South Fayette Township School District
New District Maintenance and Bus Depot Facility

Project No: 24-S49-01B

3631 Old Oakdale Road, McDonald, PA 15057

ADDENDUM 5

November 3, 2025

This Addendum forms part of the Contract Documents and modifies the original bidding documents dated October 1, 2025. Acknowledge receipt of this Addendum by inserting its number and date in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

BIDDING RFI & RESPONSES

The following bidding RFIs and responses are included for reference by all bidding contractors. Responses to RFIs are considered part of the project. All RFIs received to date are included below. Any un-answered RFIs are highlighted and shall be answered in future addenda.

RFI #	Bidding Contractor	Question	Response	Response By
GC01	Stonemile Group	C001 Geotechnical Recommendations:	*See attached RFI document and corresponding response by CEC. Answer was too long to include in this list.*	CEC
GC02	Cast & Baker Corp	413/C403, Toe Drain, shows 12" perf pipe. Sheet C400B calls for 4" perf pipe. Which size is correct?	*The toe drains shall consist of 4-inch perforated HDPE pipe, as specified on Sheet C400B. The total trench width, including AASHTO No. 57 stone, shall be 12 inches.*	CEC
GC03	The Flag Factory	The specifications for finish contradictory, indicating both "natural satin" and "clear anodic". Please clarify which finish is required.	*Clear Anodic should be provided.*	DRAW
GC04	Cast & Baker Corp	Geotech Supplemental Sheet-2: It shows the Toe Bench Outlet Drains going into the Basin Outlet Structure. Can you provide us with a profile or invert elevations at the structure?	*The invert elevation is as indicated on Outlet Structure 34. The toe bench outlet drains shall connect at an invert elevation of 1116.80 feet or higher, provided that a minimum positive slope of 1.0% can be maintained to the outlet structure from the bench.*	CEC

GC05	VendRick	Please advise if Drawing C300 is available in CAD format for cut/fill calculations.	*C300 CAD file is provided for reference in performing cut/fill calculations. Quantities derived from this file are for contractor use only and shall not be shared with any other party. This file is provided for reference only and not for construction. Please review the disclaimer below prior to using this file for the intended cut/fill calculations.*	CEC
GC06	VendRick	Please confirm the HVAC Prime is to provide the temporary heat and the ELEC Prime is to provide the temporary electric as directed in Spec 011200	*Responsibilities for temporary heat is described in 01 5000 Article 3.10. Responsibility for temporary power, distribution, lighting, connections per 011200*	DRAW
GC07	Franjo	The specifications list the metal roofing panels as 040 aluminum, but lists the gutter and downspouts as both matching the panels, and as 050 aluminum. Which is the correct thickness for the gutters and downspouts?	0.050	DRAW (SK)
GC08	Vendrick	H2 Wall Type provided on Drawing A002 Interior Partition Types is labelled, "to deck". The H2 wall type shown on building section 2/A301 is shown at partial height, stopping 1'-6" above acoustical ceiling. Please confirm if the intent of H2 wall Type is to extend to the deck above, or if a partial height assembly is acceptable?	H2 wall type shall be to 6" min above ceiling. See attached revised sheet A002 and A301 for reference.	DRAW
GC09	Waller / Tresco Paving	Will there be underdrain on the entrance road? It is shown on detail 201 on drawing C800. All reference to paving that I see refer to details 212 and 217 on drawing C801. Not sure if detail 201/C800 is relevant on this project or not since it is not a township roadway project. It also shows conflicting pavement construction.	The entrance drive and wedge curb are to be constructed in accordance with Details 212 and 217 on Sheet C801. These details represent the required pavement section for the private entrance road and do not include an underdrain. Detail 201 on C800 depicts a standard South Fayette Township roadway section with underdrain. This detail was included at the Township's request for reference purposes only, in the event that future roadway repair or restoration is required along Old Oakdale Road or within other public right-of-way areas. It is not intended to apply to the private entrance drive. Underdrains below the pavement section are not required along the entrance road. They are only applicable where shown on the PennDOT inlet details to relieve water behind the inlet	CEC

