel detection/monitoring system in accordance with local codes.
28. Gas piping, meter and pressure regulator valve. (proper sizing of the regulators is the responsibility of this contractor.) Include anchoring this equipment to the concrete pad provided by the concrete contractor ad anchoring the piping and stand to the exterior wall.
29. Trap priming system, including detailed submittals of the system and then provide as-builts of the location of the rack installations. Photos marked with locations to be provided by this contractor.
30. All utilities will be brought to within +/- 5 feet of the building line by others. The Plumbing Contractor is responsible for connecting the utilities from +/- 5 feet outside the building line and completing the system within the building. This contractor shall own the underground line with the assistance of the site contractor, including any chemical treatment required by NCCo, Artesian or any other regulatory agency. Reports shall be submitted to CM.

31. This contractor will flush the underground with the assistance of site contractor and provide documentation to CM.
32. Provide complete water sterilization, testing and reporting. Include within your proposal (4) additional testing mobilization for potential Phase utilization.
33. Install Owner pre-purchased equipment, if identified within the contract documents.
34. Provide access panels to the drywall contractor for framing information and final installation.
35. This contractor shall be on site to coordinate when walls are being installed for penetrations and sleeve installations. If penetrations and sleeves are missed, this will be the responsibility of this contractor to cover associated costs of fixing.
36. Final connection of kitchen equipment and appliances is the responsibility of this contractor.
37. As-built drawings is both hard copy and BIM submission as part of the project closeout.
38. This contractor shall include within their bid the incorporation of **2500 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5
39. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
40. This contractor must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
41. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
42. Provide the necessary coordination with trades to avoid interferences with other work and make corrections at no extra charge.
43. Include within this contracts base bid an allocation of \$75,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.

CONTRACT NO. D-32 – MECHANICAL PIPING - HVAC

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 089100	Louvers
Division 21	Fire Protection (coordination)
Division 22	Plumbing
Division 23	HVAC
Section 230900	Instrumentation and Controls of HVAC system
Division 26	Electrical (coordination)
Division 28	Electronic Safety and Security (coordination of work)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide a complete mechanical system as indicated on the Drawings and in the Specifications. Coordinate all work with associated trades, Plumbing, Fire Protection, Electrical and Electronic Safety and Security
2. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.
3. This contractor shall include all piping, fittings, and connections required for the installation of the complete HVAC system.
4. **This contract shall provide all Mechanical yard pipe rack steel supports as reference on drawing M315 (typical) the Concrete contract will install the foundation and grout the leveling plates. (Addendum No. 4)**
5. Provide all insulation, wraps, covers etc. for work of this contract. Include all labelling and identification markers as directed by the contract documents.
6. Provide all condensate piping and condensate pumps and installations. Backcheck valves shall be included as part of this contract.
7. Division 16 of the specifications should be reviewed as it relates to the power wiring and other requirements for HVAC equipment including the coordination of furnishing and installing motor starters as provided in the specifications.
8. This Contractor shall be responsible to designate an individual within his organization, intimately familiar with this project and assigned on site, to act as the System Start-up Coordinator. This individual must be pre-approved by the Construction Manager. This individual's responsibilities shall include, but not be limited to, coordinating the start-up of all mechanical equipment, including the coordination

between the Electrical Contractor, the Controls Contractor, and all testing, adjusting and balancing work. This individual shall report on a weekly basis, in written form, to the Construction Manager. These reports shall include a summary of current conditions including manufacturers' start-ups, systems' deficiencies noted to date and the remediation of same, coordination issues between trades, system interfacing and forecasting, as necessary to project the completion of each individual system within the building.

9. The Concrete Contractor shall furnish, install and maintain stone fill under slab. The Sitework Contractor shall leave the building pad site at subgrade as identified per the contract documents in preparation to receive stone fill. The Plumbing, Mechanical and Electrical contractors shall complete their work under the slab on grade and shall be responsible to return the pad to the subgrade elevation left by the Sitework Contractor. The Concrete Contractor shall then adjust the select material to final subgrade, fine grade the slab and place the vapor barrier and stone fill. Note: while working on the building pad area this contractor shall utilize track drive equipment only. No rubber tire equipment will be allowed. Preservation of the building pad shall be the responsibility of this contractor. The onsite testing and inspection agency provided the owner will monitor the excavation, travel and backfilling operation.
10. The HVAC, and concrete contractor and CM will meet to review the building pad for turnover to the next trade. If not accepted correction will need to be made to correct concerns and sign off.
11. Equipment bases and housekeeping pads that are not included in BP-C and identified on the structural documents will be provided by the Misc. Concrete contract. This contract shall provide detailed shop drawings and field layout of the pads/bases for installation by the concrete contractor. Failure to properly coordinate this work will result in the Mechanical contractor installing the pads at no cost to the owner or any other contractor. Any bases or pads related to the scope of this contract, not identified on the drawings will be provided by this contractor (complete installation)
12. Permits, testing, inspections required for the mechanical piping and HVAC work are to be provided by this contractor.
13. Providing of sleeve assemblies for work of this contract that penetrates the foundation wall, interior footings or any concrete footings shall be provided to the masonry and concrete contractor for installation. Provide sealing of all sleeves as required. This contractor shall coordinate and assist with the sleeving install.
14. Pipe insulation, insulation coverings, valve insulation, labelling and identification of mechanical piping, ductwork, shafts, connections to systems etc. shall be provided by this contractor. (all insulation and sealing as it relates to the work of this contract)
15. Valve tags, charts, and labelling shall be part of this contractors responsibility.
16. Penetrations through wall, floors, etc. including cutting, patching and fire safing.
17. Testing and balancing shall be provided by this contract, Coordination of work with other trades is required.
18. Clean up shall be provided daily; all trash, debris, crates, boxes etc. shall be moved out of the building

to the dumpsters each day. No storage of trash will be allowed inside the building or courtyards.

19. All guarantees and warranties begin at the substantial completion of the entire project. Maintain equipment prior to substantial completion.
20. This contractor shall provide all necessary material handling equipment, cranes, scaffolds, hoisting and rigging equipment and supplies for work associated with this contracts.
21. Provide pipe and duct insulation, coverings, wraps, supports and bridging for penetrations through wall, floors, etc. including cutting, patching and fire safing and fire caulking as required.
22. This contractor is responsible to coordinate the work of this contract with the Testing and balancing contractor. Coordination and assistance when the balancing is TAB is being performed is a requirement of this contract.
23. This contract should include man hours for season testing from heating to cooling or vice versa to work with the testing and balancing contractor.
24. Ductwork, flex duct, grilles, diffusers, including detailed layout for the drywall and ceiling contractor shall be provided by this contractor.
25. This contractor shall fully coordinate and verify all louver sizes, mounting details, flashing details, colors with the Carpentry and General Trades contract which will supply and install all louvers.
26. Coordinate damper size, location and type of damper with contract documents, pay special attention to architectural drawings and finish surfaces. Fire dampers are to be included as part of this contractors scope.
27. This contractor shall be on site to coordinate when walls are being installed for penetrations and sleeve installations. If penetrations and sleeves are missed, this will be the responsibility of this contractor to cover associated costs of fixing.
28. Temporary heat and ventilation installation, maintenance and removal. Refer to Division 1, Specification Section 015123 - TEMPORARY HEAT AND VENTILATION, for specific scope. This contractor shall include within the base bid an allocation of \$200,000 for the fuel to power the temporary heating equipment if no other owner supplied source is available.
29. Electric baseboard heat shall furnished and installed by this contractor. Electrical connection by EC.
30. Roof curbs, rails, etc. to be provided and loaded to the roof by this contractor. Layout and installation by this contractor, coordinate with the carpentry contractor for blocking and the roofing contractor for flashing and roofing details. Include any doghouses or raceways for service lines, including coordination of flashing.
31. Provide access panels to the drywall contractor for framing information and final installation.
32. Final connection of kitchen equipment and appliances related to the mechanical piping and HVAC system provided by this contractor. Coordination with other trades (Special Systems, Electrical, Fire

Alarm etc.) for final interconnections of these systems shall be provided by this contractor.

33. This contractor shall provide all required fire dampers, connections and remote controllers for the HVAC system.
34. Provide all VFD's complete for electrical contractor to install.
35. Provide (2) sets of filters for construction use. Include changing out the filters during the construction phase. Additionally include a complete change out of all filters prior to turn over to the owner (these filters shall be separate from the attic stock filters required) Providing a complete filter listing as part of the closeout documents is required.
36. As-built drawings. As-built drawings is both hard copy and BIM submission as part of the project closeout.
37. This contractor shall include within their bid the incorporation of **2000 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5
38. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
39. This contractor must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
40. This is not a secure site. All contractors are responsible for concealing, locking and /or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.
41. Provide the necessary coordination with trades to avoid interferences with other work and make corrections at no extra charge.
42. Include within this contracts base bid an allocation of \$75,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner by means of a credit change order.
43. This contractor shall provide the work of Section 230900 Instrumentation and Controls of HVAC system in its entirety. Coordinate with all other trades as required. Provide all instrumentation, controls, coordination of work, testing as required to provide a complete ATC system for this project. This work shall include but not be limited to instrumentation and controls for: Provide all instrumentation, controls, coordination of work, testing as required to provide a complete ATC system for this project.
44. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.

45. Environmental controls.
46. Ventilation controls.
47. Kitchen Ventilation Controls
48. Carbon Monoxide System Controls
49. Air Flow Monitoring Controls
50. Cooling controls.
51. Humidification controls.
52. Refrigeration controls.
53. Motorized dampers when not specified as part of the factory packaged equipment supplied to job site for distribution and installation by others.
54. Controls air compressor complete with accessories and insulation.
55. Remote reading gauges, transmitters and recorders for automatic temperature controls.
56. Building centralization controls including centralized temperature, humidity, pressure and flow indication and recorders, centralization of air conditioning, heating, ventilation, humidification and refrigeration equipment operation.
57. Smoke hatches and relief vents that are not accessible shall have remote controllers to test and reset units.
58. This contract shall supply control valves per contract documents and drawings.
59. This contractor shall coordinate closely with the Kitchen Equipment contractor for controls to equipment.
60. Coordinate and provide controls required for the emergency generator.
61. Building life safety control and equipment safety control including: operators and controls for motorized smoke dampers, operators and controls for motorized fire dampers, firestats, freeze protection thermostats, shut down safety devices forming part of automatic temperature control.
62. Provide all permits required for the work of this contract, pay all fee's.
63. Inspections as required under this contract scope.
64. Electrical thermostats intended for automatic temperature controls complete with subbases or adapter plates to mount on standard electrical box.

65. Supply only of access doors when specifically required for access to automatic temperature control.
66. Control wiring and/or air piping required for all automatic temperature controls supplied under this contract scope.
67. Wiring for remote thermostats and remote prewired auxiliary control panels for packaged equipment.
68. Boiler feed water control wiring.
69. The magnetic starter coil and relay coils supplied under ~~contract scope 16000~~ **the electrical contract (Addendum No. 4)** and intended for automatic temperature controls, including interlocking between starters and/or relays when controlled automatically.
70. Access panels directly associated with this work if not included by other division.
71. Exclude direct reading temperature and pressure gauges connected directly to non-potable water systems.
72. Exclude motorized dampers when specified as integral part of packaged equipment.
73. Exclude automatic temperature controls when specified as integral part of packaged equipment.
74. Exclude flow measuring and control devices.
75. Exclude direct reading temperature and pressure gauges connected directly to refrigeration systems.
76. Exclude filter gauges directly connected to duct systems.
77. Electrical wiring for thermostats and controls which directly switch the power line to the equipment (directly shall mean not through magnetic coil) is by Division ~~16000~~ **Division 26 (Addendum No. 4)**
78. Power wiring is by Division ~~16000~~ **Division 26 (Addendum No. 4)**
79. Control power supply outlets are by Division ~~16000~~ **Division 26** ~~16000~~ **Division 26 (Addendum No. 4)**
- 80. Exclude fire alarm, fan shut down, relays and wiring Section 16720. (Addendum No. 4)**
81. This contractor shall provide all raceways, conduits, pull strings and boxes required for the complete ATC system.
82. Review Alternate section and provide Alternate #10 to utilize Modern Controls for the work of the scope.
83. Coordinate and work alongside the commissioning team until project is fully accepted. Include multiple trips to the site with testing equipment, ten (10.)

CONTRACT NO. D-33 - TESTING, ADJUSTING, AND BALANCING

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials, and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Division 21	Fire Protection
Division 22	Plumbing
Division 23	HVAC
Section 220500	Common Work Results for Plumbing
Section 230900	Instrumentation and Controls
Section 230950	Testing & Balancing of Mechanical Systems

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide water and air testing and balancing.
2. Contractor shall prepare, at a minimum, a preliminary balance report for the New Castle County Final Inspection.
3. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.
4. Provide pricing for all alternates as described in Section 012300-Alternates.
5. Submissions will be reviewed once, and any resubmittals will be reviewed once. Any other submittals will be billed to the contractor at the Engineers standard rates. Please thoroughly review all submissions prior to forwarding to avoid these costs.
6. Provide complete signed and sealed testing report prior to substantial completion and final inspection as required by New Castle County.
7. This contractor has been allotted 30 days to complete all work and provide final, sealed balancing report by the Construction Manager. This contractor will need to work closely with the Construction Manager and all MEP trades to sequence work so that the completion of the balancing is completed in a manner that does not delay acceptance from New Castle County or owner.
8. Provide a pencil copy for submission to NCCo and have final official report within 30 days of the pencil copy.
9. Provide confirmation of duct testing completed by Mechanical Contractor.
10. This contractor must provide all lifts or scaffold means to access all elements.

11. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
12. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.
13. Provide circulating water system test.
14. Include balancing and testing of all plumbing and heating lines installed to the future field house.
15. This contract should include seasonal testing from heating to cooling, until system has been fully commissioned and accepted.

CONTRACT NO. D-34 - ELECTRICAL, LIGHTING, AND FIRE ALARM SYSTEMS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Division 22	Plumbing (coordination of work)
Division 21	Fire Protection (coordination of work)
Division 23	HVAC (coordination of work)
Division 26	Electrical
Section 111663	Loose Performance Lighting Fixtures (coordinate)
Division 27	Communications
Division 28	Electronic Safety and Security raceways and coordination)
Section 284621	Addressable Fire Alarm Systems (complete)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide a complete electrical system, lighting, addressable fire alarm system and infrastructure for all Division 21, Division 27 and Division 28 as indicated on the contract documents.
2. Provide Transformer and Generator system complete. Include all infrastructure, raceways, duct banks (including all excavation, backfill, identification systems, trace wiring, etc.) This contractor shall be fully responsible for preparing, submitting, paying all fees and coordinating the DNREC required permitting for the Generator. Coordinate with NCCVT as required.
3. Lightning protection shall be provided by this contract and coordinated with the Carpentry contractor and Roofing Installer.
4. This contractor to supply power to all areas of work in of (Addendum No. 3) other trades requiring electrical power.
5. Provide complete infrastructure system for all Division 27 and Division 28 systems. Including all interior and exterior duct banks, raceways and sleeves for special systems.
6. This contractor shall include in the base bid temporary exterior lighting installed and maintained to accommodate a minimum of 3-foot candles to provide lighting adequate for safety and security purposes (Addendum No. 3) for the exterior of the building for the purpose of site security. The lights must be installed to meet the requirements for exterior use and illuminated during low light hours. These lights will be utilized until permanent exterior lighting has been installed and powered. Supplying the temp power for this lighting is part of this contract. Include providing temporary power and lighting as needed for the entire duration of the project. This include the necessary power outlets required for all contractor use. Power must be available within a reasonable distance at all times.
7. Division 23 of the specifications should be reviewed as it relates to the power wiring and other

- requirements for HVAC equipment including the coordination of furnishing and installing motor starters and controllers as detailed in the Specifications and on the Drawings.
8. This contractor shall provide all conduits, raceways and boxes required for thermostat and sensor installation.
 9. The HVAC contractor will supply all VFD's to the electrical contractor for installation and powering.
 10. Provide all smoke damper, power and remote controllers as required by the contract documents.
 11. Excavation and backfill for underground electrical work as required below is the responsibility of this Contractor. Soil types shall be in accordance with project specifications and the Geo-Tech report. Geo-Tech reports included for review and acceptance.
 12. Backfilling is the responsibility of this Contractor. Soil types shall be in accordance with project documents. It is the intent to use on site material and not imported fill. The use of this on site material shall conform to the compaction requirements identified in Section 312300. Excavated materials shall be covered immediately and protected from moisture mitigation. If Materials become unusable, this contractor shall own purchasing acceptable off site materials.
 13. Provide all excavation, layout, concrete, reinforcing for duct banks, light standards, above ground conduit encasement, equipment bases and any other concrete work specifically related to the electrical work. This shall include services from the roadways and all communication duct banks as required. Include requirements of New Castle County, State and local codes for concrete encasement.
 14. All runs in exposed ceilings are to be in conduit.
 15. All exterior underground raceways and infrastructure are to be installed by this contractor as required by the contract documents. (Cameras, security, electric etc.)
 16. Temporary electric installation, maintenance and removal. Refer to Division 1, Specification Section 015113 - TEMPORARY ELECTRIC, for additional information.
 17. This contractor shall provide temporary transformers as required to provide electrical power generation until permanent service is installed by Delmarva power. Include all permits, cabling, switch gear, breakers etc. to provide a complete temporary power system capable of supplying the electrical loads required for the project. This contractor to coordinate and arrange for temporary power from the source, Delmarva Power.
 18. Provide temporary power ~~for meter bank with transformer~~ (Addendum No. 2) including (10) individual electric meters with disconnects for contractors trailers. Coordinate all work with Delmarva Power.
 19. **Power Centers for miscellaneous tools and equipment used in the construction work shall be provided with a minimum of four 20-amp, 120 volt grounding type outlets. Each outlet shall be provided with ground fault detecting circuit breaker protection. The distance between each receptacle location shall not exceed 50 feet. (Addendum No. 3)**

20. **Construction areas, ramps, runways, corridors, offices, shops, and storage areas shall be lighted to not less than the minimum illumination intensities at five (5) foot candles and any additional OSHA Temporary lighting and receptacles exposed to wet or damp locations must be weatherproof. Adequate lighting for safe working conditions and the exterior of the structure shall be provided and maintained on a 24 hour per day basis throughout the building. Voltage of each lighting component must be able to accommodate lighting requirements. (Addendum No. 3)**
21. Rough in and final connection and related work for equipment provided under other contracts (i.e. kitchen, elevators, HVAC, sprinkler, motorized doors, vertical walls, etc.)
22. Provide all permits and inspections. Pay all fees associated with the permits and inspection.
23. Penetrations through walls, floors, etc. including cutting, patching and fire safing.
24. Testing of all systems, as related to the scope of work for this contract shall be provided. Reporting and verification documentation shall be supplied to NCCVT and EDiS.
25. This contractor shall provide all supplemental hangers and fasteners for lighting installation to the building structure.
26. All runs in exposed ceilings shall be installed in conduit.
27. Clean up on a daily basis shall be provided by this contractor. All work areas shall be organized and cleaned up to the dumpsters each day.
28. The Concrete Contractor shall furnish, install and maintain stone fill under slab. The Sitework Contractor shall leave the building pad site at subgrade required by the contract documents in preparation to receive stone fill. The Mechanical and Electrical Contractors shall complete their work under the slab on grade and shall be responsible to return the pad to the subgrade elevation left by the Sitework Contractor. The Concrete Contractor shall then adjust the select material to final subgrade, fine grade the slab and place the vapor barrier and stone fill. Note: while working on the building pad area this contractor shall utilize track drive equipment only. No rubber tire equipment will be allowed. Preservation of the building pad shall be the responsibility of this contractor. The onsite testing and inspection agency provided the owner will monitor the excavation, travel and backfilling operation.
29. The electrical, and concrete contractor and CM will meet to review the building pad for turnover to the next trade. If not accepted correction will need to be made to correct concerns and sign off.
30. Note: all raceways are to be installed into the subgrade soils and shall have adequate cover for protection from traffic above. No raceways will be installed in the stone base provided by the concrete contractor.
31. All guarantees and warranties to begin at the substantial completion of the entire project. Maintain equipment prior to substantial completion.
32. Hoisting, rigging and scaffolding required to perform your scope of work shall be provided by this contractor.