			structure, as indicated in those standard details.	
GC10	Cast and Baker	C501: Are there any requirements for crossing the waterline and gas on the sanitary sewer with heavy equipment? Does the gas company have any special requirements for excavating around their line?	Heavy equipment may only cross the existing gas and water lines after both utilities have been field-located, exposed, and properly supported in accordance with the respective utility's requirements. Per Peoples Natural Gas Company's requirements, no mechanical excavation is permitted within 18 to 24 inches of a marked gas facility until it has been hand-exposed or daylighted, and heavy equipment shall not be used over or adjacent to an exposed gas main unless first approved by a Peoples Gas field representative during construction. For the water main, Pennsylvania American Water follows the developer's standard manual, which requires maintaining a minimum 18-inch vertical separation and that any excavation over or near an active water main be performed under observation of a PA American Water field representative to ensure the main remains supported and undamaged.	CEC
GC11	R.A. Glancy	The Division 8 spec for Aluminum Framed Entrances and Storefront which would include door types AG2, frame types 2T & 3T and window types W-2 & W-2a.seems to have been omitted from the bid documents. There are eight (8) single FRP doors on the door schedule with hollow metal frames. Is the hollow metals label correct, or should it be an aluminum frame?	Alum Framed Entrances and Storefront Spec has been provided in this addendum. There are a total of seven (7) FRP doors that shall have aluminum frames, per attached revised sheet A601.	DRAW
GC12	VendRick	Spec sections 011200 and 015000 refer to the CM Logistics Plan. Please advise where this drawing may be found. Thank you.	This reference can be deleted. There will not be a CM Logistics Plan provided for this project.	PJ Dick
GC13	VendRick	092116: The lower-level floor plan calls out section detail 4/A302, cut through the Vestibule/Entry 100 storefront. The enlarged detail provided for the head condition, 11/A601, calls out gypsum returns at the H2 Wall Type. There is no wall type shown at Vestibule/Entry 100 on the lower-level floor plan. Please confirm that there is no H2 wall type at Vestibule/Entry 100.	This is correct. This is a typical head detail at canopies, so the GPBD return would be provided at the similar head condition at the canopy on the upper level, but the CMU would be exposed on the Lower Level.	DRAW
GC14	Franjo	1. Can the AISC Steel certification requirements be waived?	1. No. AISC Steel Certification is required.	DRAW/ KSS

		2. I did not see a geotech report in the specs, can you provide the geotech report?	2. Geotechnical Report is provided as "Additional Information" and should be provided on Printscape website separate from other bidding documents.	
GC15	Stonemile	1. Who is to install the vertical 3" insulation and vertical air barrier? 2. The specifications list the metal roofing panels as 040 aluminum, but lists the gutter and downspouts as both matching the panels and as 050 aluminum. Which is the correct thickness for the gutter and downspout?	1. GC owns exterior enclosure, which would include insulation and air barrier. 2. 0.050	DRAW
GC16	Walter Mucci	1. Please provide an edge detail at rafter framing along column line 2 between A&B. 2. Specification Section 011200-13, Paragraph 1.9-B-1-f. I am unable to locate section 337000. 3. Please provide locations and limits of temporary fence. 4. Will a site concrete specification be provided or are we to use 033000? The details in the site drawings are not in sync with the information listed in 033000 (ie exterior concrete strength at 5000 psi in 033000 and 4000 psi on the site details). Please clarify. 5. A121 West side along column line 1 sections 2/A302 & 8/A121 are shown. 2/A302 then references 6/A121 which is incorrect as it is for a brick veneer condition. 8/A121 is also not correct as there are no columns along this wall. Please provide updated detail for this condition. 6. Detail 2/ASD101 shows a small section of aggregate that does not extend vertically to the subgrade above for the foundation drains. Wall sections on A300 and A301 all show the drainage aggregate extending vertically to the subgrade above. Which details are we following? This is especially critical at the high wall backfill as the quantity of stone will be significantly less if we follow 2/ASD101. 7. ASD101, Northwest corner, Note 5 states an existing 4" perf PVC	1. Provide rafter detail 6/A121 and see revised structural drawings. 2. Delete references to 337000 ~~3. Temporary fencing locations and limits will be shown on the site logistics and phasing plans being prepared by PJ Dick. These plans will define the exact extents of fencing required for safety, security, and protection of work areas during construction.~~ Temporary construction fencing shall be installed by the GC for site safety, security, and access control. Fencing should be assumed for the entire limit of disturbance perimeter as shown on the E&S plans. There will not be a separate logistics or phasing plan provided in the bidding documents. 4. Specification Section 32 1313 – Concrete Paving governs all exterior site concrete work. The compressive strength for exterior concrete is specified as 4,000 psi at 28 days. The value shown on Detail 213 is consistent with this specification and is the correct design strength to use for all site concrete sections. Section 033000 applies to building structural concrete, not exterior site concrete, and should not be used for this scope. 5. 6/A121 is correct edge condition. Similar edge profile shall be provided at both brick and metal panel exterior wall types. Metal pane manufacturers standard top trim shall be provided at soffit level to provide clean joint between metal panel siding and soffit material.	DRAW, CEC, & KSS