- ~~33. Provide all primary service work, including all utility company related costs/fees for this work. Coordination with the utility company is the responsibility of this contractor. This contract shall provide coordination with Delmarva power for the Primary electrical service which the owner will apply for and pay the associated Delmarva fees. Delmarva will run the power from the pole to the transformer and this contractor shall be responsible for the work from the transformer to the building and throughout. (Addendum No. 3)~~
34. Provide a complete fire alarm system. Water flow devices are supplied and installed by the Sprinkler Contractor and wired by this Contractor. Include tie-in to fire sprinkler flow and tamper switch. (fire dampers, smoke detectors, remote testing switches are all part of this contract)
35. Provide all heat tracing and insulation systems as required.
36. Coordinate closely with the work of the Special Systems contractor. This contract (electrical) provides all infrastructure, conduit and raceways required for the Special Systems work. Provide pull strings and boxes for all systems. (voice, data, communication, fire alarm, AV systems, Audio systems, and public address system, clock system etc.) Include all required sleeving, sealing and fire sealing for raceways and conduits through walls, floors, ceilings etc. for this work.
37. This contract shall provide and install wire mesh cable tray for low voltage distribution as shown on documents and specified. Cable tray shall be installed 3" above drop ceilings and have 3" clear above the top rim for access.
38. This contractor shall provide and install 4' conduits as shown for low voltage distribution.
39. This contractor shall provide and install 2' conduits into each space above the ceiling for low voltage distribution.
40. Coordinate, review and fully understand and integrate all cable tray, raceways and infrastructure interior or exterior that may be indicated on all contract documents including the T series drawings.
41. Lightning protection with master UL certification. Coordinate with the Carpentry and Roofing contractors.
42. Coordinate and provide a complete grounding system for the entire project. This includes but is not limited to the building columns, interior spaces, exterior wall assemblies, Electrical rooms, IDF and IDF rooms) and provide any testing and reports required.
43. As-built drawings in both hard copy, electronic and final BIM modelling per contract documents.
44. Provide rough-in and final connection and related work for equipment provided under other contracts (i.e. kitchen, elevators, HVAC, sprinkler, motorized doors, etc.). Provide power to automatic hardware. Low voltage wiring from the controller to hardware shall be provided by the Doors, Frames and Hardware Contractor. Include power panels and power supplies supplied by other trades.
45. Provide complete infrastructure for audio and audiovisual systems.
46. Provide rough-in and final connection of kitchen equipment and appliances. Refer to Specification

Section 11400 Food Service Equipment for specifics. Coordinate power/plug requirements with rough in for equipment with the Kitchen Equipment Contractor.

47. Section 116163 Loose Performance Lighting shall be provided by the Stage Rigging contractor as follows; stage lighting systems including fixtures, controls, light grids, supports and attachments shall be provided. This contract (electrical) shall provide all power and power connections to the Loose Performance lighting. All other lighting in the Auditorium shall be supplied and installed by the electrical contractor. Coordination of work between trades is tis contractors responsibility.
48. This contractor shall include within their bid the incorporation of **2500 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5
49. Perform certification testing for all wiring and systems supplied by this contract scope.
50. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
51. Provide access doors and frames for all access to Structured Cable components or equipment that require routine or periodic maintenance. Installation of access doors and frames provided by the Metal Stud & Drywall Contractor. **(provide (75) 2'x2' access panels within your base proposal)** **(Addendum No. 3)**
52. Include within this contracts base bid an allocation of \$75,000 for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-35 - SPECIAL SYSTEMS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Division 26	Electrical (coordination of work)
Section 078400	Firestopping
Section 079200	Joint Sealants
Section 270500	Telecommunications Pathways and Spaces
Section 271000	Structured Cabling
Section 272000	Network Equipment
Section 274000	Classroom and Conference Room AV Equipment
Section 274100	Specialized AV Systems
Section 274117	Audio Video Systems
Section 275000	Public Address and Clock
Section 280501	Security Pathways and Spaces
Section 281000	Intrusion Detection System
Section 281100	Access Control System
Section 282000	Video Surveillance System
Section 283112	Public Safety – First Responder Radio Amplification System (Addendum No. 3)

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide a complete Special Syatem package as to include but not limited to, structured cabling, network equipment, AV systems, public address and clock system, intrusion detection, access controls, video surveillance and ~~radio amplification system~~. **This section 283112 is removed from Contract D-35.**
(Addendum No. 3)
2. Provide wireless clock system including all equipment, cable, and accessories.
3. Telephone and voicemail system including telephone handsets and patch cables from device to jack will be provided by owner.
4. Provide intercom/public address system. Structured Cable Contractor will provide all network cabling including wiring, devices, and terminations at the source (MDF/IDF patch panel) and at the communication port (jack).
5. Provide complete cafeteria and Auditorium sound reinforcement audio/visual system. Projectors and mounts provided by the owner and installed by the Electrical Contractor.
6. The electrical contractor shall provide and install the fire alarm system, this contractor (Special Systems) will wire fire alarm terminations, and programming of electrified hold open hardware. Low

voltage power to electrified hold open hardware provided by this contract. Hold open hardware provided by Carpentry and General Work Contractor.

7. Provide complete intrusion system.
8. Provide access control and security management system complete. Provide coordination with door and frame installation for a complete system. The contractor responsible for supplying the doors, frames, and hardware shall provide all wiring and accessories from the power supply (or junction box) to the door hardware. The contractor responsible for installation of doors and hardware shall provide terminations from door hardware to door whip, from door whip to power transfer, and from frame whip to power transfer. Frame whip shall be secured and protected by the door, frame, and hardware contractor(s) for the direct access of the Special Systems Contractor. Termination of the frame whip to the power supply (or junction box) shall be provided by the Special Systems Contractor. Power supply shall be furnished by the door, frame, and hardware contractor(s) and installed by the Special Systems Contractor. The Special Systems Contractor shall provide low-voltage wire from the card reader to the access controller, from the status switch (door contact) to the access controller, from access controller to the power supply(or junction box), and from power supply (or junction box) to power supply (or junction box) as necessary. The Electrical Contractor is responsible for providing 120v circuits to all power supplies and/or transformers as indicated in the documents. The Electrical Contractor shall provide conduits, device boxes, raceways, and pull strings for low-voltage wiring at doors receiving electronic, security, or access control hardware. Electrical contractor shall provide a junction box above each door scheduled to receive a card reader and a pathway & pull string. A mock-up shall be field installed and coordinated by all related Contractors for review prior to commencing work.
9. Provide a complete CCTV - Network Digital Video Management System. Owner shall provide server.
10. Provide all patch cords from communication port (jack) to each device included in this Contractor's scope. Patch cords at source (MDF/IDF) from patch panel to network switch provided by owner.
11. Provide all patch cords for switches.
12. Supply and install any fiber lines need for a complete installation including terminations.
13. Provide all testing of all installations.
14. Provide and install the racks, switches, uninterrupted power supplies etc. for a complete installation.
15. Coordinate all WAP's as per the specifications if supplied by the owner, install if not supplied provide and install under this contract.
16. This contractor shall own all notes as per the T series drawings unless note otherwise in the scope of this contract or the electrical contract. This includes but is not limited to the following series of notes. Note 6- Audio and Videa Systems, Note 7- Classroom/Conference Room AV Systems, Note 8-Demo Camera System and Note 9- Data Drop Allowance. These systems shall be provide as complete without any qualifications.
17. Provide coordination of the work of this contract with the Electrical including final equipment locations.

This contractor must coordinate with Electrical Contractor as indicated on the drawings and as specified. The Electrical Contractor shall provide all device boxes, conduit and pull strings to circuits for special systems as indicated and also to provide 120 Volt circuits for all Special Systems. This Contractor will be responsible for providing independent support systems, as indicated in the specifications, for all cable and wiring installed by this Contractor in locations where pathways and raceways are not required by the documents. All runs of cable/low voltage in open areas shall be installed in conduit. If raceways are required for the scope of this contract and they are not identified, this contractor shall provide.

18. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.
19. This contractor shall be on site to coordinate when walls are being installed for penetrations and sleeve installations. If penetrations and sleeves are missed, this will be the responsibility of this contractor to cover associated costs of fixing.
20. Interactive screens/displays and mounting brackets will be supplied by Owner and mounted by the Carpentry & General Works Contractor. The Carpentry and General Works Contractor will coordinate blocking with mounting hardware and install all necessary clips and blocking to the wall for hanging. Audio/visual interface and/or controls by Special Systems Contractor.
21. Hardware for permanent exterior gates will be provided by the other trades. Access control hardware/software and fire alarm integrations of gate hardware, including terminations, cabling, etc. will be provided by this contractor. The Electrical Contractors shall provide all pathways & electrical requirements to support installation.
22. Provide access doors and frames for all access to Special Systems components or equipment that require routine or periodic maintenance. Installation of access doors and frames provided by the Metal Stud & Drywall Contractor.
23. Provide all network cabling including wiring, devices, and terminations to communication devices identified in plans and referenced on "Communications Outlet Configuration" chart on Drawing E-501. Two (2) terminations should be provided (1) at the source (MDF/IDF patch panel) and (1) at the communication port (jack) in all instances.
24. This contract shall provide communication wiring from the (3) access control panels to the source (MDF/IDF patch panel) including terminations on both ends. Location of access control panels to be coordinated with the documents and the Construction Manager prior to installation.
25. This contractor shall provide communication wiring from the intrusion control headend to the source (MDF/IDF patch panel) including terminations on both ends. This communication wiring shall include (1) dedicated POTS line from the MDF room to the intrusion control dialer. Location of intrusion control headend to be coordinated with the documents and Construction Manager prior to installation.
26. This contractor shall provide communication wiring from the Fire Alarm Control Panel (FACP) to the source (MDF/IDF patch panel) including terminations on both ends. This communication wiring shall include (2) dedicated POTS line from the MDF room to the FACP dialer(s). Location of FACP to be coordinated with the documents and the Construction Manager prior to installation.

27. This contractor shall supply communication wiring from the intercom/public address amplifiers to the source (MDF/IDF patch panel) including terminations on both ends. Location of amplifiers to be coordinated with the documents and the Construction Manager prior to installation. Contractor should assume (3) amplifiers, one located in each MDF/IDF.
28. This contractor shall provide communication wiring from the Building Management System headend to the source (MDF/IDF patch panel). Location of Building Management System headend to be coordinated with the documents, the Mechanical Contractor, and the Construction Manager prior to installation.
29. This contractor will install all network cable within the kitchen and kitchen hood identified on the Kitchen Equipment Drawings. Final location of network drops to be coordinated with the documents, the Kitchen Equipment Contractor, and the Construction Manager prior to installation.
30. This contractor will install communication wiring from the food management systems to the POS devices, menu display boards, and temperature monitoring systems, including terminations on both ends. Final location of the food management systems to be coordinated with the documents and the Construction Manager prior to installation.
31. Provide installation for all wireless access points furnished by owner. Patch cords from device to communication port (jack) provided by this Contractor.
32. Provide penetrations through walls, floors, etc., including cutting, patching and fire safing.
33. Provide all design and coordination necessary to provide complete systems.
34. Provide and coordinate for inspections and testing.
35. Provide fire resistive sealants for the work of this contract.
36. Provide pricing for all alternates as described in Section 012300-Alternates.
37. Provide video documentation of training on systems.
38. Provide at least a 48 hour notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
39. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.
40. This contractor must provide a silica exposure plan that meets or exceeds the new 2017 silica OSHA requirements before any work can commence. At a minimum, it must be incorporated into the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
41. Contractor must provide additional crews as needed to maintain the project schedule.

42. This contractor shall include within their bid the incorporation of **1200 hours of COOP participation** by a NCCVT student. Contractor to comply with project documents and requirements set forth in 19 del. C.ch.5
43. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
44. This contractor must provide a silica exposure plan that meets or exceeds the new 2017silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
45. Include within this contracts base bid an allocation of ~~\$30,000~~ **\$20,000 (Addendum No. 2)** for work to be determined by owner and construction manager. Unused allocation funds to be returned to the owner.

CONTRACT NO. D-36 - VERTICAL RETRACTABLE WALLS

- A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

Technical Specification sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Section 055000	Metal Fabrications
Section 079200	Joint Sealants
Section 102239	Vertically Retractable Walls
Division 26	Electrical

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide labor and materials to perform all work associated with the Vertically Retractable Walls System to provide a complete operating wall system.
2. **Provide Vertically Retractable Walls coordinate any structural requirements with the structural steel and carpentry contractors. Provide all supplementary steel as needed to hang partitions from structural support steel, provided by the Structural Steel Contractor. It is assumed, no additional steel will be required below structural support steel. If so, it will be provided by this contractor. (Addendum No. 4)**
3. Provide coordinated shop drawings that reflect all structural requirements with the structural steel, metal studs, ceilings, electrical power, lighting and communication systems, etc.
4. This contract includes all Division 0 and Division 1 General Requirements. All commissioning requirements are identified in Division 1 and are a requirement of this contract.
5. Provide all trim components, hardware, hinges, and operators for electrical units, appropriate finishes, sensors, key switches and pocket doors for concealing doors when not in use.
6. Coordinate any structural requirements with the structural steel and carpentry contractors. Provide all supplementary steel as needed to hang partitions from structural support steel, provided by the Structural Steel Contractor. It is assumed, no additional steel will be required below structural support steel. If so, it will be provided by this contractor.
7. Electrical connections will be provided by Electrical Contractor. This contractor shall provide assistance to Electrical Contractor for coordination and installation of necessary connections. Low voltage wiring for devices, controls, raceways, boxes etc. to be provide by this contractor (not electrical contract)

8. Provide any required signage for safe operations.
9. Provide attic stock, warranty and demonstrations for all materials and types of panels.
10. Provide specified testing, adjusting, warranty and training demonstrations on the operation.
11. Provide (3) additional sets of keys for switch operating controls over and above the number of sets required by specifications.
12. Provide data and submittal information related to the Scope of this Contract signed and sealed by a Professional Engineer as required by the Contract Documents, including but not limited to delegated design requirements.
13. Provide all low voltage wiring, motors motor transformers and final connections to allow for a complete operating system. Electrical contractor shall supply the line voltage power connection. Include all raceways and boxes for your work.
14. Provide all BIM services as specified in Section 013700 BIM Execution Plan. As part of the coordination process all contractors are responsible for obtaining a Revizto license. The cost of this license is \$1,200 and shall be included in your base bid proposal.
15. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. EDiS will not be responsible for any lost tools, materials or equipment.

CONTRACT NO. D-37 - MISCELLANEOUS CONCRETE AND GROUTING

A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

- Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Division 03	Concrete
Section 033000	Concrete
Division 07	Thermal and Moisture Protection
Section 072100	Thermal Insulation
Section 072600	Under-Slab Vapor Barrier
Section 312300	Excavation and Backfill for pipeline and structures
Section 321313	Concrete Paving

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide Misc. concrete items and grouting as described in the Scope of Work and defined on the contract documents. Include all preparations and excavation, backfill, stone subbase, forms, and reinforcing required. (Addendum No. 4)
- Provide footings and concrete piers as show on drawings A560-A565, include footings for dumpster pad. (Addendum No. 4)
- Provide concrete locker bases as indicated in the contract documents. (Addendum No. 4)
- Provide the electrical, mechanical and plumbing concrete pads as indicated on the contract documents. (Structural foundations and pads shown on Struct. Drawings excluded) (Addendum No. 4)
- Provide all concrete slab on grade at the interior courtyard areas. (Addendum No. 4)
- Provide all poured foundations for block walls, poured concrete walls at all areas outside of the main building foot print. (Addendum No. 4)
- Provide all concrete excavation, footings and backfill as required for the masonry walls at the child care and playground areas. (Addendum No. 4)
- MEP Housekeeping Pads throughout, drawings M301, M308, P301, P315, P316 for typical pads. (Addendum No. 4)
- MEP Exterior equipment pads reference drawing M310 detail 4 (typical) (Addendum No. 4)
- Mechanical yard pipe rack supports foundations referenced on drawing M315 (typical) (Addendum No. 4)
- Anchor bolts and leveling plates will be supplied by the Misc. Metals contractor. (Addendum No. 4)
- Fire Protection pump and equipment housekeeping pads as shown on Drawing F301 (Addendum No. 4)
- Water treatment/expansion tank pad in mechanical room E110 – D-32 (Addendum No. 4)
- CA-02 Pad in Mechanical equipment room D212 – D31 (Addendum No. 4)
- Dental air and vac pad Mechanical equipment room C 201B – D31 (Addendum No. 4)
- Two fuel storage tanks w/Dikes exterior pad – D31 (Addendum No. 4)

2. This Contractor will be responsible for laying out all concrete work for this contract course of work.
3. This Contractor to furnish and install reinforcing steel, admixtures, curing compound, sealers, accessories, bolsters, ties and braces as required in the Contract Documents and for the performance of **the work of this contract. (Addendum No. 4)**
4. All work of this contract shall be considered "out of sequence" as such the contractor shall price each element of work as a mobilization and if required "short load" concrete delivery.
5. This contractor is responsible to provide material handling equipment, concrete pumps, etc. for work of this contract. NCCVT and EDiS will not be responsible for any additional material handling costs above the base bid proposal.
6. Provide sealants/caulking as required at grouted freezer and cooler box floors. Caulk all edges where grout seals to box floor panels.
7. This contractor shall provide installation of sleeves required for MEP lines, under footings, below frost walls, under thickened slabs as related to this contractors course of work. This includes all excavation and backfill required for these installations. (sleeves will be supplied by the contractor installing the services, future BP-D) Coordinate with Arch and MEP documents for extent of this work.
8. Provide grouting of floor expansion joints once they are set and adjusted by installing contractors.
9. Grouting of all elevator sill angles will be the responsibility of this contractor.
10. **Grouting of all base plates for Mechanical pipe support racks will be the responsibility of this contractor. (Addendum No. 4)**
11. Provide all door stoops, pads, entrance/exit concrete complete as provided for **on** the Architectural and MEP drawings. (if the concrete is shown on the structural drawings it shall be part of Contract C-01 Concrete and Reinforcing **unless identified elsewhere in the SOW, pre-Bid RFI log or Clarifications by Addendum.) (Addendum No. 4)** This will be out of sequence work, contractor to include (5) re-mobilization to perform work out of sequence, this shall include premium costs for short load concrete pours as well.
12. Underslab vapor barrier, insulation, reglets, waterstops, control and construction joints. (Caulking by Joint and Sealants Contractor)
13. Provide foundation wall insulation and insulation under slabs. Include backfill of all foundation walls as detailed. Stone under slab to be provided by this contractor. Include re-dressing the stone after the MEP contractors have installed their UG work. As related to the work detailed for this contract.
14. Placement of related items furnished under other Specification Sections.
15. Anchor bolt assemblies to be placed with templates only.
16. All blockouts and embedment's required by plans and specifications.

17. This Contractor is responsible for grouting all structural steel base or leveling plates and elevator sill angles. As defined by the scope of this contract.
18. Include all weather, frost protection, and water pumping as required. This Contractor is also responsible for the premiums required for hot water, heated aggregate and admixtures for cold weather concrete.
19. Provide dewatering as it relates to the work of this contract.
20. All concrete testing will be completed by the Construction Manager, however, it will be the responsibility of this Contractor to furnish all samples.
21. This contractor shall include an allowance amount of \$15,000 within the base bid for work to be identified by NCCVT and the CM. All unused portions of this allocation to be returned to the owner by means of a credit change order.
22. Provide all grout infill **inside the (Addendum No. 2)** walk-in freezers and refrigerators after freezers and refrigerators have been set in place. **Also grout the space between the freezers and refrigerator and the surrounding concrete. (Addendum No. 2)** Coordinate requirements with the architectural drawings for BP-D and technical specifications.
23. This contractor owns coordinating all slab depressions identified on the documents with the products, flooring, insulation etc. shop drawings and layout drawings for each material that will be installed in the recess. A pre-install meeting will be held to review this information before each depressed pour.
24. Provide all means of transporting concrete including, but not limited to: pump trucks, cranes, ramps, chutes, buggies.
25. Provide at least 48 hours' notice prior to any delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
26. Provide and maintain a DNREC approved concrete dumpster for washout required by the scope of this contracts work.
27. This is not a secure site. All contractors are responsible for concealing, locking and/or removing any materials on a daily basis. NCCVT and EDiS will not be responsible for any lost tools, materials or equipment.
28. This contractor must provide a silica exposure plan that meets or exceeds the silica OSHA requirements before any work can commence. At a minimum, it must be implemented in to the company safety plan, include all monitoring, testing, limits exposure, provide respiratory plan and/or equipment modifications such as adding water to equipment during exposed work and keep records of exposure.
29. Provide daily fine cleanup of the work is the responsibility of each individual Contractor which includes broom cleaning of their debris as required. Daily Fine clean up, on a daily basis, shall be defined as those means/methods utilized to perform the daily cleaning tasks without producing dust, noise and stacking of stored materials. Furnish fine clean up on a daily basis. All debris must be removed from the work area at the end of each work day to the appropriate dumpster. Cleaning of roadways shall be included

and performed daily while this contractor is on site performing work of this contract.

30. All materials excavated for installation of footings and foundations shall immediately be protected with appropriate moisture protection.
31. BIM coordination is “not” part of this contract scope.

END OF SECTION

SECTION 012300 - ALTERNATES

1. GENERAL PROVISIONS

- A. The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary and other conditions, if any) and Division 1 as appropriate, apply to the Work specified in this Section.
- B. Refer to provisions in AIA Document A232 – 2019 Edition, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, CONSTRUCTION MANAGER AS ADVISOR EDITION, for requirements in addition to those specified in Division 1.
- C. For work being constructed under separate prime contracts, provisions of this Section apply to each contract being bid.

2. BASE BID

- A. The Base Bid shall consist of all Work shown or specified in the Contract Documents, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids (if any are required to be stated in the bid).
- B. The Base Bid shall include all work in any Subtractive Alternates specified herein.

3. ALTERNATES

- A. State in the Bid Form, where applicable, the amount to be added to or deducted from the amount of the Base Bid for each Alternate specified.
- B. See Section 002113 - INSTRUCTIONS TO BIDDERS for related information.
- C. The description of Alternates contained herein is in summary form. Detailed requirements for materials and execution shall be as specified in other sections and as shown on drawings.

Alternate No. 3: Add exterior shell of future tech and shop expansion.

Base Bid: No future tech and shop expansion.

Alternate: Provide exterior shell of future tech and shop expansion.

Alternate No. 4A: Flooring – Floor Finishes

Base Bid: No terrazzo provided.

Alternate: Provide terrazzo and base in the following spaces: Lobby A102, Lobby E101, and Dining E103.

Delete quartz tile and resilient base in the following spaces: Lobby A102, Lobby E101, and Dining E103.

- 1. Floor pattern to match Base Bid design. Refer to terrazzo floor designations in the finish schedule for color selections.
- 2. Refer to Drawings for floor pattern design.

3. See Section 06 66 23 for more information.

Alternate No. 4B: Flooring – Floor Finishes

Base Bid: No terrazzo provided.

Alternate: Provide terrazzo and base in the following spaces: Corridors A100, B100A, C100B, C100A, D100A, D100B, and Lobby D117.

Delete Quartz tile and resilient base in the following spaces: Corridors A100, B100A, C100B, C100A, D100A, D100B, and Lobby D117.

1. Floor pattern to match Base Bid design. Refer to terrazzo floor designations in the finish schedule for color selections.
2. Refer to Drawings for floor pattern design.
3. See Section 09 66 23 for more information.

Alternate No. 5: Sprayed Acoustical Insulation

Base Bid: No Sprayed Acoustical Insulation in rooms: Masonry Shop D114, Electrical Shop D110, Plumbing Shop D116, Carpentry Shop C101, Industrial Millwright C118, Auto Body Shop C120, Shared Bay C122, Auto Tech Shop C124, Mechanical Equipment Rooms D212, D214B, C201A, C201B, C220, C224B, and Mechanical Mezzanine C224A.

Alternate: Provide Sprayed Acoustical Insulation in rooms above.

Alternate No. 6: Door Access Control

Base Bid: Provide manual lock sets and hardware per schedule.

Alternate: ~~Provide 380 Salto wireless handle sets in lieu of manual locksets.~~ **Provide Salto wireless handle sets in lieu of manual locksets refer to interior door schedule Drawing A601 and A602 for locations.**

Alternate No. 7: Monument stair #5

Base Bid: No monument stair #5.

Alternate: Provide monument stair #5 complete

Alternate No. 8: Vertically retractable partition

Base Bid: No vertically retractable partition required at MP1 & MP2.

Alternate: Provide vertically retractable partition between room MP1 & MP2

Alternate No. 9: Exterior Watertable

Base Bid: Provide split face CMU at Watertable. No ground face CMU at watertable

Alternate: Provide ground Face CMU at exterior watertable

Alternate No. 10: ATC system by Modern Control.

Base Bid: Provide ATC system and integration by any listed ATC system vendor.

Alternate: Provide additional costs, if any, to provide ATC system by Modern Controls.

Alternate No. 11: Freeze Protection Pumps

Base Bid: Do not provide freeze protection pumps listed here (FPP-1-32, 34, 35, 37, 38, 40, 42, 44, 46, 49-61) All other freeze protection pumps shall be included in the base bid.

Alternate: Provide freeze protection pumps listed here including all associated piping, valves, insulation, supports, power and controls. (FPP-1-32, 34, 35, 37, 38, 40, 42, 44, 46, 49-61)

Alternate No. 12: Rotary Screw Compressor Systems

Base Bid: No rotary screw compressors and tanks for all shop compressed air systems. Provide reciprocating type as per plans and specs.

Alternate: Provide rotary screw compressors and tanks for all shop compressed air systems.

Alternate No. 13: Lightning protection system

Base Bid: No lightning protection system

Alternate: Provide lightning protection system.

Alternate No. 14: Fire Alarm System by Simplex

Base Bid: Provide fire alarm system and integration by any listed fire alarm system vendor/manufacturer.

Alternate: Provide additional costs, if any, for fire alarm system by Simplex.

Alternate No. 15A: Composite Metal Panels – Custom Colors

Base Bid: No custom colors for exterior composite metal panels - window brows.

Alternate: Provide custom color for window brows.

Alternate No. 15B: Composite Metal Panels – Custom Colors

Base Bid: No custom colors for exterior composite metal panels - main canopies.

Alternate: Provide custom color for main canopies.

Alternate No. 15C: Composite Metal Panels – Custom Colors

Base Bid: No custom colors for exterior composite metal panels - accent wall/exterior column wraps.

Alternate: Provide custom color for accent wall/exterior column wraps.

Alternate No. 16: ACT Ceilings - Tile

Base Bid: Provide ACT-1 (2' x 2" square lay-in acoustical ceiling tile) where indicated.

Alternate: Provide 2' x 2' beveled tegular acoustical ceiling tile in lieu of 2' x 2' square lay-in where ACT -1 is indicated.

END OF SECTION

SECTION 04 43 16
STONE FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fabricated granite items.
- B. Metal anchors and supports.

1.02 REFERENCE STANDARDS

- A. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2023a.
- B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2023.
- C. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2019a, with Editorial Revision.
- D. ASTM C615/C615M - Standard Specification for Granite Dimension Stone; 2018, with Editorial Revision.
- E. NBGQA (SPEC) - Specifications for Architectural Granite; Version 14-1, 2014.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on each stone type, mortar products, and sealant products.
- C. Shop Drawings: Indicate fabrication details, layout, pertinent dimensions, anchorages, and jointing methods.
- D. Samples: Submit two stone samples 12 by 12 inches in size, indicating color range and texture, markings, surface finish.
- E. Stone fabricator's qualification statement.
- F. Installer's qualification statement.

1.04 QUALITY ASSURANCE

- A. Granite: Perform work in accordance with NBGQA (SPEC).

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store stone on planks, pallets, or timbers, clear of soil and soil splash.
- B. Protect stone from discoloration.

PART 2 PRODUCTS

2.01 FABRICATED ITEMS

- A. Exterior Column Bases: Granite
 - 1. Size, Shape, and Configuration: As indicated on drawings.

2.02 STONE

- A. Granite; complying with ASTM C615/C615M.
 - 1. Grade: Class I Engineering Grade.
 - 2. Basis of Design:
 - a. Cold Spring Granite Company; Academy Black, Diamond 8 Finish:
www.coldspringusa.com
 - 3. Additional Granite Manufacturers:
 - a. Color & Finish shall be equivalent to basis of design manufacturer:
 - 1) Champlain Stone, Ltd: www.champlainstone.com/#sle.

2) North Carolina Granite Corporation: www.ncgranite.com/#sle.

b. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 MORTAR

- A. Mortar: ASTM C270, Type N, Proportion specification, using Portland cement of white color.
- B. Color: To be selected from manufacturer full range.

2.04 ANCHORS AND ACCESSORIES

- A. Anchors and Other Components in Contact with Stone: Stainless steel, ASTM A666 Type 304.
 - 1. Sizes and configurations: As required for vertical and horizontal support of stone and applicable loads.
 - 2. Wire ties are not permitted.
- B. Support Components not in Contact with Stone: Stainless steel, ASTM A240/A240M Type 304.
- C. Setting Buttons and Shims: Lead type.

2.05 STONE FABRICATION

- A. Fabricate stone elements in sizes and shapes as necessary and in compliance with requirements indicated on drawings and in specifications.
- B. Finish exposed faces and edges of stones in compliance with indicated requirements for finish under each type and application of stone required and to match approved samples.
- C. Fabricate units for uniform coloration between adjacent units and over the full area of the installation.
- D. Inspect finished stone units at fabrication plant for compliance with requirements for appearance, material, and fabrication. Replace defective units.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that support work and site conditions are ready to receive work of this section.
- B. Verify that built-in items are properly located and sized.

3.02 INSTALLATION

- A. Set stone with a consistent joint width of 3/8 inch (9 mm).

3.03 CUTTING AND FITTING

- A. Obtain approval prior to cutting or fitting any item not so indicated on drawings.
- B. Do not impair appearance or strength of stone work by cutting.

3.04 CLEANING

- A. Remove excess joint material upon completion of work.
- B. Clean soiled surfaces with cleaning solution.
- C. Use nonmetallic tools in cleaning operations.

END OF SECTION 04 43 16

SECTION 05 50 00 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Division 01, Section 017419 – Construction Waste Management.

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel framing and supports for countertops.
 - 2. Steel framing and supports for mechanical and electrical equipment.
 - 3. Steel framing and supports for applications where framing and supports are not specified in other Sections.
 - 4. Loose bearing and leveling plates for applications where they are not specified in other Sections.
 - 5. Metal Ladders & Ladder Safety Cages
 - 6. Metal Downspout Boots
 - 7. Metal Bollards
 - 8. Wire Mesh Wall Panel
- B. Products furnished, but not installed, under this Section:
 - 1. Loose steel lintels.
 - 2. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
 - 3. Steel weld plates and angles for casting into concrete for applications where they are not specified in other Sections.
- C. Related Sections:
 - 1. Division 03 Section "Cast-in-Place Concrete" and "Architectural Concrete" for installing anchor bolts, steel pipe sleeves, slotted-channel inserts, wedge-type inserts, and other items cast into concrete.
 - 2. Division 04 Section "Unit Masonry" for installing loose lintels, anchor bolts, and other items built into unit masonry.
 - 3. Division 05 Section "Structural Steel Framing."
 - 4. Division 05 Section "Pipe and Tube Railings."

1.3 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design ladders, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
 - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- C. Structural Performance of Aluminum Ladders: Aluminum ladders, including landings, shall withstand the effects of loads and stresses within limits and under conditions specified in ANSI A14.3.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Paint products.
 - 2. Grout.
 - 3. Ladders
 - 4. Bollards
 - 5. Downspout Boots
 - 6. Mesh Wall Panels
- B. Shop Drawings: Show fabrication and installation details for metal fabrications, including (but not limited to) ladders, bollards, steel framing and supports, etc.
 - 1. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.
 - 2. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
- C. Shop drawings: dimensioned and scaled (min. $\frac{1}{4}"=1'-0"$) plan and elevations of metal mesh wall panels and installation details (min. $\frac{1}{2}"=1'-0"$)
- D. Samples for Verification: For metal bollards, metal ladders, and downspout boots, metal mesh.
- E. Delegated-Design Submittal: For installed products (including metal ladders) indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- F. Qualification Data: For qualified professional engineer.
- G. Mill Certificates: Signed by manufacturers of stainless-steel certifying that products furnished comply with requirements.
- H. Welding certificates.

- I. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
 - 3. AWS D1.6, "Structural Welding Code - Stainless Steel."

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

1.7 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages and steel weld plates and angles for casting into concrete. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

2.2 Metal Mesh Panels: Basis of Design McNichol's 4800121848 - 48" x 96"

- 1. Products by other manufacturers meeting the basis of design specifications and design intent are acceptable.
 - a. Expanded Metal, Standard, Stainless Steel, Type 304, Mill Finish, 1/2" No. 16 Standard (Raised), 0.480" Short Way of Design (SWD), 1.200" Long Way of Design (LWD), Long Way of Opening (LWO) Parallel to Length of Sheet, 69% Open Area

- b. Edging: U-Edging, Stainless Steel, Type 304, Mill Finish, 14 Gauge (.0750" Thick), Type 402 U-Edging (1/8" Opening x 1" Width). McNichols 4080140210 or equal by other manufacturers meeting the basis of design specifications and design intent.

2.3 FERROUS METALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Stainless-Steel Sheet, Strip, and Plate: ASTM A 240/A 240M or ASTM A 666, Type 304.
- C. Rolled-Steel Floor Plate: ASTM A 786/A 786M, rolled from plate complying with ASTM A 36/A 36M or ASTM A 283/A 283M, Grade C or D.
- D. Rolled-Stainless-Steel Floor Plate: ASTM A 793.
- E. Abrasive-Surface Floor Plate: Steel plate with abrasive granules rolled into surface or with abrasive material metallurgically bonded to steel.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. IKG Industries, a division of Harsco Corporation; Mebac.
 - b. SlipNOT Metal Safety Flooring, a W. S. Molnar company; SlipNOT.
 - c. Approved equal.
- F. Steel Tubing: ASTM A 500, cold-formed steel tubing.
- G. Steel Pipe: ASTM A 53/A 53M, standard weight (Schedule 40) unless otherwise indicated.
- H. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.
 - 1. Size of Channels: 1-5/8 by 1-5/8 inches (41 by 41 mm).
 - 2. Material: Galvanized steel, ASTM A 653/A 653M, commercial steel, Type B, with G90 (Z275) coating; 0.108-inch (2.8-mm) nominal thickness.
- I. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

2.4 NONFERROUS METALS

- A. Aluminum Plate and Sheet: ASTM B 209 (ASTM B 209M), Alloy 6061-T6.
- B. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), Alloy 6063-T6.
- C. Aluminum-Alloy Rolled Tread Plate: ASTM B 632/B 632M, Alloy 6061-T6.
- D. Aluminum Castings: ASTM B 26/B 26M, Alloy 443.0-F.

- E. Bronze Plate, Sheet, Strip, and Bars: ASTM B 36/B 36M, Alloy UNS No. C28000 (muntz metal, 60 percent copper).
- F. Bronze Extrusions: ASTM B 455, Alloy UNS No. C38500 (extruded architectural bronze).
- G. Bronze Castings: ASTM B 584, Alloy UNS No. C83600 (leaded red brass) or No. C84400 (leaded semired brass).
- H. Nickel Silver Extrusions: ASTM B 151/B 151M, Alloy UNS No. C74500.
- I. Nickel Silver Castings: ASTM B 584, Alloy UNS No. C97600 (20 percent leaded nickel bronze).

2.5 FASTENERS

- A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
 - 1. Provide stainless-steel fasteners for fastening aluminum.
 - 2. Provide stainless-steel fasteners for fastening stainless steel.
 - 3. Provide stainless-steel fasteners for fastening nickel silver.
 - 4. Provide bronze fasteners for fastening bronze.
- B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 325, Type 3 (ASTM A 325M, Type 3); with hex nuts, ASTM A 563, Grade C3 (ASTM A 563M, Class 8S3); and, where indicated, flat washers.
- C. Stainless-Steel Bolts and Nuts: Regular hexagon-head annealed stainless-steel bolts, ASTM F 593 (ASTM F 738M); with hex nuts, ASTM F 594 (ASTM F 836M); and, where indicated, flat washers; Alloy Group 1 (A1).
- D. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563; and, where indicated, flat washers.
 - 1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.
- E. Eyebolts: ASTM A 489.
- F. Machine Screws: ASME B18.6.3 (ASME B18.6.7M).
- G. Lag Screws: ASME B18.2.1 (ASME B18.2.3.8M).
- H. Wood Screws: Flat head, ASME B18.6.1.
- I. Plain Washers: Round, ASME B18.22.1 (ASME B18.22M).
- J. Lock Washers: Helical, spring type, ASME B18.21.1 (ASME B18.21.2M).

- K. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
- L. Cast-in-Place Anchors in Concrete: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.
- M. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors.
 - 1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.
 - 2. Material for Exterior Locations and Where Stainless Steel is Indicated: Alloy Group 1 (A1) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594.
- N. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches (41 by 22 mm) by length indicated with anchor straps or studs not less than 3 inches (75 mm) long at not more than 8 inches (200 mm) o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B 633, Class Fe/Zn 5, as needed for fastening to inserts.

2.6 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Shop Primers: Provide primers that comply with Division 09 painting Sections.
- C. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
 - 1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- D. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- E. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- F. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.
- G. Nonshrink, Metallic Grout: Factory-packaged, ferrous-aggregate grout complying with ASTM C 1107, specifically recommended by manufacturer for heavy-duty loading applications.
- H. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

- I. Concrete: Comply with requirements in Division 03 Section "Cast-in-Place Concrete" for normal-weight, air-entrained, concrete with a minimum 28-day compressive strength of 3000 psi (20 MPa).

2.7 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
 1. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches (3.2 by 38 mm), with a minimum 6-inch (150-mm) embedment and 2-inch (50-mm) hook, not less than 8 inches (200 mm) from ends and corners of units and 24 inches (600 mm) o.c., unless otherwise indicated.

2.8 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
 - 1. Fabricate units from slotted channel framing where indicated.
 - 2. Furnish inserts for units installed after concrete is placed.
 - 3. Provide bearing plates welded to beams where indicated.
 - 4. Drill or punch girders and plates for field-bolted connections where indicated.
 - 5. Where wood nailers are attached to girders with bolts or lag screws, drill or punch holes at 24 inches (600 mm) o.c.
- C. Fabricate steel pipe columns for supporting wood frame construction from steel pipe with steel baseplates and top plates as indicated. Drill or punch baseplates and top plates for anchor and connection bolts and weld to pipe with fillet welds all around. Make welds the same size as pipe wall thickness unless otherwise indicated.
 - 1. Unless otherwise indicated, fabricate from Schedule 40 steel pipe.
 - 2. Unless otherwise indicated, provide 1/2-inch (12.7-mm) baseplates with four 5/8-inch (16-mm) anchor bolts and 1/4-inch (6.4-mm) top plates.
- D. Galvanize miscellaneous framing and supports where indicated.
- E. Prime miscellaneous framing and supports with zinc-rich primer where indicated.
- F. Basis of Design: Countertop Bracket
 - 1. Provide the following product, or approved equal:
 - a. Centerline Steel LLC – Front Mounting Plus Bracket
 - b. Mount as noted in drawings.
 - 2. Properties:
 - a. A36 Steel
 - b. Cross Section: Min. 3/8" x 2-1/2"
 - c. Finish / Color: TBD

2.9 LOOSE BEARING AND LEVELING PLATES

- A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.
- B. Galvanize plates.
- C. Prime plates with zinc-rich primer.

2.10 LOOSE STEEL LINTELS

- A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.
- B. Size loose lintels to provide bearing length at each side of openings equal to 1/12 of clear span but not less than 8 inches (200 mm) unless otherwise indicated.
- C. Galvanize loose steel lintels located in exterior walls.
- D. Prime loose steel lintels located in exterior walls with zinc-rich primer.

2.11 STEEL WELD PLATES AND ANGLES

- A. Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

2.12 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish metal fabrications after assembly.
- C. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

2.13 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
 - 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
- B. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
 - 1. Shop prime with universal shop primer unless zinc-rich primer is indicated.
- C. Preparation for Shop Priming: Prepare surfaces to comply with requirements indicated below:
 - 1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

3. Items Indicated to Receive Primers Specified in Division 09 Section "High-Performance Coatings": SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 4. Other Items: SSPC-SP 3, "Power Tool Cleaning."
- D. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.
1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

2.14 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. As-Fabricated Finish: AA-M10 (Mechanical Finish: as fabricated, unspecified).
- C. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.

2.15 METAL ROOF AND EXTERIOR LADDERS

- A. Exterior Fixed Roof Ladders: Tubular Rail Low Parapet Access Ladder with Platform and Return.
 1. Basis of Design Product: As noted on drawings.
 2. Walk-Through Rail and Roof Rail Extension: Not less than 3 feet 6 inches (1067 mm) above the landing and shall be fitted with deeply serrated, square, tubular grab rails.
 3. Landing Platform: 1-1/2 inches (38 mm) or greater diameter, tubular aluminum guardrails and decks of serrated aluminum treads.
 4. Provide personal fall arrest system or a ladder safety system.
- B. Ladder Materials
 1. Aluminum Sheet: Alloy 5005-H34 to comply with ASTM B209.
 2. Aluminum Extrusions: Alloy 6063-T6 to comply with ASTM B221.
- C. Ladder finish: Clear Anodic Finish: AA-M10C22A41 Mechanical finish as fabricated. Architectural Class I, clear coating 0.018 mm or thicker.
- D. Rungs: Not less than 1-1/4 inches (32 mm) in section and 18-3/8 inches (467mm) long, formed from tubular aluminum extrusions. Squared and deeply serrated on all sides.
 1. Rungs shall withstand a 1,500 pound (454 kg) load without deformation or failure.
 2. Fit rungs in centerline of siderails; fasten by welding or with stainless-steel fasteners or brackets and aluminum rivets.
- E. Support each ladder at top and bottom and not more than 60 inches (1500 mm) o.c. with welded or bolted aluminum brackets.
- F. Comply with ANSI A14.3

- G. Provide intermediate brackets in order to keep maximum bracket spacing at 10 feet on center. For exterior roof ladders, provide mounting bracket to wall to keep ladder rails above roof.
- H. Heavy Duty Tubular Side Rails: Assembled from two interlocking aluminum extrusions no less than 1/8 inch (3 mm) wall thickness by 3 inches (76 mm) wide. Construction shall be self-locking stainless steel fasteners, full penetration TIG welds and clean, smooth and burr-free surfaces.

2.16 SHIPS LADDER

- A. **Performance Specifications**
 - 1. **Treads:** capable of withstanding 100 pounds per square foot or a 300 pound load on an area of 4 square inches without exceeding the allowable working stress of the material; or a single concentrated 1000 pound load without permanent deformation
 - 2. **Railings:** capable of withstanding a single concentrated load of 200 pounds or a uniform load of 50 pounds per linear foot applied in any direction at any point on the rail
 - 3. **Stringers:** capable of withstanding a uniform live loading of 100 pounds per square foot applied in a downward direction to all installed tread surfaces or a 300 pound load on an area of 4 square inches
- B. **Materials**
 - 1. **Stringers:** Powder Coated Steel
 - 2. **Treads:** Powder coated steel Bar grating
 - 3. **Handrails:** Powder coated Steel
- C. **All welded construction**

2.17 METAL LADDERS

- A. **General:**
 - 1. Comply with ANSI A14.3, except for elevator pit ladders.
 - 2. For elevator pit ladders, comply with ASME A17.1/CSA B44.
- B. **Steel Ladders:**
 - 1. Space siderails **16 inches** clear between side rails unless otherwise indicated.
 - 2. Siderails: Continuous, **1/2-by-2-1/2-inch** steel flat bars, with eased edges.
 - 3. Rungs: **3/4-inch**-square, steel bars, maximum 12 inches on center.
 - 4. Fit rungs in centerline of siderails; plug-weld and grind smooth on outer rail faces.
 - 5. Provide nonslip surfaces on top of each rung, either by coating rung with aluminum-oxide granules set in epoxy-resin adhesive or by using a type of manufactured rung filled with aluminum-oxide grout.
 - 6. Provide nonslip surfaces on top of each rung by coating with abrasive material metallically bonded to rung.