		line. Please clarify where this existing line is coming from. Or is the intent to tie these foundation drains in the 8" storm line at this location? 8. 4/S300, can a void form product be specified? 9. Please clarify the requirements of the bearing of the footers. *C/S101 shows footers bearing on 2A extending to weathered rock/bedrock. *F/S200 shows lean concrete. 10. S000 Note 3.4 vs. Section 312000 Paragraph 3.19. Please clarify earthwork testing ownership responsibilities. 11. S000 Note 4.2 states all concrete to be 3000 psi except slab on deck at 4000. Section 033000 Paragraph 2.13C states slab on grade concrete to be 4000. Please clarify. 12. C/S200 shows an isolation joint between floor and CMU walls. Architectural sections show the vapor barrier being turned up and no expansion. Please advise which is to be followed. If expansion material is required, please confirm it will be caulked in exposed concrete areas. 13. Detail M/S200, are control cuts to be caulked in exposed floor areas? 14. Is MVRA required in the exposed hardened concrete? 15. A101, Note 3.1 Addendum 2 assigned the compressed air enclosure to the GC. Please provide information of what is required, details, etc. 16. Can contractor qualification statement be provided within 24 hours by low bidders only? 17. Drawing A603, Room Finish Schedule lists Stair S2. We are unable to locate the room. Please advise. 18. Detail 3/P001, is this detail accurate with regards to the ownership of the downspout boot and the 5'0" off the building by the PC since the GC owns the site storm?	6. Drainage aggregate for foundation drains shall extend to sub-grade per the wall sections. 7. Note shall be revised to read "CONNECTION TO SITE STORMWATER LINE. REFER TO CIVIL DRAWING C400B." 8. Slab void by void form or equal. 9. C/S101 is correct and F/S200 may be voided. 10. Section 31 2000 Paragraph 3.19 indicates that the Owner will retain a qualified geotechnical engineering testing agency to perform quality assurance testing and inspection for earthwork and subgrade preparation. Structural Note 3.4 requires that a professional geotechnical engineer verify that foundation bearing materials meet the geotechnical report criteria. This verification will be performed by the Owner's geotechnical engineer as part of the testing scope described in Section 31 2000, not by a separate consultant retained by the contractor, so note 3.4 on the S000 sheet appears to need revised. The Contractor remains responsible for notifying the Owner's representative when foundations are ready for inspection. 11. Follow specification, with SOG concrete = 4,000 psi. 12. Isolation joint is not required. 13. Yes, provide caulk in exposed floor areas. 14. Areas scheduled for HRD-1 or HRD-2 can omit MVRA. 15. See specifications provided in Addendum #3 16. No 17. Stair S2 doesn't exist and that line should be removed from finish schedule. 18. Correct. PC owns the downspout boot and below grade storm piping within 5' of the building. GC owns gutters, downspouts, and site stormwater utility piping and final connection to building storm	

		19. C200, there are 2 black squares in the snow melt area. Please advise what these are. 20. C200, Curbs for islands and sidewalks in the bus parking area, the printed pdf shows the curb as black. When zoomed in on the pdf there is a thin red line. Please confirm if this is a concrete curb. 21. C200, sidewalks in the bus parking area, if there are curbs on each side of the walk, which detail are we using? Are they monolithic or independent curb? 22. Detail 202/C800 shows a drain under all curbs and sidewalk edges. Detail 203/C800 does not show the drain. Are we only to include drains show in plan view? Please clarify. 23. Is the concrete outside of door 100/1 to be detail 213/C801? 24. C200 Does detail 215/C8010 apply where 213/C801 touches the building? 25. Which exterior concrete detail are we to use outside of door 211/1? And are these curbs monolithic or independent? 26. There is one housekeeping pad shown on the structural drawings. Will GC be responsible for all MEP housekeeping pads? 27. Please confirm that PennDOT 2A is required within the building footprint from subgrade down to weathered rock/bedrock. 28. In reference to my previous question, are bidders to assume the risk for the elevation of the rock? Or will a bidding elevation be provided and then field adjusted by unit cost? 29. 033000, Paragraph 2.12-B-8 Polished finish is not to have slag cement. Please confirm this does not apply to the hardened concrete. Without slag cement how do we counteract the ASR qualities of the large aggregate prevalent in our local area. 30. Addendum 2, Section 011200-4, Item B-19, Each contractor to furnish and install access panels.	plumbing. GC also owns foundation drains. 19. The two black squares in the snow removal area represent the portable bus snow and ice brush removal system. Product details are included in attached revised site plan. 20. Yes, the curbs shown around the islands and sidewalks in the bus parking area on Sheet C200 are concrete curbs. 21. The sidewalks in the bus parking area are labeled to reference Detail 202 on Sheet C800, which is the South Fayette Township Sidewalk Detail. That detail calls for a concrete sidewalk with adjacent curb. Where curbs are shown directly adjoining both sides of the walk, as in the center islands. the curb and sidewalk are to be monolithic/integral in accordance with the “Typical Integral Curb and Sidewalk Detail” on Detail 203. 22. As this is a private site, underdrains are required only where specifically shown in plan view on the civil drawings. All other curbs and sidewalks, including those within the bus parking area, are to be constructed without underdrain in accordance with Detail 203 and the project-specific site details. 23. The concrete immediately outside Door 100/1 is a frost slab, which is governed by the structural drawings for thickness, reinforcement, and frost protection. Beyond the limits of that frost slab, the exterior concrete transitions to the site concrete pavement per Detail 213/C801. Include the ½-inch expansion joint and haunch per Detail 215/C801 where the slab abuts the building. 24. Yes, Detail 215/C801 applies where the concrete pavement from Detail 213/C801 meets the building. At these locations, provide a ½-inch premolded expansion joint with sealant between the pavement and the building foundation. The haunch shown in Detail 215 is a thickened edge of concrete that extends approximately 8 inches below the	