- a. **Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

- 1) **Harsco Industrial IKG, a division of Harsco Corporation.**
- 2) **Ross Technology Corporation.**
- 3) **W.S. Molnar Company.**

7. **Source Limitations:** Obtain nonslip surfaces from single source from single manufacturer.
8. **Provide platforms fabricated from welded or pressure-locked steel bar grating, supported by steel angles. Limit openings in gratings to no more than 1/2 inch in least dimension.**
9. **Support each ladder at top and bottom and not more than 60 inches o.c. with welded or bolted steel brackets. Brackets shall hold ladder a minimum of 7 inches from face of supporting wall.**
10. **Galvanize ladders, including brackets.**

2.18 DOWNSPOUT BOOTS

- A. Downspout Boots: Smooth interior without boxed corners or choke points; include integral lug slots, integral cleanout, cleanout cover, and tamper proof fasteners.
1. Configuration: Offset.
 2. Material: Cast iron; ASTM A48/A48M; casting thickness 3/8 inch (9.5 mm), minimum.
 3. Finish: Manufacturer's standard factory applied powder coat finish.
 4. Color: To be selected by Architect from manufacturer's standard range.
 5. Accessories: Manufacturer's standard stainless steel fasteners, stainless steel building wall anchors, integral neoprene gaskets, and rubber coupling.
 6. Available Manufacturers offering Basis of Design products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Downspoutboots.com, a division of J. R. Hoe & Sons; O Series
 - b. Neenah Foundry, a division of Neenah Enterprises, Inc; Model R-4929-O6C

2.19 METAL BOLLARDS

- A. Manufacturer (or Approved Equal):
1. Reliance Foundry Co. Ltd.
 2. Phone: 604-547-0460 or 1-877-789-3245
 3. Fax: 604-590-8875
 4. Website: <http://www.reliance-foundry.com/bollard>
 5. Email: info@reliance-foundry.com
- B. Bollard:
1. Model: Reliance Foundry; **R-8902.**
 2. Height: 36 inches
 3. Diameter: 4-3/8 inches body; 7-1/2 inches base
 4. Design: Cylindrical with rounded top.
 5. Material: Stainless steel, ASTM A312, Grade TP 316.
 6. Installation Type:

- a. SSB1: Fixed Embedded Concrete Anchor.
- b. SSB2: Removable Receiver.
 - 1) Stainless Steel receiver with lid.
 - 2) Stainless Steel 5/16 inch Bollard Chain
 - a) Stainless Steel Quick Link Connector – 2 per chain
 - 3) Stainless Steel 3/8 inch Chain Eye
 - a) 2 per bollard
- c. SSB3: Flange Concrete Surface Mount.
 - 1) Anchor bolts and sleeves: as required by manufacturer

~~C. Fill with 3,000 psi concrete.~~

- ~~1. Slightly overfill top for drainage.~~

~~D. Bollard Cover:~~

- ~~1. High Density Polyethylene (HDPE) post cover~~
- ~~2. Color: Yellow~~

~~E. Fabricate bollards with stainless steel baseplates for bolting to concrete slab. Drill baseplates at all four corners for 3/4 inch anchor bolts.~~

- ~~1. Where bollards are to be anchored to sloping concrete slabs, angle baseplates for plumb alignment of bollards.~~

~~F. Fabricate sleeves for bollard anchorage from steel pipe or tubing with 1/4 inch (6.4 mm) thick steel plate welded to bottom of sleeve. Make sleeves not less than 8 inches (200 mm) deep and 3/4 inch (19 mm) larger than OD of bollard.~~

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.

4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.
- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:
 1. Cast Aluminum: Heavy coat of bituminous paint.
 2. Extruded Aluminum: Two coats of clear lacquer.

3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.
- B. Anchor supports for operable partitions securely to and rigidly brace from building structure.
- C. Support steel girders on solid grouted masonry, concrete, or steel pipe columns. Secure girders with anchor bolts embedded in grouted masonry or concrete or with bolts through top plates of pipe columns.
 1. Where grout space under bearing plates is indicated for girders supported on concrete or masonry, install as specified in "Installing Bearing and Leveling Plates" Article.
- D. Install pipe columns on concrete footings with grouted baseplates. Position and grout column baseplates as specified in "Installing Bearing and Leveling Plates" Article.
 1. Grout baseplates of columns supporting steel girders after girders are installed and leveled.

3.3 INSTALLING BEARING AND LEVELING PLATES

- A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.
- B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with grout.

1. Use nonshrink grout, either metallic or nonmetallic, in concealed locations where not exposed to moisture; use nonshrink, nonmetallic grout in exposed locations unless otherwise indicated.
2. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.4 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.
- B. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint are specified in Division 09 painting Sections.
- C. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION

SECTION 05 52 13 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Wall mounted handrails.
- B. Free-standing railings.

1.02 RELATED REQUIREMENTS

- A. Section 05 51 00 - Metal Stairs: Handrails other than those specified in this section.
- B. Section 05 73 00 - Decorative Metal Railings
- C. Section 09 21 16 - Gypsum Board Assemblies: Placement of backing plates in stud wall construction.
- D. Section 09 90 00 - Paints and Coatings

1.03 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- B. AISC 201 - AISC Certification Program for Structural Steel Fabricators, Standard for Steel Building Structures 2006.
- C. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2020.
- D. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing 2014.
- E. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings 2013.
- F. ASTM E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings 2000 (Reapproved 2006).
- G. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer 1999 (Ed. 2004).

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

1.05 QUALITY ASSURANCE

- A. Structural Designer Qualifications: Professional Structural Engineer experienced in design of this work and licensed in Delaware, or personnel under direct supervision of such an engineer.
- B. Welder Qualifications: Show certification of welders employed on the Work, verifying AWS qualification within the previous 12 months.
- C. Fabricator Qualifications:
 - 1. A qualified steel fabricator that is certified by the American Institute for Steel Construction (AISC) under AISC 201.
 - 2. A company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

PART 2 PRODUCTS

2.01 RAILINGS - GENERAL REQUIREMENTS

- A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code.
- B. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 50 pounds per linear foot applied to the top of the assembly and in any direction, without damage or permanent set.
- C. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds applied at any point on the top of the assembly and in any direction, without damage or permanent set.
- D. Allow for expansion and contraction of members and building movement without damage to connections or members.
- E. Dimensions: See drawings for configurations and heights.
- F. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.
- G. Provide welding fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.

2.02 STEEL RAILING SYSTEM (TYPICAL, U.O.N.)

- A. Exterior railings and guards:
 - 1. Stainless steel.
- B. Interior railings and guards:
 - 1. Painted steel, with stainless steel handrails **and top rail**.
 - 2. Wall and Post-Mounted Handrails: Stainless Steel, Round pipe unless otherwise indicated.
 - a. Outside Diameter: 1-1/4 inch, minimum, to 1-1/2 inches, maximum.
 - 3. Guards:
 - a. Top Rails: **Painted Steel**
 - 1) Outside Diameter: 1-1/2 inch, minimum, to 2 inches, maximum.
 - b. Infill at Picket Railings: Vertical pickets.
 - 1) Horizontal Spacing: **To prevent passage of 4" diameter sphere.**
 - 2) Material: **Painted** Solid steel bar.
 - 3) Shape: Square.
 - 4) Size: 1/2 inch square.
 - 5) Top Mounting: Welded to steel channel at underside of top rail.
 - 6) Bottom Mounting: Welded to 1-1/2" square bottom rail.
 - c. End and Intermediate Posts: Square tube.
 - 1) Horizontal Spacing: As required to meet design loads.
 - 2) Mounting: Welded to top surface of stringer.
- C. Steel Tube: ASTM A501/A501M hot-formed structural tubing.
- D. Steel Pipe: ASTM A53/A53M Grade B Schedule 80, black finish.
- E. Welding Fittings: Factory- or shop-welded from matching pipe or tube; seams continuously welded; joints and seams ground smooth.
- F. Exposed Fasteners: No exposed bolts or screws.

- G. Straight Splice Connectors: Steel concealed spigots.
- H. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

2.03 FABRICATION

- A. Accurately form components to suit specific project conditions and for proper connection to building structure.
- B. Fit and shop assemble components in largest practical sizes for delivery to site.
- C. Fabricate components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation.
- D. Welded Joints:
 - 1. Exterior Components: Continuously seal joined pieces by continuous welds. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
 - 2. Interior Components: Continuously seal joined pieces by continuous welds.
 - 3. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply items required to be cast into concrete or embedded in masonry with setting templates, for installation as work of other sections.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.
- C. Install railings in compliance with ADA Standards for accessible design at applicable locations.
- D. Anchor railings securely to structure.
- E. Field weld anchors as indicated on shop drawings. Touch-up welds with primer. Grind welds smooth.
- F. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

3.04 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch per floor level, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

SECTION 05 73 00 - DECORATIVE METAL RAILINGS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Stainless steel decorative railings and guards, with stainless picket infill panels.
 - 1. Location: Interior ornamental stair.

1.02 RELATED REQUIREMENTS

- A. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance (O&M) data, warranties and bonds.
- B. Section 03 30 00 - Cast-in-Place Concrete: Placement of anchors in concrete.
- C. Section 05 51 00 - Metal Stairs: Handrails other than those specified in this section.
- D. Section 05 52 13 - Pipe and Tube Railings
- E. Section 09 21 16 - Gypsum Board Assemblies: Placement of backing plates in stud wall construction.

1.03 REFERENCE STANDARDS

- A. ASTM A29/A29M - Standard Specification for General Requirements for Steel Bars, Carbon and Alloy, Hot-Wrought 2020.
- B. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes 2017.
- C. ASTM A554 - Standard Specification for Welded Stainless Steel Mechanical Tubing 2021.
- D. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.
- E. ASTM A743/A743M - Standard Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application 2021.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product data: Manufacturer's product lines of railings assembled from standard components.
- C. Shop drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.
- D. Samples for verification.
 - 1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters.
 - 2. Fittings and brackets.
 - 3. Assembled Samples of railing systems, made from full-size components, including top rail, post, handrail, and infill. Show method of finishing members at intersections. Samples need not be full height.
- E. Design Calculations Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.06 QUALITY ASSURANCE

- A. Designer Qualifications: Perform design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in Delaware.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least three years of documented experience.
- C. Installer Requirements: Installed by manufacturer or manufacturer certified installer.
- D. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."

1.07 MOCK-UP

- A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
- B. Build mockups as one section of rail.
- C. Build mockups for each form and finish of railing consisting of two posts, top rail, infill area, and anchorage system components that are full height and are not less than 24 inches (600 mm) in length.
- D. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.08 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.09 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 RAILINGS - GENERAL REQUIREMENTS

- A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code.
- B. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 50 pounds per linear foot applied to the top of the assembly and in any direction, without damage or permanent set.
- C. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds applied at any point on the top of the assembly and in any direction, without damage or permanent set.
- D. Allow for expansion and contraction of members and building movement without damage to connections or members.

2.02 MANUFACTURERS

- A. Viva Railings. (Basis of Design): <https://vivarailings.com>
 - 1. Basis of Design Railing System: Viva Railings CUBE post railing system **with PMRO 1217 perforated metal infill**
- B. Equivalent Products of the following manufacturers are also approved:

1. Julius Blum & Co.
2. CraneVeyor Corp.
3. InvisiRail.
4. Tri Tech, Inc.
5. Morse Industries.

C. Substitutions: See Section 01 60 00.

2.03 RAILING DESIGN

A. Description: Railing system comprised of 2"x 2" square posts, terminating into monolithic pyramid top cap to provide continuous clean lines throughout the components. Railing in-fill between the posts is mounted via fixed point holders for mounting stainless steel perforated metal infill.

B. Posts:

1. Size: 2" x 2" square.
2. Material: Type 304 stainless steel.
3. Finish: #6 satin.

C. Infill

1. **Perforated metal infill panel – pattern type – round 55% open**
 - a. **Size: 17mm diameter x 12 mm o.c.,**
 - b. material: Type 304 stainless steel.
 - c. Finish: #6 satin.

D. Top rail:

1. Size: 1 1/2" diameter.
2. Material: Type 304 stainless steel.
3. Finish: #6 satin.

E. Handrail:

1. Size: 1.5" diameter.
2. Material: Type 304 stainless steel.
3. Finish: #6 satin.

2.04 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

B. Brackets, Flanges, and Anchors: Same metal and finish as supported rails unless otherwise indicated.

1. Provide cast-stainless steel wall brackets with flange tapped for concealed anchorage with vertical and horizontal adjustment capability.

2.05 STAINLESS STEEL

A. Tubing: ASTM A 554, Grade MT 304.

B. Pipe: ASTM A 312/A 312M, Grade TP 304.

C. Castings: ASTM A 743/A 743M, Grade CF 8 or CF 20.

D. Sheet, Strip, Plate, and Flat Bar: ASTM A 666, Type 304.

1. Bars and Shapes: ASTM A 276, Type 304.

2.06 FASTENERS

A. Fastener Materials: Unless otherwise indicated, provide the following:

1. Stainless-Steel Components: Type 304 stainless-steel fasteners.
2. Uncoated Steel Components: Plated-steel fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating where concealed; Type 304 stainless-steel fasteners where exposed.

3. Galvanized-Steel Components: Plated-steel fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating.
4. Dissimilar Metals: Type 304 stainless-steel fasteners.
- B. Fasteners for Anchoring to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated, and capable of withstanding design loads.
 1. Provide concealed fasteners for interconnecting railing components and for attaching railings to other work unless otherwise indicated.
- C. Post-Installed Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC193.

2.07 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.
- C. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- D. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.

2.08 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- F. Mechanical Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
 1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.
- G. Form changes in direction as follows:
 1. By flush bends.
- H. Close exposed ends of hollow railing members with prefabricated end fittings.
- I. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.
- J. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

- K. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.

2.09 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipment.

2.10 STAINLESS STEEL FINISHES

- A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
- B. Dull Satin Finish: No. 6.
- C. When polishing is completed, rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Installation Tolerances: Structural steel and concrete slabs to be within 1/8 inch (3 mm) in 10 ft (3.048 m) horizontally and 1/8 inch (3 mm) vertically. Correct conditions out-of-tolerance to meet railing manufacturer's requirements.

3.02 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
 - 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (5 mm in 3 m).
- C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
 - 1. Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.03 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.
- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2

inches (50 mm) beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches (150 mm) of post.

3.04 ANCHORING POSTS

- A. Form or core-drill holes in accordance with engineering requirements for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Cover anchorage joint with flange of same metal as post, attached to post with set screws.
- C. Anchor posts to metal surfaces with flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
 - 1. For stainless-steel railings, weld flanges to posts and bolt to metal-supporting surfaces.

3.05 ATTACHING RAILINGS

- A. Anchor railing ends to concrete and masonry with brackets on underside of rails connected to railing ends and anchored to wall construction with anchors and bolts.
- B. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and connected to railing ends using nonwelded connections.
- C. Attach handrails to walls with wall brackets. Provide brackets with 2-1/4-inch (57-mm) clearance from inside face of handrail and finished wall surface. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
 - 1. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt] [predrilled hole for exposed bolt anchorage.
- D. Secure wall brackets and railing end flanges to building construction as follows:
 - 1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
 - 2. For hollow masonry anchorage, use toggle bolts.
 - 3. For steel-framed partitions, use hanger or lag bolts set into fire-retardant-treated wood backing between studs. Coordinate with stud installation to locate backing members.

3.06 CLEANING

- A. Clean stainless steel by washing thoroughly with clean water and soap, rinsing with clean water, and wiping dry.

3.07 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION

SECTION 08 06 71 – DOOR HARDWARE SCHEDULE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section references specification sections relating to commercial door hardware for the following:
 - 1. Swinging doors.
 - 2. Sliding Doors.
 - 3. Other doors to the extent indicated.
- B. Commercial door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Electromechanical and access control door hardware.
 - 3. Electromechanical and access control door hardware power supplies, back-ups and surge protection.
 - 4. Automatic operators.
 - 5. Cylinders specified for doors in other sections.
- C. Related Sections:
 - 1. Division 08 Section “Integrated Door Opening Assemblies”.
 - 2. Division 08 Section “Door Hardware”.
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. NFPA 70 - National Electrical Code.
 - 4. NFPA 80 - Fire Doors and Windows.
 - 5. NFPA 101 - Life Safety Code.
 - 6. NFPA 105 - Installation of Smoke Door Assemblies.
 - 7. State Building Codes, Local Amendments.
- E. Standards: Reference Related Sections for requirements regarding compliance with applicable industry standards.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 - 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Keying Schedule: Prepared under the supervision of the Owner, separate schedule detailing final keying instructions for locksets and cylinders in writing. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner to approve submitted keying schedule prior to the ordering of permanent cylinders.
- D. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
- E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the hardware and their nearest service

representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.

- F. Warranties and Maintenance: Special warranties and maintenance agreements specified in the Related Sections.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.5 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

1.6 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. Refer to "PART 3 – EXECUTION" for required specification sections.

PART 3 - EXECUTION

3.1 DOOR HARDWARE SETS

- A. The door hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a

hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.
 2. The supplier is responsible for handing and sizing all products.
 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
 4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.
- B. Products listed in the hardware sets shall be supplied by and in accordance with the requirements described in the specification section as noted for each item.
1. Section 08 17 00 – Integrated Door Opening Assemblies.
 2. Section 08 71 00 – Door Hardware.
- C. Manufacturer's Abbreviations:
1. MK - McKinney
 2. MR - Markar
 3. PE - Pemko
 4. SU - Securitron
 5. RO - Rockwood
 6. SA - SARGENT
 7. OT - Other
 8. RI - RITE Door
 9. NO - Norton
 10. MC - Medeco
 11. HS - HES
 12. RF - Rixson
 13. LU - Lund Equipment Co

Hardware Sets

Set: 1.0

Doors: A112-2, C100E-2, D100B-2, D117-5

2 Continuous Hinge	CFM-SLF-HD1 PT		PE	087100	
2 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Mullion	L980A	US28	SA	087100	
1 Rim Exit Device, Exit Only	16 43 55 56 63 8810 EO	US32D	SA	087100	⚡
1 Rim Exit Device, Storeroom	16 43 55 56 63 8804 Less Pull	US32D	SA	087100	⚡
1 Cylinder	60 980C1	US26D	SA	087100	
4 Interchangeable Core	322401_ GMK	26	MC	087100	
2 Pull	RM201 Mtg-Type 12XHD	US32D-316	RO	087100	
2 Conc Overhead Stop	6-X36	630	RF	087100	
2 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100	
1 Weatherstrip	- Integral within construction of door and frame assembly		OT	08 4113	
2 Sweep	29326CNB TKSP		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
2 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
2 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
2 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Doors normally closed and locked.

Presentation of valid credential at card reader retracts exit device latch bolts allowing ingress.

Door position switches to monitor / report open closed status of opening to security system.

Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 2.0

Doors: A101-2, E101-1

2 Continuous Hinge	CFM-SLF-HD1 PT		PE	087100	
2 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Mullion	L980A	US28	SA	087100	
1 Rim Exit Device, Exit Only	16 43 55 56 63 8810 EO	US32D	SA	087100	⚡
1 Rim Exit Device, Storeroom	16 43 53 55 56 63 8804 Less Pull	US32D	SA	087100	⚡
1 Cylinder	60 980C1	US26D	SA	087100	
4 Interchangeable Core	322401_ GMK	26	MC	087100	
2 Pull	RM201 Mtg-Type 12XHD	US32D-316	RO	087100	
2 Conc Overhead Stop	6-X36	630	RF	087100	
1 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100	
1 Automatic Opener	6021 / 6031 x D - confirm head detail	689	NO	087100	⚡
1 Weatherstrip	- Integral within construction of door and frame assembly		OT	08 4113	
2 Sweep	29326CNB TKSP		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
2 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
2 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
1 Door Switch	505 - wall mount		NO	087100	⚡
1 Door Switch	504 - vestibule		NO	087100	⚡
2 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Doors normally closed and locked.

Presentation of valid credential at card reader retracts exit device latch bolts allowing ingress.

Door position switches to monitor and report open / closed status of opening to buildings access control system.

Exit devices equipped with request to exit switches at rail to shunt door monitoring upon egress.
Free egress at all times.
Fail-secure.

Activating actuator switch retracts latch bolt of exit device, if locked, and initiates automatic operator cycle.

Activating exterior actuator switch initiates cycle of automatic operator if the latch bolt is in the retracted position (push /pull operation).

After hours - access by valid use of card reader outside / automatic operator will only operate if card reader is authorized first.

Set: 3.0

Doors: A101-1, C100E-1, **D117-8**, E101-2, E101-3, E101-4

2 Continuous Hinge	CFM-SLF-HD1 PT		PE	087100	
2 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Mullion	L980A	US28	SA	087100	
2 Rim Exit Device, Exit Only	16 43 55 56 63 8810 EO	US32D	SA	087100	⚡
1 Cylinder	60 980C1	US26D	SA	087100	
3 Interchangeable Core	322401_ GMK	26	MC	087100	
2 Pull	RM201 Mtg-Type 12XHD	US32D-316	RO	087100	
2 Conc Overhead Stop	6-X36	630	RF	087100	
2 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100	
1 Weatherstrip	- Integral within construction of door and frame assembly		OT	084113	
2 Sweep	29326CNB TKSP		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
2 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
2 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
2 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Doors to be on lock / unlock schedule per the buildings access control system.
Door position switches to monitor / report open closed status of opening to security system.
Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 5.0

Doors: B114B-1, B114C2-2, B114C3-2

1 Continuous Hinge	CFM-SLF-HD1 PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Storeroom	16 43 55 56 63 8804 Less Pull	US32D	SA	087100	⚡
2 Interchangeable Core	322401 _ GMK	26	MC	087100	
1 Pull	RM201 Mtg-Type 12XHD	US32D-316	RO	087100	
1 Conc Overhead Stop	6-X36	630	RF	087100	
1 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100	
1 Weatherstrip	- Integral within construction of door and frame assembly		OT	08 4113	
1 Sweep	29326CNB TKSP		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
1 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Doors normally closed and locked.
Presentation of valid credential at card reader retracts exit device latch bolts allowing ingress.
Door position switches to monitor / report open closed status of opening to security system.

Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 6.0

Doors: **F100A-1**, ST1-1, ST2-1, ST3-2, ST4-1

2 Continuous Hinge	CFM-SLF-HD1-M		PE	087100
1 Mullion	L980A	US28	SA	087100
1 Rim Exit Device, Storeroom	16 43 60 8804 Less Pull	US32D	SA	087100
1 Rim Exit Device, Exit Only	16 43 60 8810 EO	US32D	SA	087100
4 Interchangeable Core	322401_ GMK	26	MC	087100
2 Pull	RM201 Mtg-Type 12XHD	US32D-316	RO	087100
2 Conc Overhead Stop	6-X36	630	RF	087100
2 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100
1 Weatherstrip	- Integral within construction of door and frame assembly		OT	08 4113
2 Sweep	29326CNB TKSP		PE	087100
1 Threshold	1715AK MSES25SS		PE	087100
2 Door Position Switch	- Provided by Security Contractor		OT	281300 ⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT	

Notes:

Door position switches to monitor / report open closed status of opening to security system.

Set: 7.0

Doors: A102-1, A102-4, D117-1, D117-4, E103-2, E103-3

2 Continuous Hinge	CFM-SLF-HD1-M		PE	087100
2 Concealed Vert Rod Exit, Classroom	CPC 43 60 AD8613 ETL *NC-E35*	US32D	SA	087100
2 Interchangeable Core	322401_ GMK	26	MC	087100
2 Conc Overhead Stop	6-X36	630	RF	087100
2 Surface Closer	7500 - pull side mount	689	NO	087100
1 Weatherstrip	- Integral within construction of door and frame assembly		OT	08 4113

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2 Sweep	29326CNB TKSP	PE	087100
1 Threshold	1715AK MSES25SS	PE	087100
2 Door Position Switch	- Provided by Security Contractor	OT	281300 ⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified	OT	

Notes:

Door position switches to monitor / report open closed status of opening to security system.

Set: 7.1

Doors: E103-1, E103-4

2 Continuous Hinge	CFM-SLF-HD1-M	PE	087100
2 Concealed Vert Rod Exit, Classroom	NB 43 60 AD8613 ETL	US32D SA	087100
2 Interchangeable Core	322401_ GMK	26 MC	087100
2 Conc Overhead Stop	6-X36	630 RF	087100
2 Surface Closer	J7500 x mounting plate to suit application	689 NO	087100
1 Weatherstrip	- Integral within construction of door and frame assembly	OT	08 4113
2 Sweep	29326CNB TKSP	PE	087100
1 Threshold	1715AK MSES25SS	PE	087100
2 Door Position Switch	- Provided by Security Contractor	OT	281300 ⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified	OT	

Notes:

Door position switches to monitor / report open closed status of opening to security system.

Set: 8.0

Doors: C100B-2, D101D, D104K, E100C, E104G-2, E110-2, E112-2, F101-3

2 Continuous Hinge	CFM-HD1 PT	PE	087100
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2 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Mullion	L980S	PC	SA	087100	
1 Rim Exit Device, Exit Only	16 43 55 56 63 8810 EO	US32D	SA	087100	⚡
1 Rim Exit Device, Storeroom	16 43 55 56 63 8804 Less Pull	US32D	SA	087100	⚡
1 Cylinder	60 980C1	US26D	SA	087100	
4 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Vandal Resistant Trim	VRT22	US32D	RO	087100	
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100	
2 Surface Closer	UNI7500	689	NO	087100	
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
2 Astragal	316APK TKSP8		PE	087100	
1 Gasketing	2891APK TKSP8		PE	087100	
1 Rain Guard	346C TKSP8		PE	087100	
2 Door Bottom	216AFG TKSP		PE	087100	
1 Threshold	252x3AFG Pemkote MSES25SS		PE	087100	
2 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
2 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
2 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Doors normally closed and locked.

Presentation of valid credential at card reader retracts exit device latch bolts allowing ingress.

Door position switches to monitor / report open closed status of opening to security system.

Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 9.0

Doors: C101-1, C101-2, C118-1, C120-1, C124-1, D110-1, D110-2, D114-1, D116-1, D118-2, E104E-2, E106-2, E110A-2, E114-2, F103B-2, F114B

1 Continuous Hinge	CFM-HD1 PT	PE	087100
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1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Storeroom	16 43 55 56 63 8804 Less Pull	US32D	SA	087100	⚡
2 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100	
1 Surface Closer	UNI7500	689	NO	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Gasketing	2891APK TKSP8		PE	087100	
1 Rain Guard	346C TKSP8		PE	087100	
1 Door Bottom	216AFG TKSP		PE	087100	
1 Threshold	252x3AFG Pemkote MSES25SS		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
1 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Door normally closed and locked.

Presentation of valid credential at card reader retracts exit device latch bolt allowing ingress.

Door position switch to monitor / report open closed status of opening to security system.

Exit device equipped with request to exit switch at rail to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 10.0

Doors: F101-4

2 Continuous Hinge	CFM-HD1-M		PE	087100	
1 Mullion	L980S	PC	SA	087100	
1 Rim Exit Device, Storeroom	16 43 60 8804 Less Pull	US32D	SA	087100	
1 Rim Exit Device, Exit Only	16 43 60 8810 EO	US32D	SA	087100	
1 Cylinder	60 980C1	US26D	SA	087100	
4 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Vandal Resistant Trim	VRT22	US32D	RO	087100	

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1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100
2 Surface Closer	UNI7500	689	NO	087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2 Astragal	316APK TKSP8		PE	087100
1 Gasketing	2891APK TKSP8		PE	087100
1 Rain Guard	346C TKSP8		PE	087100
2 Door Bottom	216AFG TKSP		PE	087100
1 Threshold	252x3AFG Pemkote MSES25SS		PE	087100
2 Door Position Switch	- Provided by Security Contractor		OT	281300 ⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT	

Notes:

Door position switches to monitor / report open closed status of opening to security system.

Set: 11.0

Doors: [E106-3](#)

1 Continuous Hinge	CFM-HD1 PT		PE	087100
1 Electric Power Transfer	EL-CEPT	630	SU	087100 ⚡
1 Fail Secure Lock	RX 63 8271 LNL	US26D	SA	087100 ⚡
1 Interchangeable Core	322401_GMK	26	MC	087100
1 Surface Closer	UNI7500	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Gasketing	2891APK TKSP8		PE	087100
1 Rain Guard	346C TKSP8		PE	087100
1 Door Bottom	216AFG TKSP		PE	087100
1 Threshold	252x3AFG Pemkote MSES25SS		PE	087100
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100 ⚡
1 ElectroLynx Harness	QC-C (power transfer to lock or electric strike location)		MK	087100 ⚡
1 Card Reader	- Provided by Security Contractor		OT	281300 ⚡
1 Door Position Switch	- Provided by Security Contractor		OT	281300 ⚡
1 Power Supply	- Provided by Security Contractor		OT	281300 ⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT	

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader retracts exit device latch bolt allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Exit device equipped with request to exit switch at rail to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 12.0

Doors: [A234-2](#)

1 Continuous Hinge	CFM-HD1-M		PE	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 /441CU	US26D	RO	087100
1 Gasketing	2891APK TKSP8		PE	087100
1 Rain Guard	346C TKSP8		PE	087100
1 Door Bottom	216AFG TKSP		PE	087100
1 Threshold	252x3AFG Pemkote MSES25SS		PE	087100
1 Door Position Switch	- Provided by Security Contractor		OT	281300 ⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT	

Notes:

Door position switch to monitor / report open closed status of opening to security system.

Set: 13.0

Doors: [B228-2](#), [C201B](#), [D214B](#)

1 Continuous Hinge	CFM-HD1-M		PE	087100
1 Wireless Access Control	- XS4 Series (Salto)	26D	OT	087100 ⚡
1 Mortise Lock				
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 /441CU	US26D	RO	087100
1 Gasketing	2891APK TKSP8		PE	087100

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1 Rain Guard	346C TKSP8	PE	087100
1 Door Bottom	216AFG TKSP	PE	087100
1 Threshold	252x3AFG Pemkote MSES25SS	PE	087100

Set: 14.0

Doors: B114D, D212

1 Continuous Hinge	CFM-HD1-M	PE	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA 087100
1 Interchangeable Core	322401_ GMK	26	MC 087100
1 Surface Closer	UNI7500	689	NO 087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO 087100
1 Gasketing	2891APK TKSP8	PE	087100
1 Rain Guard	346C TKSP8	PE	087100
1 Door Bottom	216AFG TKSP	PE	087100
1 Threshold	252x3AFG Pemkote MSES25SS	PE	087100
1 Door Position Switch	- Provided by Security Contractor	OT	281300 ⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified	OT	

Notes:

Door position switch to monitor / report open closed status of opening to security system.

Set: 15.0

Doors: C220

1 Continuous Hinge	CFM-HD1-M	PE	087100
1 Wireless Access Control	- XS4 Series (Salto)	26D	OT 087100 ⚡
1 Mortise Lock			
1 Surface Closer	UNI7500	689	NO 087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO 087100
1 Gasketing	2891APK TKSP8	PE	087100
1 Rain Guard	346C TKSP8	PE	087100
1 Door Bottom	216AFG TKSP	PE	087100
1 Threshold	252x3AFG Pemkote MSES25SS	PE	087100

Set: 17.0

Doors: A101-3, A101-4, C100E-3, C100E-4

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2 Continuous Hinge	CFM-SLF-HD1 PT		PE	087100	
2 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Mullion	L980A	US28	SA	087100	
2 Rim Exit Device, Exit Only	16 43 55 56 63 8810 EO	US32D	SA	087100	⚡
1 Cylinder	60 980C1	US26D	SA	087100	
3 Interchangeable Core	322401_ GMK	26	MC	087100	
2 Pull	RM201 Mtg-Type 12XHD	US32D-316	RO	087100	
2 Conc Overhead Stop	6-X36	630	RF	087100	
2 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100	
2 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
2 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
2 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Doors to be on lock / unlock schedule per the buildings access control system.

Door position switches to monitor / report open closed status of opening to security system.

Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 18.0

Doors: C102K-2

1 Continuous Hinge	CFM-SLF-HD1-M		PE	087100	
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100	
1 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Surface Closer	CPS7500T	689	NO	087100	

Set: 19.1

Doors: E101-5, E101-6, E103-5, **E103-6**

2 Continuous Hinge	CFM-SLF-HD1-M		PE	087100
2 Concealed Vert Rod Exit, Classroom	NB 43 60 AD8613 ETL	US32D	SA	087100
2 Interchangeable Core	322401_ GMK	26	MC	087100
2 Conc Overhead Stop	6-X36	630	RF	087100
2 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100

Set: 19.2

Doors: **B228**

1 Continuous Hinge	CFM-SLF-HD1-M		PE	087100
1 Classroom Lock	60 8237 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Conc Overhead Stop	6-X36	630	RF	087100

Set: 20.0

Doors: **B228-1**, **E104L-2**, **E104M-2**, **E112-1**

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100
1 Electric Power Transfer	EL-CEPT	630	SU	087100 ⚡
1 Rim Exit Device, Storeroom	12 43 55 56 63 8804 ETL	US32D	SA	087100 ⚡
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	PR7500	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 /441CU	US26D	RO	087100
1 Gasketing	S88BL		PE	087100
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100 ⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device lever trim)		MK	087100 ⚡
1 Card Reader	- Provided by Security Contractor		OT	281300 ⚡
1 Door Position Switch	- Provided by Security Contractor		OT	281300 ⚡
1 Power Supply	- Provided by Security Contractor		OT	281300 ⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT	

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader retracts exit device latch bolt allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Exit device equipped with request to exit switch at rail to shunt door monitoring at egress.
Free egress at all times.
Fail-safe.

Set: 21.0

Doors: **D100C-1**

6 Hinge (heavy weight)	T4A3786	US26D	MK	087100	
2 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Mullion	L980S	PC	SA	087100	
1 Rim Exit Device, Storeroom	43 55 56 63 8804 ETL	US32D	SA	087100	⚡
1 Rim Exit Device, Dummy	43 55 56 8810 ETL	US32D	SA	087100	⚡
1 Interchangeable Core	322401_ GMK	26	MC	087100	
2 Surface Closer	PR7500	689	NO	087100	
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
2 Wall Stop	400	US26D	RO	087100	
2 Silencer	608 / 609		RO	087100	
2 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
2 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor	OT		281300	⚡
2 Door Position Switch	- Provided by Security Contractor	OT		281300	⚡
1 Power Supply	- Provided by Security Contractor	OT		281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified	OT			

Notes:

Doors normally closed and locked.
Presentation of valid credential at card reader retracts exit device latch bolts allowing ingress.
Door position switches to monitor / report open closed status of opening to security system.

Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 22.0

Doors: B107H-2, B114B-2, C114, D105-2, D112, E104E-1, E104E-3, E104L-1, E104M-1, E110-1, E114

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Storeroom	43 55 56 63 8804 ETL	US32D	SA	087100	⚡
1 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Surface Closer	PR7500	689	NO	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	400 /441CU	US26D	RO	087100	
3 Silencer	608 / 609		RO	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor	OT	281300	⚡	
1 Door Position Switch	- Provided by Security Contractor	OT	281300	⚡	
1 Power Supply	- Provided by Security Contractor	OT	281300	⚡	
1 Wiring Diagram	- Elevation and Point to Point as Specified	OT			

Notes:

Doors normally closed and locked.
Presentation of valid credential at card reader retracts exit device latch bolts allowing ingress.
Door position switches to monitor / report open closed status of opening to security system.
Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set 23.0

~~Doors: A250-2, B238-1, B246-2~~

Set: 24.0

Doors: A110-2, A112-1, A202-1, A202-2, B107C-1, C118-2, C120-2, C124, D101-2, D101Q-1, D102C1-1, D102C1-2, D102C2-1, D102C2-2, D106-1, D106-2, D109, D110B, D111, D114B, D116-2, D118-1, F130-2, F131-2, ~~A240-1, A240-2, A250-1, B114-1, B114-2, B238-2, B240-1, B240-2, B242-1, B242-2, B244-1, B244-2, B246-1, C102E-1, C102E-2, C102K-1, D103~~

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Storeroom	43 55 56 63 8804 ETL	US32D	SA	087100	⚡
1 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Surface Closer	PR7500H	689	NO	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	400 / 441 CU	US26D	RO	087100	
3 Silencer	608 / 609		RO	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
1 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Doors normally closed and locked.

Presentation of valid credential at card reader retracts exit device latch bolts allowing ingress.

Door position switches to monitor / report open closed status of opening to security system.

Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 25.0

Doors: E104A1, E104A2

4 Hinge (heavy weight)	T4A3786	US26D	MK	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Storeroom	43 55 56 63 8804 ETL	US32D	SA	087100	⚡

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1 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Surface Closer	CPS7500	689	NO	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	400 / 441CU	US26D	RO	087100	
3 Silencer	608 / 609		RO	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
1 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Doors normally closed and locked.

Presentation of valid credential at card reader retracts exit device latch bolts allowing ingress.

Door position switches to monitor / report open closed status of opening to security system.

Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 26.0

Doors: ~~D101Q-2, D105-1, E104B-1, E104C-1, A242-1, A242-2, A248-1, A 248-2, E105-4~~

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Storeroom	12 43 55 56 63 8804 ETL	US32D	SA	087100	⚡
1 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Surface Closer	PR7500	689	NO	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	400	US26D	RO	087100	
1 Gasketing	S88BL		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡

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1 Card Reader	- Provided by Security Contractor	OT	281300	⚡
1 Power Supply	- Provided by Security Contractor	OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified	OT		

Notes:

Doors normally closed and locked.

Presentation of valid credential at card reader retracts exit device latch bolts allowing ingress.

Door position switches to monitor / report open closed status of opening to security system.

Exit devices equipped with request to exit switches at rail to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 27.0

Doors: [F130-1](#), [F131-1](#)

6 Hinge (heavy weight)	T4A3786	US26D	MK	087100
1 Mullion	L980S	PC	SA	087100
1 Rim Exit Device, Storeroom	43 60 8804 ETL	US32D	SA	087100
1 Rim Exit Device, Exit Only	43 8810 EO	US32D	SA	087100
1 Cylinder	60 980C1	US26D	SA	087100
2 Interchangeable Core	322401_ GMK	26	MC	087100
2 Surface Closer	PR7500H	689	NO	087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2 Wall Stop	400 / 441CU	US26D	RO	087100
2 Silencer	608 / 609		RO	087100

Set: 29.0

Doors: [F101-1](#), [F101-2](#), [F101-5](#)

8 Hinge (heavy weight)	T4A3786	US26D	MK	087100
1 Mullion	L980S	PC	SA	087100
2 Rim Exit Device, Classroom	43 60 8813 ETL	US32D	SA	087100
1 Cylinder	60 980C1	US26D	SA	087100
3 Interchangeable Core	322401_ GMK	26	MC	087100
2 Surface Closer	CPS7500T	689	NO	087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2 Silencer	608 / 609		RO	087100

Set: 30.1

Doors: B107H-1

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100
1 Rim Exit Device, Classroom	43 60 8813 ETL	US32D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	PR7500	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 /441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 30.2

Doors: A234-1, B107J

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100
1 Rim Exit Device, Classroom	43 60 8813 ETL	US32D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	CPS7500	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 33.0

Doors: D100C-1, ST1-2, ST2-2, ST2-3, ST3-1, ST3-3

6 Hinge (heavy weight)	T4A3786	US26D	MK	087100
2 Concealed Vert Rod Exit, Passage	12 NB 43 MD8615 ETL	US32D	SA	087100
2 Surface Closer	PR7500	689	NO	087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2 Wall Stop	400 /441CU	US26D	RO	087100
2 Electromagnetic Holder	994M	689	RF	087100 ⚡
1 Astragal	S772C		PE	087100
1 Gasketing	S88BL		PE	087100

Notes:

Doors to be normally held open on door / wall mounted magnetic hold open devices.
Magnetic hold open devices to release at activation of fire alarm or emergency lockdown.

Set: 33.1

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Doors: [ST4-2](#)

8 Hinge (heavy weight)	T4A3786	US26D	MK	087100
2 Concealed Vert Rod Exit, Passage	12 NB 43 MD8615 ETL	US32D	SA	087100
2 Surface Closer	PR7500	689	NO	087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2 Wall Stop	400 / 441CU	US26D	RO	087100
2 Electromagnetic Holder	994M	689	RF	087100 ⚡
1 Astragal	S772C		PE	087100
1 Gasketing	S88BL		PE	087100

Notes:

Doors to be normally held open on door / wall mounted magnetic hold open devices.
Magnetic hold open devices to release at activation of fire alarm or emergency lockdown.

Set: 36.0

Doors: [B102-4](#), [B102C](#), [B102D](#), ~~[F121](#)~~

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Electric Power Transfer	EL-CEPT	630	SU	087100 ⚡
1 Fail Secure Lock	RX 63 8271 LNL	US26D	SA	087100 ⚡
1 Interchangeable Core	322401 _ GMK	26	MC	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100 ⚡
1 ElectroLynx Harness	QC-C (power transfer to lock or electric strike location)		MK	087100 ⚡
1 Card Reader	- Provided by Security Contractor	OT	281300	⚡
1 Door Position Switch	- Provided by Security Contractor	OT	281300	⚡
1 Power Supply	- Provided by Security Contractor	OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified	OT		

Notes:

Door normally closed and locked.

Presentation of valid credential at card reader unlocks electric lock allowing ingress.

Door position switch to monitor / report open closed status of opening to security system.

Electric lock equipped with request to exit switch at interior lever to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 37.0

Doors: [B102-2](#)

3 Hinge, Full Mortise	TA2714	US26D	MK	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Fail Secure Lock	RX 63 8271 LNL	US26D	SA	087100	⚡
1 Mortise Deadlock	60 4875	US26D	SA	087100	
2 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Surface Closer	7500 - pull side mount	689	NO	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	400 /441CU	US26D	RO	087100	
3 Silencer	608 / 609		RO	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to lock or electric strike location)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
1 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Remote Release	- Provided by Security Contractor		OT	281300	
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Door normally closed and locked.