		011200-9 C-14-E, Access Door and Frames are under GC scope of work. Please clarify. 31. Drawing C001, Layout General Note 11, is the GC to include providing any bollards beyond what are shown on the plans? 32. Door 100/1 Downspouts. C400B does not show the 4" or 8" lines to carry this water. ASD101 does show the 4" line for these downspouts but the routing is running through a frost wall. I do see the note on C400B that says "10 Typ" but I see 13 total for the project. Please consider the foundations at 100/1 when reviewing routing of the pipe. 33. Detail 410/C403 is the intention for finger drains to be installed at all 2x4 inlets only? Or the 4x4 also? C402 Inlet Assembly Note 9 states inlets to have weep holes. Please clarify what is required. 34. Detail 413/C403 shows a 12" pipe. Drawings C400B toe drains call out 4". Please clarify. 35. Detail 413/C403 shows that depth varies. I understand that it will need to slope and depth change in any flat areas but can a minimum depth be provided? 36. Drawing C400B, can the limits of SCM-2 detail 418/C403 be better defined? Is this on all slopes? Only fill slopes? Please advise. 37. Drawing C401, General PCSM Plan Notes #2 states contractor is responsible for costs associated with inspection and testing. 334100-6, Paragraph 3.09 states the owner will inspect. Please advise which is correct. 38. Drawing C401 Construction Sequence does not appear to be in sync with the updated project time lines per Addendum #1. 39. Drawing C400B, is it the intention to use C tops at all inlets at curb lines? Or will be use M tops against the curb? 422/C404 for 4x4 inlets only shows a flat top.	slab along the face of the foundation wall. It provides added support where pavement loads occur close to the building, prevents edge settlement, and helps maintain a watertight joint by stabilizing the concrete along the building interface. 25. The concrete outside Door 211/1 should follow Detail 213/C801 – Concrete Pavement for the general exterior slab, with a frost slab provided immediately at the doorway per the structural drawings. At the building interface, include the ½-inch premolded expansion joint and haunch per Detail 215/C801. The adjacent curbs are monolithic with the sidewalk, consistent with the "Typical Integral Curb and Sidewalk Detail" in Detail 203/C800, and should be poured together with the adjoining concrete. 26. GC shall be responsible for all housekeeping pads relating to MEP work. GC shall coordinate exact sizes and locations with the respective Prime Contractors. 27. Yes, that is correct. Within the building footprint, PennDOT 2A aggregate is required from the foundation subgrade down to weathered rock or bedrock in areas where native soils do not directly expose competent rock. As noted in the geotechnical report and plan notes, this material is to be placed in over-excavated areas to establish a stable bearing stratum for shallow foundations and floor slabs. The 2A aggregate backfill serves as a structural replacement for unsuitable soils, ensuring uniform support and settlement control. Settlement monitoring is required after placement and prior to foundation and floor slab construction to confirm stability. 28. The base bid amount shall be determined by the contractors based on their own quantity takeoff using the civil plan set and geotechnical report. Section 01 2200 – Unit Prices states that unit	