Presentation of valid credential at card reader or remote release unlocks electric lock allowing ingress to corridor.

Door position switch to monitor / report open closed status of opening to security system.

Electric lock equipped with request to exit switch at interior lever to shunt door monitoring at egress.

Free egress to office from corridor at all times.

Fail-secure.

Deadbolt to be used to secure office for after hours functions.

Set: 38.0

Doors: **B102-1**

3 Hinge, Full Mortise	TA2714	US26D	MK	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Fail Secure Lock	RX 63 8271 LNL	US26D	SA	087100	⚡
1 Interchangeable Core	322401_GMK	26	MC	087100	
1 Surf Overhead Stop	10-X36	630	RF	087100	
1 Surface Closer	7500 - pull side mount	689	NO	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
3 Silencer	608 / 609		RO	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to lock or electric strike location)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
1 Intercom	- Provided by Security Contractor		OT	281300	
1 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Remote Release	- Provided by Security Contractor		OT	281300	
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Door normally closed and locked.

Presentation of valid credential at card reader or intercom / remote release unlocks electric lock allowing ingress.

Door position switch to monitor / report open closed status of opening to security system.

Electric lock equipped with request to exit switch at interior lever to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set 39.0

~~Doors: E107~~

Set: 41.0

Doors: A103, A113, A119, A125, A211, A222, A223, A225, A232, A233, A236, A238, B105, B108, B213, B215, B218, B234, C106, C112, C116, C125, C224B, D101K, D108, D114G, D114H, E104F, E108, F118, F119, F121, ~~E106C, E106D, E106E~~

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3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Wireless Access Control 1 Mortise Lock	- XS4 Series (Salto)	26D	OT	087100 ⚡
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 42.0

Doors: A110, A212, B106, B208, D102D-1, D102D-2

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Wireless Access Control 1 Mortise Lock	- XS4 Series (Salto)	26D	OT	087100 ⚡
1 Surface Closer	PR7500	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 43.0

Doors: A202B

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Wireless Access Control 1 Mortise Lock	- XS4 Series (Salto)	26D	OT	087100 ⚡
1 Surf Overhead Stop	10-X36	630	RF	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 44.0

Doors: C201A, E104K, E107, E110A-1

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Wireless Access Control 1 Mortise Lock	- XS4 Series (Salto)	26D	OT	087100 ⚡
1 Surface Closer	7500 - pull side mount	689	NO	087100

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PAUL M. HODGSON VOCATIONAL
TECHNICAL HIGH SCHOOL

1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
1 Gasketing	S88BL		PE	087100

Set: 44.1

Doors: E105-4

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Wireless Access Control Mortise Lock	- XS4 Series (Salto)	26D	OT	087100

NEW CASTLE COUNTY VOCATIONAL –
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PAUL M. HODGSON VOCATIONAL
TECHNICAL HIGH SCHOOL

1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 47.0

Doors: B217, B225, C101-5, C102C, E102

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	7500H	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 48.0

Doors: A109, A127-1, A127C1-1, ~~A127C2~~, A203, A204-1, A205, A206, A207, A208, A214, A216, A218, A224, A226, A227, A228, A229, A230, A231, ~~A240-1, A240-2, A250-1, B109-1, B114-1, B114-2, B201, B203, B204, B205, B206, B207, B210, B212, B214, B219, B220, B221, B222, B223, B224, B226, B238-2, B240-1, B240-2, B242-1, B242-2, B244-1, B244-2, B246-1, C102E-1, C102E-2, C102K-1, D101C-2, D103~~

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	PR7500H	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 48.1

Doors: B238-1

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	CPS7500T	689	NO	087100

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PAUL M. HODGSON VOCATIONAL
TECHNICAL HIGH SCHOOL

1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 49.0

Doors: A250-2, B246-2

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surf Overhead Hold Open	10-X26	630	RF	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 50.0

Doors: C103

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surf Overhead Stop	10-X36	630	RF	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 50.1

Doors: A242-1, A242-2, A248-1, A248-2

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	PR7500	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400	US26D	RO	087100
1 Gasketing	S88BL		PE	087100

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TECHNICAL HIGH SCHOOL

Set: 51.0

Doors: A244, B109-2

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
1 Gasketing	S88BL		PE	087100

Set: 51.1

Doors: E105E, E106C

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Office/Entry Lock	60 8205 LNL	US26D	SA	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 52.0

Doors: A104, A106, A107, B101B, B101V, B102K, B116, C102-1

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Office/Entry Lock	60 8205 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	PR7500	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 53.0

Doors: F126

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Office/Entry Lock	60 8205 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surf Overhead Stop	10-X36	630	RF	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100

NEW CASTLE COUNTY VOCATIONAL –
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PAUL M. HODGSON VOCATIONAL
TECHNICAL HIGH SCHOOL

1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 54.0

Doors: D101-1

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Office/Entry Lock	60 8205 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surf Overhead Hold Open	10-X26	630	RF	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 55.0

Doors: B114A2-1, B114A2-2

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Passage Latch	8215 LNL	US26D	SA	087100
1 Conc Overhead Stop	2-X36	630	RF	087100
3 Silencer	608 / 609		RO	087100

Set: 56.0

Doors: C101D, C118D, D114F, D116F

6 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Flush Bolt	2805 / 2905	US26D	RO	087100
1 Classroom Lock	60 8237 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
2 Wall Stop	400 / 441 CU	US26D	RO	087100
2 Silencer	608 / 609		RO	087100

Set: 57.0

Doors: A104C, A104D, A104F, A106C, A106D, A106K-1, A106K-2, A107A, A107H, A110B, A110D, A127E, A127G, A202C, A235, A246-1, A246-2, B101U, B102G-1, B102M, B102N-2, B107F, B107G-1, B112A, B112C, B114B1, B114B2, B114E, B114F, B114H, B114J, B116E, C102D, C102J, C122-2, C122-3, C124D, D101F, D101L, D101N, D102E-1, D102E-2, D102F-1, D102F-2, D103A, D104E, D105D, D106C, D114-3, D114E, D116-3, D116D, D116E, E105G, E105H, E105K, E105L-1, E106B,

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PAUL M. HODGSON VOCATIONAL
TECHNICAL HIGH SCHOOL

F116, F117, ~~B102C~~

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Classroom Lock	60 8237 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 58.0

Doors: A202D

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Classroom Lock	60 8237 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
1 Gasketing	S773BL		PE	087100
1 Gasketing	S44BL		PE	087100
1 Gasketing	ACP112BL/2		PE	087100
1 Door Bottom	STC411APK		PE	087100

Set: 59.0

Doors: A104H, A127B1, A127B2, A220, B101D, B102N-1, B107G-2, B114G, B114K, B114L

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Classroom Lock	60 8237 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Conc Overhead Stop	2-X36	630	RF	087100
3 Silencer	608 / 609		RO	087100

Set: 60.0

Doors: D104

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Classroom Lock	60 8237 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100

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1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 61.0

Doors: A112C1, A112C2, A127C1, A204-2, B114C1, B114C2-1, B114C3-1, C101C, C118C, C120C, C124C, D101C-1, D105C, D110C, D110E, D114C, D116C, E105-1, E105-3

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Classroom Lock	60 8237 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	7500H	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 62.0

Doors: D114K-1, D114K-2

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Classroom Lock	60 8237 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	CPS7500	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 63.0

Doors: A127-2, C102H

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Classroom Lock	60 8237 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
1 Gasketing	S88BL		PE	087100

Set: 64.0

Doors: E106-1

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TECHNICAL HIGH SCHOOL

6 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Flush Bolt	2845 / 2945	US26D	RO	087100
1 Dust Proof Strike	570	US26D	RO	087100
1 Classroom Security Intruder Lock	60 8238 LNL	US26D	SA	087100
2 Interchangeable Core	322401_ GMK	26	MC	087100
1 Coordinator	2672	US28	RO	087100
2 Mounting Bracket	2601AB / 2601C	US28	RO	087100
2 Surface Closer	PR7500	689	NO	087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
1 Astragal	S772C		PE	087100
1 Gasketing	S88BL		PE	087100
3 Silencer	608 / 609		RO	087100

Set: 65.0

Doors: A104G, A106A, A106B, A107C, A107D, A107E, A107F, A107G, A107J, A202A, B101F, B101G, B101H, B101J, B101N, B101P, B101Q, B101R, B101S, B101T, B102F, B102G-2, B102H, B110-1, B110-2, B112, B112B, B112D, B112E, B116D-2, B116F, B116G, B116H, D101M, D104F, F115, F123, F125

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Classroom Security Intruder Lock	60 8238 LNL	US26D	SA	087100
2 Interchangeable Core	322401_ GMK	26	MC	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 66.0

Doors: A121, A221, B103, B114A, B209, B211

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Storeroom Deadbolt Lock	LB V21 60 8251 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

NEW CASTLE COUNTY VOCATIONAL –
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TECHNICAL HIGH SCHOOL

1 Coat Hook	796	US26D	RO	087100
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Set: 67.0

Doors: [A219](#)

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Storeroom Deadbolt Lock	LB V21 60 8251 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surf Overhead Stop	10-X36	630	RF	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100
1 Coat Hook	796	US26D	RO	087100

Set: 68.0

Doors: [B101K](#), [B101L](#), [B102H-1](#), [D102A1](#), [D102A2](#), [D106A](#), [E105A](#), [F115A](#), [F122A](#)

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Privacy Lock	LB V21 8265 LNL	US26D	SA	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100
1 Coat Hook	796	US26D	RO	087100

Set: 69.0

Doors: [D105A](#)

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Privacy Lock	LB V21 8265 LNL	US26D	SA	087100
1 Conc Overhead Stop	2-X36	630	RF	087100
3 Silencer	608 / 609		RO	087100
1 Coat Hook	796	US26D	RO	087100

Set: 70.0

Doors: [A104-1](#), [A104A-2](#), [A106H](#), [A112A](#), [B101A](#), [B102A](#), [B104](#), [B107A1](#), [B107A2](#), [C101A](#), [C102A1](#), [C102A2](#), [C118A](#), [C120A](#), [C124A](#), [D101A1](#), [D101A2](#), [D110A](#), [D114A](#), [D116A](#), [E106A](#), [F129](#)

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TECHNICAL HIGH SCHOOL

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Privacy Lock	LB V21 8265 LNL	US26D	SA	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100
1 Coat Hook	796	US26D	RO	087100

Set: 71.0

Doors: A127A

3 Hinge, Full Mortise	TA2714	US26D	MK	087100
1 Privacy Lock	LB V21 8265 LNL	US26D	SA	087100
1 Surf Overhead Stop	10-X36	630	RF	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100
1 Coat Hook	796	US26D	RO	087100

Set: 72.0

Doors: B102-3

6 Hinge, Full Mortise	TA2714	US26D	MK	087100
2 Single Dummy Trim	8295 LNL	US26D	SA	087100
2 Roller Latch	592	US26D	RO	087100
2 Wall Stop	400 / 441 CU	US26D	RO	087100
2 Silencer	608 / 609		RO	087100

Set: 73.0

Doors: A124, F102

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100
1 Storeroom/Closet Lock	60 8204 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Armor Plate	K1050 36" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441 CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 74.0

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Doors: C102-2

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100
1 Office/Entry Lock	60 8205 LNL	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 75.0

Doors: C102B, D101B1, D101B2, E101A, E101B, E105B, F105A-1, F111A-1, F120, F128B

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100
1 Mortise Deadlock	60 4875	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Push Plate	70E	US32D-316	RO	087100
1 Pull Plate	BF 111x70B	US32D	RO	087100
1 Surface Closer	7500 - pull side mount	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 76.0

Doors: F103B-1, F107B, F109B, F114B-1

3 Hinge (heavy weight)	T4A3786	US26D	MK	087100
1 Classroom Deadlock	60 4877	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
1 Push Plate	70E	US32D-316	RO	087100
1 Pull Plate	BF 111x70B	US32D	RO	087100
1 Surface Closer	PR7500	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	400 / 441CU	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 77.0

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Doors: **E105D**

1 Mortise Deadlock	60 4875	US26D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100
2 Push Plate	70E	US32D-316	RO	087100
1 Concealed Closer	W808 90N 199	626	RF	087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2 Wall Stop	400 /441CU	US26D	RO	087100

Set: 78.0

Doors: **A100-2, A200B-2, A200D-1, B100A-2, B200A-2, B200B, C100B-1, D100B-1, D100C-3, E100A-1, E100A-2, E100B-1, E104J-2, F100A-2, ST1-3, ST4-3**

2 Continuous Hinge	FM200	Gray Powder Coat Primer	MR	087100
2 Recessed Exit	D3676 MEC	US32D	RI	081700
2 Trim	D3080-01 LC	US32D	RI	
2 Mortise Cylinder	60 43	US32D	SA	087100
2 Interchangeable Core	322401_ GMK	26	MC	087100
2 Surface Closer	D-DC-351P9	EN	RI	081700
2 Electromagnetic Holder	D-MDH-310	689	RI	081700 ⚡
1 Seal Kit	D-SS-STK-CLR	Clear	RI	081700

Notes:

Doors to be normally held open on door / wall mounted magnetic hold open devices.
Magnetic hold open devices to release at activation of fire alarm or emergency lockdown.

Set: 78.1

Doors: **E101-8, E101-9**

2 Continuous Hinge	FM200	Gray Powder Coat Primer	MR	087100
2 Recessed Exit	D3676 MEC	US32D	RI	081700
2 Trim	D3080-01 LC	US32D	RI	
1 Electric Hold Open Closer	7200 Series	689	NO	087100 ⚡
2 Mortise Cylinder	60 43	US32D	SA	087100

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TECHNICAL HIGH SCHOOL

2 Interchangeable Core	322401_GMK	26	MC	087100	
1 Surface Closer	D-DC-351P9	EN	RI	081700	
1 Electromagnetic Holder	D-MDH-310	689	RI	081700	⚡
1 Seal Kit	D-SS-STK-CLR	Clear	RI	081700	
1 Power Supply	- Provided by Security Contractor	OT		281300	⚡

Notes:

Doors to be normally held open on 1 door / wall mounted magnetic hold open devices and 1 electric hold open door closer.

Magnetic / electric hold open devices to release at activation of fire alarm or emergency lockdown.

Set: 78.2

Doors: A100-1, A200B-1, B100A-1, B200A-1, C100A, D100A, E100B-2, F100A-3

2 Continuous Hinge	FM200	Gray Powder Coat Primer	MR	087100	
2 Recessed Exit	D3676 MEC	US32D	RI	081700	
2 Trim	D3080-01 LC	US32D	RI		
2 Mortise Cylinder	60 43	US32D	SA	087100	
2 Interchangeable Core	322401_GMK	26	MC	087100	
2 Surface Closer	D-DC-351P9	EN	RI	081700	
2 Electromagnetic Holder	D-MDH-310	689	RI	081700	⚡

Notes:

Doors to be normally held open on 1 door / wall mounted magnetic hold open devices and 1 electric hold open door closer.

Magnetic / electric hold open devices to release at activation of fire alarm or emergency lockdown.

Set: 78.3

Doors: E104G-1, E104J-1

2 Continuous Hinge	FM200	Gray Powder Coat Primer	MR	087100	
2 Recessed Exit	D3676 MEC	US32D	RI	081700	
2 Trim	D3080-01 LC	US32D	RI		
2 Mortise Cylinder	60 43	US32D	SA	087100	

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PAUL M. HODGSON VOCATIONAL
TECHNICAL HIGH SCHOOL

2 Interchangeable Core	322401_ GMK	26	MC	087100
2 Surface Closer	D-DC-351P9	EN	RI	081700
2 Wall Stop	400 /441CU	US26D	RO	087100

Notes:

Set: 78.4

Doors: A200D-2, B200C

2 Continuous Hinge	FM200	Gray Powder Coat Primer	MR	087100
2 Recessed Exit	D3676 MEC	US32D	RI	081700
2 Trim	D3080-01 LC	US32D	RI	
1 Electric Hold Open Closer	7200 Series	689	NO	087100 ⚡
2 Mortise Cylinder	60 43	US32D	SA	087100
2 Interchangeable Core	322401_ GMK	26	MC	087100
1 Surface Closer	D-DC-351P9	EN	RI	081700
1 Electromagnetic Holder	D-MDH-310	689	RI	081700 ⚡
1 Power Supply	- Provided by Security Contractor	OT		281300 ⚡

Notes:

Doors to be normally held open on 1 door / wall mounted magnetic hold open devices and 1 electric hold open door closer.

Magnetic / electric hold open devices to release at activation of fire alarm or emergency lockdown.

Set: 79.0

Doors: G04, G05, G06, G07, G10

2 Rim Exit Device, Classroom	CPC 43 60 8813 ETL *NC-E35*	US32D	SA	087100
2 Interchangeable Core	322401_ GMK	26	MC	087100

Notes:

Coordinate mounting of exit device with gate manufacturer.

Set: 79.1

Doors: G02, G03, **G08**

1 Rim Exit Device, Classroom	CPC 43 60 8813 ETL *NC-E35*	US32D	SA	087100
1 Interchangeable Core	322401_ GMK	26	MC	087100

Notes:

Coordinate mounting of exit device with gate manufacturer.

Set: 79.2

Doors: G01

1 Rim Exit Device, Storeroom	CPC 43 64 8804 ETL *NC-E35*	US32D	SA	087100	
1 Interchangeable Core	322401_ GMK	26	MC	087100	
1 Electric Strike	9600	630	HS	087100	
1 SMART Pac Bridge Rectifier	2005M3		HS	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	
1 ElectroLynx Harness	QC-C (power transfer to lock or electric strike location)		MK	087100	
1 Card Reader	- Provided by Security Contractor		OT	281300	
1 Door Position Switch	- Provided by Security Contractor		OT	281300	
1 Power Supply	- Provided by Security Contractor		OT	281300	
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Coordinate mounting of exit device with gate manufacturer.

Gate normally closed and locked.

Presentation of valid credential at card reader unlocks electric strike allowing ingress.

Free egress at all times.

Fail-secure.

Set: 79.3

Doors: G09, G11

2 Rim Exit Device, Storeroom	CPC 43 64 8804 ETL *NC-E35*	US32D	SA	087100
2 Interchangeable Core	322401_ GMK	26	MC	087100

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TECHNICAL HIGH SCHOOL

2 Electric Strike	9600	630	HS	087100	⚡
2 SMART Pac Bridge Rectifier	2005M3		HS	087100	⚡
2 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
2 ElectroLynx Harness	QC-C (power transfer to lock or electric strike location)		MK	087100	⚡
1 Card Reader	- Provided by Security Contractor		OT	281300	⚡
2 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	- Elevation and Point to Point as Specified		OT		

Notes:

Coordinate mounting of exit device with gate manufacturer.

Gate normally closed and locked.

Presentation of valid credential at card reader unlocks electric strike allowing ingress.

Free egress at all times.

Fail-secure.

Set: 79.4

Doors: A102-2, A102-3, D117-2, D117-3, D117-6, D117-7

1 Hardware	- Provided with NanaWall	626	OT	102239	
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Set: 80.0

Doors: MISC

1 Repair Kit	QC-R001		MK	087100	⚡
1 Crimp Tool	QC-R003		MK	087100	⚡
1 Key Cabinet	1200 Series x Mounting Brackets & Capacity as Required		LU		

END OF SECTION

SECTION 09 21 16 – GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Metal channel ceiling framing.
- D. Gypsum sheathing.
- E. Cementitious backing board.
- F. Gypsum wallboard.
- G. Joint treatment and accessories.
- H. Bullet resistant sheathing and wallboard.

1.2 RELATED DOCUMENTS

- A. Section 05 40 00 - Cold-Formed Metal Framing: Exterior wind-load-bearing metal stud framing.
- B. Section 06 10 00 - Rough Carpentry: Wood blocking product and execution requirements.
- C. Section 07 21 00 - Thermal Insulation: Acoustic insulation.
- D. Section 07 84 00 - Firestopping: Top-of-wall assemblies at fire rated walls.
- E. Section 07 92 00 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

1.3 REFERENCE STANDARDS

- A. AISI S100-12 - North American Specification for the Design of Cold-Formed Steel Structural Members 2012.
- B. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units 1999 (Reaffirmed 2016).
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- D. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board 2017.
- E. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members 2018.
- F. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products 2020.
- G. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board 2020.
- H. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness 2018.
- I. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs 2020.
- J. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base 2019.

- K. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing 2017.
- L. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel 2017.
- M. ASTM C1280 - Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing 2018.
- N. ASTM C1325 - Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units 2021.
- O. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.
- P. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels 2019.
- Q. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2016.
- R. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements 2009 (Reapproved 2016).
- S. ASTM E413 - Classification for Rating Sound Insulation 2016.
- T. GA-216 - Application and Finishing of Gypsum Panel Products 2018.
- U. GA-226 - Application of Gypsum Board to Form Curved Surfaces; Gypsum Association 2016.
- V. UL 752 - Standard for Bullet-Resisting Equipment Current Edition, Including All Revisions.
- W. UL (FRD) - Fire Resistance Directory Current Edition.

1.4 SUBMITTALS

- A. Product Data: Provide data on metal framing, gypsum board, glass mat faced gypsum board, accessories, and joint finishing system.
- B. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
- C. Test Reports: For stud framing products that do not comply with ASTM C645 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.
- D. Test Reports: Bullet resistant sheathing and wallboard.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum five years of documented experience.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
 - 1. See PART 3 for finishing requirements.
- B. Interior Partitions: Provide completed assemblies with the following characteristics:
 - 1. Acoustic Attenuation: STC as indicated calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

- C. Fire Rated Assemblies: Provide completed assemblies with the following characteristics:
 - 1. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).
 - a. Refer to Drawings for UL Assembly Numbers.

2.2 METAL FRAMING MATERIALS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. Clarkwestern Dietrich Building Systems LLC: www.clarkdietrich.com.
 - 2. Marino: www.marinoware.com.
 - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
 - 1. Steel Sheet Components: Comply with ASTM A1003 requirements for metal unless otherwise indicated.
 - 2. Protective coating: ASTM A653/A653M G40 hot-dip galvanized unless otherwise noted.
 - 3. Studs: "C" shaped with flat or formed webs with reinforcing ribs.
 - a. Minimum Base-Metal Thickness: 0.019 inches (20 ga equivalent), in addition to the minimum thickness required by performance requirements for horizontal deflection.
 - b. Depth: As indicated on Drawings.
 - 4. Ceiling Channels: C-shaped.
 - 5. Furring: Hat-shaped sections, minimum depth of 7/8 inch.
- C. Loadbearing Studs for Application of Gypsum Board: As specified in Section 05 40 00.
- D. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.
- E. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
 - 1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100-12.
 - 2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot dipped galvanized coating.
 - 3. Provide components UL-listed for use in UL-listed fire-rated head of partition joint systems specified in Section 07 84 00.
 - 4. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-rating of the wall assembly.
- F. Grid Suspension Systems: Steel grid system of main tees and support bars connected to structure using hanging wire.
 - 1. Products:
 - a. USG Corporation; Drywall Suspension System: www.usg.com/#sle.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

2.3 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
1. CertainTeed Corporation: www.certainteed.com.
 2. Georgia-Pacific Gypsum: www.gpgypsum.com.
 3. National Gypsum Company: www.nationalgypsum.com/#sle.
 4. USG Corporation: www.usg.com.
 5. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces and ceilings, 8'-0" and higher, unless otherwise indicated. Use for inner layer of multi-layer applications, unless otherwise indicated.
 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 3. Mold resistant board is required at all locations.
 4. At All Assemblies: Use type required by indicated tested fire-rated assembly; if no tested fire-rated assembly is indicated, use Type X board, UL or WH listed.
 5. Thickness:
 - a. Vertical Surfaces: 5/8 inch.
 - b. Ceilings: 5/8 inch.
 6. Mold Resistant Paper Faced Products:
 - a. National Gypsum Company; Gold Bond XP Gypsum Board: www.nationalgypsum.com/#sle.
 - b. CertainTeed Corporation; ProRoc Brand Moisture & Mold Resistant Gypsum Board..
 - c. Lafarge North America Inc; Mold Defense Drywall..
 - d. USG Corporation; Sheetrock Brand Mold Tough Gypsum Panels.
 - e. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Abuse Resistant Wallboard:
1. Application: All locations, 8'-0" and below, except Gymnasium and cafeteria
 2. Surface Abrasion: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
 3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
 4. Soft Body Impact: Level 2, minimum, when tested in accordance with ASTM C1629/C1629M.
 5. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 6. Paper-Faced Type: Gypsum wallboard as defined in ASTM C1396/C1396M.
 7. Unfaced Type: Interior fiber-reinforced gypsum panels as defined in ASTM C1278/C1278M.
 8. Type: Fire resistance rated Type X, UL or WH listed.
 9. Thickness: 5/8 inch.
 10. Edges: Tapered.
 11. Paper-Faced Products:
 - a. CertainTeed Corporation; Extreme Abuse Resistant Drywall with M2Tech: www.certainteed.com/#sle.
 - b. National Gypsum Company; Gold Bond Hi-Abuse XP Gypsum Board: www.nationalgypsum.com/#sle.
 - c. USG; Fiberoak Aqua-Tough Interior Panel.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

D. Impact Resistant Wallboard:

1. Application: Gypsum board partitions in Gymnasium and Cafeteria.
2. Surface Abrasion: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
4. Soft Body Impact: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
5. Hard Body Impact: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
6. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
7. Paper-Faced Type: Gypsum wallboard as defined in ASTM C1396/C1396M.
8. Unfaced Type: Interior fiber-reinforced gypsum panels as defined in ASTM C1278/C1278M.
9. Type: Fire resistance rated Type X, UL or WH listed.
10. Thickness: 5/8 inch.
11. Edges: Tapered.
12. Paper-Faced Products:
 - a. CertainTeed Corporation; Extreme Impact Resistant Drywall with M2Tech: www.certainteed.com/#sle.
 - b. National Gypsum Company; Gold Bond Hi-Impact XP Gypsum Board: www.nationalgypsum.com/#sle.
 - c. USG Sheetrock Brand Mold Tough VHI Firecode X Panels.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

E. Backing Board for Wet Areas:

1. Application: Surfaces behind tile in wet areas including shower room tile installations.
2. Application: Exterior soffits where textured acrylic finish systems are indicated.
3. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
 - a. Thickness: 1/2 inch.
 - b. Products:
 - 1) Custom Building Products; Wonderboard: www.custombuildingproducts.com.
 - 2) National Gypsum Company; PermaBase Cement Board: www.nationalgypsum.com/#sle.
 - 3) USG Corporation; Durock Brand Cement Board: www.usg.com.
 - 4) Substitutions: See Section 01 60 00 - Product Requirements.

F. Backing Board for Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.

1. Application: Vertical surfaces behind thinset tile, except in wet areas.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
4. Type: Type X, in locations indicated.
5. Type X Thickness: 5/8 inch.
6. Edges: Tapered.
7. Products:
 - a. National Gypsum Company; Gold Bond Hi-Abuse XP Gypsum Board.
 - b. Georgia-Pacific Gypsum LLC; DensShield Tile Backer..

- c. USG; Fiberock Aqua-Tough Interior Panel..
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
- G. Bullet Resistant Sheathing and Wallboard: Woven roving, multi-ply, ballistic grade fiberglass cloth with thermoset polyester resin; comply with UL 752 Level 2.
 - 1. Thickness: 5/16 inch.
 - 2. Products:
 - a. ArmorCore by Waco Composites; Bullet Resistant Fiberglass Panels: www.armorcore.com/#sle.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.
 - 3. Location: Provide for all interior walls of Vestibule V1 and Admin. 174.
- H. Exterior Sheathing Board: Sizes to minimize joints in place; ends square cut.
 - 1. Application: Exterior sheathing, unless otherwise indicated.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - 3. Glass Mat Faced Sheathing: Glass mat faced gypsum substrate as defined in ASTM C1177/C1177M.
 - 4. Core Type: Type X, as indicated.
 - 5. Type X Thickness: 5/8 inch.
 - 6. Edges: Square.
 - 7. Glass Mat Faced Products:
 - a. CertainTeed Corporation; GlasRoc Type X Exterior Sheathing: www.certainteed.com/#sle.
 - b. Georgia-Pacific Gypsum; DensGlass Sheathing: www.gpgypsum.com/#sle.
 - c. National Gypsum Company; Gold Bond eXP Sheathing: www.nationalgypsum.com/#sle.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
- I. GYP-2 Acoustical Drywall Panels: Basis of Design: USG Interiors, LLC, “USG ENSEMBLE® ACOUSTICAL DRYWALL SYSTEM” with Compasso Elite Extruded Perimeter Trim
 - 1. acceptable products by other manufacturers are:
 - a. Armstrong ACOUSTIBuilt panels #2604
 - b. Rockfon Mono Acoustics
 - c. Pyrok StarSilent
 - 2. 5/8” Perforated non-fire rated gypsum panel with acoustically transparent scrim
 - a. 4’ wide tapered edges all 4 sides
 - 3. Acoustic Backer Panel
 - a. NRC: Not less than 0.80.
 - b. CAC: Not less than 40.
 - c. Edge/Joint Detail: SQ Square.
 - d. Panel Thickness: 1 inch
 - e. Modular Size: 23.5 by 48 inches
 - f. VOC Emissions: Meets CA Specification 01350, CHPS listed for low emitting materials
 - 4. **Edge Trim: 6”**
- J. Finishing
 - 1. Joint Tape
 - a. Interior: precreased paper
 - b. Glass-Mat sheathing: 10X10 glass mesh
 - c. Tile Backing: as recommended by panel Manufacturer.

2. Joint Compound for interior applications
 - a. Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats
 - b. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound
 - c. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound
 - d. Use setting-type compound for installing paper-faced metal trim accessories
 - e. Fill Coat: For second coat, use drying-type, all-purpose compound
 - f. Finish Coat: For third coat, use drying-type, all-purpose compound
 - g. Skim Coat: For final coat of Level 5 finish, use high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish
3. Joint Compound for Exterior Applications
 - a. Exterior Gypsum Soffit Board: Use setting-type taping compound and setting-type, sandable topping compound
 - b. Glass-Mat Gypsum Sheathing Board: As recommended by sheathing board manufacturer
4. Joint Compound for Tile Backing Panels
 - a. Glass-Mat, Water-Resistant Backing Panel: As recommended by backing panel manufacturer
 - b. Cementitious Backer Units: As recommended by backer unit manufacturer
 - c. Water-Resistant Gypsum Backing Board: Use setting-type taping compound and setting-type, sandable topping compound

2.4 ACCESSORIES

- A. Acoustic Insulation: As specified in Section 07 21 00.
- B. Acoustic Sealant: As specified in Section 07 92 00; Type 5.
- C. Finishing Accessories: ASTM C1047, paper-faced galvanized steel, unless noted otherwise.
 1. Types: As detailed or required for finished appearance.
- D. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
 1. Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
 2. Chemical hardening type compound.
- E. High Build Drywall Surfer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
 1. Products:
 - a. CertainTeed Corporation; Level V Wall and Ceiling Primer/Surfer with M2Tech: www.certainteed.com/#sle.
 - b. USG Sheetrock Brand Tuff-Hide Primer-Surfer.
 - c. Substitutions: See Section 01 60 00 - Product Requirements.
- F. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

- G. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion resistant.
- H. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.2 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Suspended Ceilings and Soffits: Space framing and furring members at 16 inches on center.
 - 1. Level ceiling system to a tolerance of 1/120.
 - 2. Laterally brace entire suspension system.
- C. Studs: Space studs as required by performance requirements for horizontal deflection, 16 inches on center maximum.
 - 1. Extend partition framing to underside of structure as indicated.
 - 2. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- E. Standard Wall Furring: Install at concrete and masonry walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
 - 1. Orientation: Horizontal.
 - 2. Spacing: At 16 inches on center.
- F. Blocking: Install wood blocking for support of:
 - 1. Framed openings.
 - 2. Wall mounted cabinets.
 - 3. Plumbing fixtures.
 - 4. Toilet partitions.
 - 5. Toilet accessories.
 - 6. Wall mounted door hardware, including wall stops.
 - 7. Handrails and wall brackets.
 - 8. Display cases, markerboards, tack boards.
 - 9. TV and monitor mounts.

3.3 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
- B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
 - a. Place two beads continuously on substrate before installation of perimeter framing members.
 - b. Place continuous bead at perimeter of each layer of gypsum board.
 - c. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.4 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board parallel to framing, with ends and edges occurring over firm bearing.
- C. Double-Layer Non-Rated: Use gypsum board for first layer, placed perpendicular to framing or furring members, with ends and edges occurring over firm bearing. Place second layer parallel to framing or furring members. Offset joints of second layer from joints of first layer.
- D. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- E. Exterior Sheathing: Comply with ASTM C1280. Install sheathing vertically, with edges butted tight and ends occurring over firm bearing.
 - 1. Seal joints, cut edges, and holes with water-resistant sealant.
- F. Exterior Soffits: Install cementitious backing boards perpendicular to framing, with staggered end joints over framing members or other solid backing.
 - 1. Seal joints, cut edges, and holes with water resistant sealant.
- G. Cementitious Backing Board: Install over steel framing members where indicated, in accordance with ANSI A108/A118/A136.1 and manufacturer's instructions.
- H. Installation on Metal Framing: Use screws for attachment of gypsum board.
- I. Curved Surfaces: Apply gypsum board to curved substrates in accordance with GA-226.
- J. Bullet Resistant Sheathing and Wallboard:
 - 1. Install bullet-resistant sheathing according to manufacturer's written recommendations and with manufacturer-approved fasteners.
 - 2. Cover all joints between boards with a 4 inch strip of the same thickness material as the boards, centered on the joint.

3.5 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
 - 1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.
- D. Exterior Soffit Vents: Install according to manufacturer's written instructions and in locations indicated on the drawings. Provide vent area specified.

3.6 JOINT TREATMENT

- A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, bedded and finished with chemical hardening type joint compound.
- B. Paper Faced Gypsum Board: Use paper or fiberglass joint tape, bedded with chemical hardening type joint compound and finished with chemical hardening type joint compound.
- C. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 5: not required.
 - 2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 - 3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
 - 4. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.
- D. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch.
 - 2. Taping, filling and sanding is not required at base layer of double layer applications.

3.7 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 54 20 - SPECIALTY CEILING SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Acoustical Sound Diffusing / Reflecting Ceiling Tiles
2. Metal mesh
3. Decorative Metal Panel
4. Suspension assemblies
5. Accessories; provide other necessary items including devices for attachment overhead construction, secondary members, splines, splices, connecting clips, wall connectors, wall angles, and other devices required for a complete installation.
6. Coordinate layout and installation of items penetrating or being installed in ceiling systems with responsible trades.

B. Related Sections:

1. Section 05 40 00 - Cold-Formed metal Framing
2. Sections 09 21 16 - Gypsum Board Assemblies
3. Sections 09 51 00 - Acoustical Ceilings
4. Sections 09 90 00 - Paintings and Coatings
5. Division 23 - Heating, Ventilating and Air Conditioning
6. Division 26 - Electrical

- C. This Section covers the general requirements only for Specialty Ceiling Systems as shown on the drawings. The supplying and installation of additional accessory feature and other items not specifically mentioned herein, but which are necessary to make a complete installation shall also be included or clarified accordingly.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. E 84 - "Standard Test Method for Surface Burning Characteristics of Building Materials"
2. E 488 - "Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements"
3. B 209 - "Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate"
4. C 423 - "Sound Absorption and Sound Absorption Coefficients by Reverberation Room Method"
5. E 580 - "Standard Practice for Application of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Requiring Moderate Seismic Restraint"
6. C 635 - "Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings"
7. C 636 - "Recommended Practice for Installation of Metal Ceiling Suspensions Systems for Acoustical and Lay-in Panels"
8. A 641 - "Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire"
9. A 653 - "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip process."
10. E 1264 - Classification for Acoustical Ceiling Products"

11. E 1477 - Standard Test Method for Luminous Reflectance factor of Acoustical Materials by use of Integrating-Sphere Reflectometers”
12. D 1044 - Practice for Abrasion Resistance
13. D 1002 - Practice for Adhesion Resistance
- B. Local Building Code: IBC, current edition requirements

1.03 SUBMITTALS

- A. Product Data: Manufacturers product data for each type of product specified in this section.
- B. Product Certification: Manufacturer’s certifications that products comply with specified requirements and governing codes including product data, laboratory test reports and research reports showing compliance with specified standards.
- C. Shop Drawings: Submit shop drawings for reflected ceiling plans (RCP’s), drawn to scale, and coordinating penetrations and ceiling mounted items. Show the following details:
 1. Reflected ceiling plan including joint patterns & details drawn to scale
 - a. Plans 1/8”=1’-0”
 - b. Identify ceiling start points
 2. Metal ceiling suspension system plan with appropriate components, suggested hanger locations & details.
 3. Method of attaching suspension system hangers to building structure.
 4. Ceiling-mounted items including: light fixtures, air outlets and inlets, speakers, sprinklers, and other interfaces.
 5. Special moldings at walls, column penetrations, and other junctures of acoustical ceilings with adjoining construction.
 6. Framing and support details for work supported by ceiling suspension system.
 7. Provide full scale drawings of perforation patterns. Provide minimum 1”=1’-0” scale layout for each panel type showing perforation layout and orientation as required.
 8. For products requiring color selections textures and/or patterns, or if product is not “Basis of Design selection” provide manufacturers physical color chart, or samples (pdf or electronic submittals are not acceptable) of available colors for initial selection. Architect may select up to 3 for verification.
 9. Samples for Verification: Full-size units (or as specified below) of each type of ceiling assembly indicated; in sets for each color, texture, and pattern specified, showing the full range of variations expected in these characteristics. Submit samples for each type specified.
 - a. Full Size Mesh
 - b. Full Size decorative metal
 - c. 12-inch square, acoustic baffle.
 - d. 12-inch long samples of each exposed molding or trim.

1.04 QUALITY ASSURANCE

- A. Installer
 1. To certify a minimum 5 years experience installing similar systems and scope to those specified.
 2. If requested provide list of at least 5 successful installations with similar products and scope. Include names and contact numbers of Architect and employer for reference.
- B. Manufacturer
 1. To certify a minimum of 5 years experience manufacturing similar products to those specified.

2. If requested, provide support documentation including name and date of project completion. Include names and contact numbers of Architect and employers for reference.
3. Manufacturer shall be single source and shall be the fabricator and supplier of appropriate major components.
- C. Fire-Test-Response Characteristics: Provide acoustical metal pan ceilings that comply with one of the following requirements:
 1. Fire-response tests performed by UL, ITS/Warnock Hersey, or another independent testing and inspecting agency that is acceptable to authorities having jurisdiction and that performs testing and follow-up services.
 2. Surface-burning characteristics of acoustical metal pan ceilings comply with ASTM E 1264 for Class A materials as determined by testing identical products per ASTM E 84.
- D. Pre-installation Conference: Conduct conference at Project site as directed by the project Architect.
- E. Mock-Ups: Construct mock-ups for each form of construction and finish required to verify selections made under sample submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mock-up to comply with the following minimum requirements, using materials indicated for completed work:
 1. Locate mock-ups in the location and of the size indicated or, if not indicated, as directed by the Architect. Minimum mock-up size to be 6'x 6' unless otherwise specified.
 2. Notify Architect seven days in advance of the dates and times when mock-ups will be constructed.
 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 4. Site Coordination Mock-up:
 - a. For approval of assembly, sequence of installation, coordination of trades involved, including ceiling panel types and shapes.
 - b. Sized large enough to include a minimum of 2 adjacent panels Demonstrating interface work of fire protection sprinklers, lighting, mechanical diffusers, anchoring method at steel structure; adjacent vertical wall; skylight and fascia, trim and accessories.
 5. Obtain Architect's approval of mock-ups before starting construction of acoustical metal pan ceilings.
 6. Maintain mock-ups during construction in an undisturbed condition as a standard for judging the completed work.
 - a. When directed, demolish and remove mock-ups from project site
 - b. Approved mock-ups in an undisturbed condition at the time of initial Acceptance may become part of the completed work, subject to Architect / Owner approval.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical metal ceiling units and suspension system components in original, unopened packages clearly labeled with the following information: name of manufacturing source and location; product type, description and quantity; clients name and shipping address.
- B. Panel's protective layer to be removed only after installation is complete to help prevent panel surface damage.
- C. Store components in a fully enclosed space where they will be protected against physical damage from direct moisture, significant change in humidity, direct sunlight, significant change in temperature, surface contamination, and any other preventable cause.

- D. Exercise care in handling components to prevent damage to the surfaces and edges and prevent distortion or other physical damage. Comply with prescribed stacking instructions to prevent damage to components

1.06 PROJECT CONDITIONS

- A. Environmental Limitations
 - 1. Do not install specialty ceiling systems until after spaces are enclosed and weather tight and after wet work and work above ceilings is complete and accepted by project Architect.
 - 2. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits. Allow materials to reach ambient temperature and humidity for a minimum of 48 hours prior to starting installation.
 - 3. Coordinate with other work supported by, adjacent to or penetrating through the ceiling system.
- B. Do not install products in exterior space unless the system has been specifically designed and approved for exterior application.

1.07 WARRANTY

- A. Provide specified manufacturers warranty against defects in workmanship, discoloration, or other defect considered undesirable by the Architect or Owner.
- B. This warranty shall remain in effect for a minimum period of five (5) years from date of initial acceptance.

1.08 MAINTENANCE & EXTRA MATERIALS

- A. Maintenance Instructions: Provide manufacturers standard maintenance and cleaning instructions for finishes provided.
- B. Extra Materials: Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents. Only typical system components are included with attic stock.
 - 1. Metal Mesh: Full-size units equal to 1½ percent of amount installed.
 - 2. Decorative Metal panel: Full Size units equal to 1 ½ percent of amount installed.
 - 3. Acoustic baffles: min.
 - 4. Ceiling Suspension System Components: Quantity of each grid and exposed component equal to 1½ percent of amount installed.

PART 2 - PRODUCTS

2.01 SPECIALTY CEILING SYSTEM SPC -1, EXPANDED MESH CEILING PANEL:

- A. Basis of Design: Armstrong Expanded metal 819AM
 - 1. Materials offered by other manufacturers meeting the basis of design specifications and design intent include, but are not limited to:
 - a. SAS international: "Mesh"
 - b. McNichols Co "Expanded Metal"
- B. Materials
 - 1. Surface texture: smooth

2. Composition: Cold formed Metal
 3. Color: Nickle Chrome
 4. Size: 24"x24"
 5. Edge profile: Square Tegular for interface with 15/16" Exposed Tee
 6. 70% open area Mesh
 7. Non-combustible
- C. Suspension system: Provide complete suspensions systems with main runners, cross runners, hangers, trim molding, seismic retention clips, load resisting struts and other suspension components required to support ceiling and other ceiling supported construction
1. Basis of Design Armstrong Prelude XL exposed 15/16" grid system.
 2. Products by other manufacturers that meet the Basis of Design Specificatins and Design intent include, but are not limited to:
 - a. USG
 - b. Certainteed
 3. Components
 - a. Main beams and override cross tees, base metal and end detail, fabricated from commercial quality hot dipped galvanized steel complying with ASTM A 653. Main beams and cross tees are double-web steel construction with type exposed flange design. **All surfaces** (360) chemically cleansed, capping prefinished galvanized steel in baked polyester paint or powder coat to match mesh

2.02 SPECIALIY CEILING SYSTEMS SPC-2. ACOUSTIC BAFFLE

- A. Basis of Design: Turf Design, Inc. "Slab"
1. Manufacturers with products that may meet the Basis of Design Specification and Design intent include, but are not limited to:
 - a. Fräsch Blade Baffle, <https://frasch.com/ceilings>Arktura
 - b. Acoustical Solutions, <https://acousticalsolutions.com/product/alphasorb-designer-premium-acoustic-felt-ceiling-baffles/>
 - c. Acoufelt, Truss Ceiling Baffle, <https://www.acoufelt.com/product/ceiling/baffles/truss/>
 - d. Arktura, Sound Bar, <https://arktura.com/products/ceiling-baffles/#soundbar>
 - e. Kineticsnoise, KleenKBAR, <https://kineticsnoise.com/kleen/kbar>
 2. Material
 - a. 9 mm Polyester Felt (PET) 60% preconsumer Recycled
 - b. ASTM E84 Class
 3. Baffle Attributes unless otherwise noted on drawings
 - a. Thickness: 2.25
 - b. Depth: 8.68"
 - c. Length: varies
 - d. Edges: Exposed felt Machined edge
 - e. Corners: Square, exposed Felt machined edge
 - f. Color: custom RAL #TBD
 4. Mounting Method: Baffles with embedded cable grippers snap into deckmounted aircraft cables
 - a. Provide complete suspensions systems consisting of aircraft cable and other supports suspension components required to support ceiling and other ceiling supported construction.

2.03 SPECIALTY CEILING SYSTEM SPC-3 – ACOUSTICAL BAFFLE

- A. Basis of Design as specified for SPC-2

1. Color: Light Gray
2.04 SPECIALITY CEILING SPC-4-ACOUSTICAL BAFFLE

A. Basis of Design as specified for SPC-2

1. Color” Dark Gray

2.05 SPECIALITY CEILING SYSTEM SPC-5 DECORATIVE METAL PANELS

A. Basis of Design: Arktura LLC “Vapor, cluster”

1. Products by other manufacturer meeting the basis of design specificatins and design intent include, but are not limited to:
 - a. Moz Designs Inc
 - b. USG Corporation
 - c. McNichols Co. “Perforated Metal Panels”
2. Panels:
 - a. Nominally 24”X48”
 - b. Surface Texture: Smooth
 - c. Composition: .06 Aluminum 5052
 - d. Color” as selected from RAL system
 - e. Pattern: Varying sizes and shapes. Perforated pattern to be continuous across panelized system (panel edge to panel edge). Smooth inside cut faces As proposed on design documents.
3. Suspension System: Provide complete suspensions systems with main runners, cross runners, hangers, trim molding, seismic retention clips, load resisting struts and other suspension components required to support ceiling and other ceiling supported construction
 - a. Basis of Design Armstrong Prelude XL exposed 15/16” grid system
 - b. Products by other manufacturers that meet the Basis of Design Specificatins and Design intent include, but are not limited to:
 - 1) USG
 - 2) Certainteed
 - c. Main beams and cross tees, base metal and end detail, fabricated from commercial quality hot dipped galvanized steel “Heavy Duty” complying with ASTM A 653. Main beams and cross tees are double-web steel construction with type exposed flange design. Exposed surfaces chemically cleansed, capping prefinished galvanized steel in baked polyester paint. Main beams and cross tees shall have rotary stitching
 - d. Direct hung from structure
 - 1) Zinc-Coated Carbon-Steel Wire: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper
 - 2) Size for five times design load indicated in ASTM C 635, Table 1, “Direct-Hung”, unless otherwise indicated

2.06 METAL SUSPENSION SYSTEMS. GENERAL

A. Components:

1. Main beams and cross tees, base metal and end detail, fabricated from commercial quality hot dipped galvanized steel complying with ASTM A 653. Main beams and cross tees are double-web steel construction with type exposed flange design. Exposed surfaces chemically cleansed, capping prefinished galvanized steel in baked polyester paint. Main beams and cross tees shall have rotary stitching.
 - a. Main and cross runners to be Standard “Heavy Duty” tee bar (as per ASTM C 635).

- b. Finish: Face of main and cross runners to be factory finished matte black unless known otherwise.
- B. Suspension Systems: Provide complete suspensions systems with main runners, cross runners, hangers, trim molding, seismic retention clips, load resisting struts and other suspension components required to support ceiling and other ceiling supported construction.
- C. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, "Direct-Hung", unless otherwise indicated.
 - 1. "Direct-Hung" Suspensions Systems: System composed of main runners supported by hangers attached directly to building structure.
- D. Hangers: Type and metal standard with ceiling system manufacturer, sized to comply with structural classification indicated.
 - 1. Wire Hangers, where applicable, Braces, and Ties: Provide wires complying with the following requirements:
 - a. Zinc-Coated Carbon-Steel Wire: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper.
 - b. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635, Table 1, Direct Hung) will be less than yield stress of wire, but provide not less than 2mm diameter wire.

PART 3- EXECUTION

3.01 EXAMINATION

- A. Examine substrates and structural framing to which the ceiling metal panels attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect installation and anchorage, and other conditions affecting performance of metal panel ceilings.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Coordination: Furnish layouts for cast-in-place anchors, clips, and other ceiling anchors whose installation is specified in other Sections.
- B. Measure each ceiling area and establish layout of ceiling metal pan units to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width units at borders, and comply with layout shown on reflected ceiling plans.
- C. Survey substrate for wall attachment to assure squareness and proper elevation for wall panel installation.
- D. Panel sub-structure shall be level and plumb. Panel substructure shall be structurally sound as determined by an engineer. Panel substructure shall be free of defects detrimental to work and erected in accordance with established building tolerances.
- E. Coordinate panel layout and openings with mechanical, electrical and sprinkler fixtures.

3.03 INSTALLATION

- A. General: Install acoustical metal pan ceilings, per manufacturers shop drawings provided, per manufacturer's written instructions and to comply with publications referenced below.
 - 1. CISCA "Ceiling Systems Handbook.
 - 2. Standard for Ceiling Suspension System Installations - ASTM C 636.

3. Standard for Ceiling Suspension Systems Requiring Seismic Restraint - ASTM E 580
4. IBC (International Building Code) standard for Seismic Zone for local area.
- B. Suspend ceiling hangers from building's approved structural substrates and as follows:
 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.
 3. Where width of ducts and other construction within ceiling plenum produce hanger spacings that interfere with location of hangers at spacing required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
- C. Where used secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure; that are appropriate for substrate; and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
- D. Space hangers not more than 48 inches on center, along each member supported directly from hangers, unless otherwise indicated; and provide hangers not more than 8 inches from ends of each member. Supply supporting calculations from licensed Structural Engineer verifying hanger spacing meets all requirements, when spacing exceed those recommended.
- E. For faceted installations, install compression struts in accordance with manufacturer instructions.
- F. Fine level grid to 1/8 inch in 10 feet from specified elevation(s), square and true.
- G. Adjust suspension system runners so they are square (within .5 degree from 90 degrees) and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- H. Secure bracing wires to ceiling suspension members and to supports acceptable to Architect / Engineer and or inspector. Suspend bracing from building's structural members and / or structural deck, as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs(unless directed otherwise).
- I. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical metal pan. Method of edge trim attachment and design of edge trims to be approved by Architect
 1. Screw attach moldings to substrate at intervals not more than 18" O.C. and not more than 6" from ends, leveling with ceiling suspension system to a tolerance of 1/8" in 10'. Miter corners accurately and connect securely.
 2. Do not use exposed fasteners, including pop rivets, on moldings and trim without prior written approval.
- J. Scribe and cut acoustical metal panel units for accurate fit at penetrations by other work through ceilings. Stiffen edges of cut units as required to eliminate evidence of buckling or variations in flatness exceeding referenced standards for stretcher-leveled metal sheet.
- K. Install acoustical metal panel units in coordination with suspension system.
 1. Align joints in adjacent courses to form uniform, straight joints parallel to room axis in both directions, unless otherwise indicated. Install directionally patterned or textured panels in directions indicated on approved shop drawings. Panel-joints shall flow smoothly and in a straight line within 1/8" in 10'. Intersections shall be continuous.

2. Install all full-sized panels with the spring kerfs facing in the same direction to provide access consistency
3. Fit adjoining units to form flush, tight joints. Scribe and cut units for accurate fit at borders and around construction penetrating ceiling. Install edge caps for cut units in accordance with manufacturers installation instructions.
4. Remove protective film from panels only when space is completely clean and free of airborne particles. Use white cotton gloves for final installation of panels into grid system.

3.04 ADJUSTING AND CLEANING

- A. Adjust ceiling components to provide a consistent finish and appearance in conformity with established tolerances and requirements.
- B. Clean exposed surfaces of acoustical metal panel ceilings and walls. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.
- C. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage, including dented and bent units.
- D. Protect ceiling panel assemblies from damage during construction. Use temporary protective coverings where needed as approved by the ceiling panel manufacturer.

END OF SECTION

SECTION 12 66 23 – TELESCOPING CHAIR PLATFORMS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary conditions and Division 01 Specification Sections, apply to this Section.

1.02 WORK INCLUDED

- A. The work in this Section includes all labor, materials and equipment to furnish and install the telescopic seating system described here and shown on the Contract Drawings.
- B. Provide telescopic riser units, floor seating, and all accessory items required to achieve the seating configurations shown on the Contract Drawing. Accessory items include, but are not limited to, guardrails and steps.

1.03 RELATED WORK

- A. Related Work: Related work includes, but is not limited to, the following:
 - 1. Theatre and storage area floors.
 - 2. Electrical service and interconnections

1.04 WARRANTY

- A. Warrant the equipment in this Section to be free of defects in materials and workmanship for a period of 5 years after acceptance of the completed installation by the Owner. Defective work shall be repaired and replaced at no cost to the Owner. The Warranty shall not cover the results of normal use, nor shall it cover damage due to neglect or improper use of the equipment.

1.05 SUBMITTALS

- A. Submit shop drawings for fabrication and installation. Include plans, elevations, and details as required. Indicate materials, methods, finishes, attachments, and accessory items.
- B. Submit verification that the floor is properly constructed and suitable for all phases of the telescopic riser operation.
- C. Shop drawings shall indicate the load imposed on the floor when the riser is in both the extended and retracted positions, as well as the load imposed when the unit is raised on its transport wheels and moved across the floor.
- D. The Manufacturer shall employ a registered, licensed engineer to certify that equipment supplied meets or exceeds the design criteria of the Contract Documents.
- E. Provide samples of chair colors and fabrics, carpet, colored plastic, and painted material for the Architect's review.
- F. Provide the Owner with an operation and maintenance manual.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. The telescopic riser system shall be manufactured by one of the following:
 - 1. Audience Systems
19B Washington Rd.
West Wilts Trading Estate
Westbury Wiltshire, BA13 4 P
Tim Whiting
610-644-3157

2. Hussey Seatway
3 Centurian Way
Crusader Park
Warminster Wiltshire, BA12 8BT
Logan Grier
410-638-6358

2.02 FINISHES

- A. Metal parts shall be free from rust, scale, dirt, and welding spatter. All weldments or other metal components shall receive a coat of corrosion resistant primer prior to finish coating and component assembly.
- B. The steel understructure and risers shall be painted with corrosion resistant, low gloss enamel. Color: black.
- C. Visible aluminum components, including nosings, shall have black powder-coated finish.
- D. All exposed bolt and rivet heads shall be black or painted black.

2.03 DESIGN CRITERIA

- A. Telescopic seating platform system shall be designed to support, in addition to its own weight, and the weight of added accessories, a uniformly distributed live load of not less than 100 lbs. per square foot of gross horizontal projection.
- B. Telescopic seating shall be designed to withstand a sway force applied to seats of 24 pounds per linear foot parallel to the seats and 10 pounds per linear foot perpendicular to the seats. Sway forces shall not be considered simultaneously applied.
- C. Railings, posts and sockets shall be designed to withstand the following forces applied separately:
 1. A concentrated load of 200 pounds at any point and in any direction along the top railing member and;
 2. A uniform load of 50 pounds per foot applied horizontally at the required guardrail height and simultaneous uniform load of 100 pounds per foot vertically downward at the top of the guardrail. The concentrated and uniform loading conditions shall not be required to be applied simultaneously.
- D. American Institute of Steel Construction (AISC), American Iron and Steel Institute (AISI) and Aluminum Association (AA) design criteria shall be the basis for calculation of member sizes and connections.
- E. Wood members shall be designed in accordance with National Forest Products Association, (NFOPA), and National Design Specification for Wood Construction.

2.04 DESCRIPTION

- A. The telescopic riser system shall consist of multiple tiers of closed deck chair platforms. Platforms shall be operable on the telescopic principal, stacking vertically in minimal floor area when not in use. All rows shall be mechanically locked, operable only when unlocking and cycling the first row. Each platform row shall be comprised of a closed decking component, a complete set of supportive frames, braces and upholstered, integral chairs.
- B. The first moving row shall be secured with both friction and mechanical locks. All other rows shall be mechanically locked, operable only upon unlocking and cycling of the first row.

2.05 FABRICATION

- A. Steel supports and rolling frames shall be constructed of formed steel shapes of the size and shape necessary to support the design loads.

- B. Wheels shall not be less than 6 inch non-marring soft rubber face to protect wood or synthetic floor surfaces. Each operating row shall have a minimum of 6 wheels.
- C. Wheel channels shall be continuously in contact with adjacent channels by nylon guides, to eliminate metal to metal contact, and non-binding guide rods to provide alignment when opening and closing.
- D. Cantilever arms shall be equipped with a heavy duty roller to assure adequate row to row support and smooth operation. Cantilever arms shall be field adjustable.
- E. Vertical columns shall be structural tube to meet design criteria.
- F. Deck supports shall be bolted to the rear beam, nose, and deck board with locking hardware. Supports shall be equipped with a heavy duty roller to assure adequate row to row support and smooth operation.

2.06 AISLE STEPS

- A. Aisle steps shall be permanently attached, closed design. The front step shall be hinged for storage on first row deck without the need for removal.

2.07 CARPETING

- A. Risers and decks shall be carpeted with 26-ounce commercial grade, low level, looped olefin fiber carpet with polypropylene backing. Color to be selected from manufacturer's standard.

2.08 AISLE HANDRAILS

- A. Removable aisle railings shall be an individual rail design, located on both sides of every row. Rail pockets that protrude beyond the face of the riser while in the closed position, or railings with blunt, non-turned ends will not be allowed.
- B. Provide storage carts or integrated storage hooks within the stored unit for railings.

2.09 AISLE LIGHTS

- A. Aisle lights to be located as shown on the drawings or as required for code compliance.
- B. Lights shall be low voltage. Provide dimming transformers, controls, and wiring as required.

2.10 CHAIRS

- A. Chairs shall have blow mold plastic backs and seats with padded, upholstered inserts, and plastic armrests. Fabric shall be selected by the Architect from the manufacturer's standard.
- B. Chairs shall be provided in 20, 21 and 22 inch widths to achieve staggered seating and even row ends.
- C. Chairs shall be ~~beam~~-mounted for integral fold-down operation. Chair seats shall be fully cantilevered and hinged at the rear. Seats shall be self-rising to a uniform 3/4 safety fold.
- D. Chairs shall ~~be ganged in groups, and~~ manually raised and lowered. Chair operation shall be semi-automatic, ~~where with~~ counterbalanced or dampened hinge chairs. Chairs can be individual or grouped, which are manually raised and lowered in groups with a maximum of 14 chairs.
- E. Provide row letters and seat numbers.
- F. Provide loose floor seats as shown on the drawings.
 - 1. Floor chairs shall be of identical design and as similar to the installed chairs as possible.
 - 2. Floor chairs may be ganged and/or beam mounted, or individual, and shall be equipped with an integrated mobility system that meets the following criteria:
 - a. Sleds shall be steel and equipped with self-deploying or deployable casters.
 - b. Gangs of seats shall remain in place due to their own weight and friction.
 - c. No hardware attachment to the floor shall be required.
 - 3. Gangs of floor chairs shall be nestable and shall store efficiently.

~~0.4.~~ Floor chairs shall include tablet arms.

2.11 CARPETING

- A. Carpeted decking shall be 26 ounce commercial grade, low level, looped olefin fiber carpet with polypropylene backing. Apply carpet with to 5/8 inch carpet grade plywood. Color to be selected from manufacturer's standard.
- B. Nosing shall be one piece, formed, 14 gauge steel with black powder coated finish.
- C. Nosing with panelam or carpeted decks shall be aluminum extrusion. Finish to be black anodized.

2.12 EXTENSION / RETRACTION SYSTEM

- A. Risers shall open and close, by the friction drive system, as a complete unit. The manufacturer will determine the number of power units required based on the group length and number of rows involved. Hinging of the lower skirt board is not acceptable.
- B. Each power unit shall use two large 6 diameter by 9 1/2 long tubes with non-marring 1/2 thick rubber covering to grip floor for opening and closing.
- C. The power units shall develop tractive forces adequate to operate risers under normal conditions but inadequate to operate should significant obstacles be encountered.
- D. Manufacturer shall provide all wiring from power source within riser seating including pendant control. Removable pendant control shall be handheld with forward and reverse button, plugging into a single receptacle. Electrical contractor shall provide power source behind the seating as shown on the electrical plans. Amperage to be as specified by seating manufacturer depending on the number of power units required. For wall-attached installations, power source to terminate in a surface mounted junction box above floor. For reverse units; power source to terminate in a junction box, flush mounted under first seating row in center of group. Electrical contractor shall perform the connections to the seating equipment at the junction box. All electrical parts and wiring shall be installed in complete accord with the National Electric Code. ALL SYSTEMS SHALL BE DESIGNED TO COMPLY WITH U.L. (U.L. Listing #E168517)

2.13 TABLET ARMS

- A. Provide tablet arms as indicated on the drawings.
- B. Tablet shall be designed with a self-retracting mechanism wherein the tablet flips out of the way and drops down to allow clear passage of the occupant in an emergency.
- C. The folding writing tablets shall be high-pressure plastic laminate with a durable applied finish.
- D. Tablets shall be constructed from 5/8 , 11-ply hardwood.

2.14 FASCIA PANELS

- A. Provide fascia panels as indicated on the drawings.
- B. Fascia panels shall be constructed of either high-pressure laminate, solid plastic, or MDF faced plywood.
- A-C. Panel color shall be to match Architects sample. Finish can be integral or applied.

PART 3 EXECUTION

3.01 COORDINATION

- A. The Contractor is responsible for reviewing all drawings, specifications, and field conditions which affect the work in this Section. Notify the Architect whenever field measurements, analysis of the drawings and specifications, or progress of other trades indicates that the work in this Section cannot be completed as specified or as scheduled.

3.02 OB CONDITIONS

- A. The Manufacturer is responsible for the equipment fitting the intended spaces without interference.
- B. The Manufacturer shall visit the site and verify all dimensions and existing conditions. The Manufacturer shall survey the floor and advise the Architect of any irregularities which will adversely affect the operation of the telescopic riser system.
- C. The Manufacturer shall be familiar with the work of adjoining trades and coordinate with their work.

3.03 PROTECTION OF EQUIPMENT

- A. Protect the equipment in this Section from damage and deterioration, including rust, during all phases of the work, from the time of manufacture to installation.
- B. Notify the General Contractor or Construction Manager in writing of jobsite conditions that would adversely affect the equipment after installation. Do not install the equipment if jobsite conditions beyond the control of the RiserContractor will result in damage or deterioration, including rust.
- C. Rust resulting from flaws in manufacturing and finishing shall be covered under the Warranty.

3.04 INSTALLATION

- A. Install the risers in accordance with the Manufacturer's instructions and approved shop drawings.
- B. Adjust all equipment for smooth and proper operation.
- C. At the end of each day during the installation period, remove all refuse and scrap materials to designated collection points. Upon completion of the installation, leave all areas broom clean.

3.05 REPAIRS

- A. Repair any work or finishes that are damaged during installation by the Contractor for the work in this Section. This includes work in this Section and the work of others. Where the work of others is damaged, reimburse the appropriate contractor for the repair.

3.06 PUNCHLISTING

- A. The Contractor shall work with the General Contractor or Construction Manager to arrange for a punchlisting period for the work in this Section. Punchlisting shall consist of a minimum of one 8-hour day. The building schedule shall be such that no other conflicting or obstructing activity is taking place. The Contractor shall deploy the units in each of the configurations shown on the Contract Drawings. The Contractor shall provide sufficient labor for the required service.

3.07 TRAINING

- A. The Manufacturer shall conduct a demonstration and instruction session to assist the Owner in becoming familiar with the completed installation, and to personally instruct representatives of the Owner in the proper operation and maintenance of all equipment provided.

END OF SECTION