		40. 417/C403, please confirm the anti seep collars are to be 81" x 81". 41. Are we to use Endwall Detail 407/C402 for the headwall (C400B structure #1) as well? 42. Detail 426/C404, please advise to the size of the 2B surrounding the underdrain pipe in the pond. 43. Detail 426/C404 - Forebay with Rock Check Dam Detail - Forebay area. Please advise to thickness of 2B required under Forebay. And is Geotextile required under that 2B? 44. Specification Section 329119, Paragraph 2.1A - Topsoil as specified in Section 310513. I am unable to locate this section. The main reason I would like to review this section is to know if screening of the onsite topsoil will be required for reuse, including for the SCM areas. 45. Please advise which detail we are to follow for storm sewer trenches. Detail 209/C800 or 501/C803. 46. Spec Section 084113 is not included in our manual. Please advise. 47. Drawing A603, Note 17 Stainless surrounds at Slop Sink. Are these by PC or GC? 48. Drawing A603, Note 13 states Flat Panel TV Wall mounted bracket shall be provided and installed. By who? If furnished by GC, please specify a bracket. A801 shows the displays of OFE-1a and 1c as owner furnished and contractor installed. Please clarify. 49. Specification Section 321313 2.04 A and 2.05H call for reinforcing with synthetic fiber. Details on C800 and C801 show wwf reinforcing. Please clarify what is required for sidewalks and for the concrete paving areas.	prices apply in addition to the base bid amounts quantified by the contractor, meaning bidders are responsible for reviewing the bid material to determine the elevation to rock. Any additional excavation below determined levels to reach competent bearing material will be field-determined and paid under the applicable unit prices identified in the specification noted above. 29. No polished concrete in project. 30. All access panels shall be by GC. Coordinate locations with other Prime Contractors. 31. No, the General Contractor is only required to provide and install the bollards shown on the plans. General Note 11 is a standard reference directing protection of site features. It does not indicate additional bollards beyond those specifically depicted. Any added cost locations would be identified separately by the Owner if required during construction, as stated within the general note. 32. All downspouts, including those near Door 100/1, are intended to connect to the storm system per C400B exterior roof collection lines. Downspout piping should be routed to avoid conflict with frost walls, either sleeving through or dropping below as coordinated in the field. This applies similarly to all downspouts shown on the building perimeter. There are a total of 13 downspouts. 33. Finger drains shown in Detail 410/C403 are installed through the weep holes of the inlets. All should have the 4" perforated HDPE pipes connected directly to the inlet weep holes, allowing subsurface drainage to enter the structure through those openings. This configuration applies to all inlets identified, not just specific sizes. 34. The toe drains shall consist of 4-inch perforated HDPE pipe, as specified on Sheet C400B. The total trench width, including AASHTO No. 57 stone, shall be 12 inches.	

			35. A minimum depth of 18 inches to invert should be provided for the toe drain below the adjacent finished grade at the slope toe. This ensures the perforated pipe is positioned deep enough to intercept any subsurface and surface seepage effectively while maintaining positive drainage to ultimately daylight. 36. Detail 418/C403 (SCM-2 – Soil Amendments-1) applies wherever shown by the dashed hatch pattern and associated callout on the plans. The hatch indicates the exact limits of soil amendment placement, which includes both cut and fill areas as noted. The hatch pattern will also be added to the legend for clarity. 37. Drawing C401, General PCSM Plan Note #2 assigns the contractor responsibility for the costs associated with inspection and testing. Specification Section 33 4100, Paragraph 3.09 states that the Owner or the Owner's representative will perform or oversee the inspections. Therefore, the Owner or their representative will perform the inspections, while the contractor is responsible for coordinating and paying for the costs of any required inspection and testing services. 38. The construction sequence shown on Drawing C401 was developed prior to the revisions issued in Addendum #1 and therefore reflects the original project timeline. The sequence will be updated to concur with the current phasing and schedule provided in Addendum #1, and the contractor should follow the updated project milestones and durations as the governing schedule as identified in Addendum #1. 39. In locations with asphalt wedge curb, inlets shall be provided with M-tops (grate-only) rather than C-tops. C-tops are used only with full height vertical concrete curbs that include an integral curb opening. This is consistent with PennDOT Standards for Roadway Construction	

			(RC-45M and Publication 72M), which specify that M-tops are to be used for wedge curb, shoulder, or flush pavement conditions. Refer to the standard PennDOT inlet assembly notes on Drawing C402. 40. Yes, that is correct. The anti-seep collars shown on Detail 417/C403 are to be a minimum 81 inches by 81 inches, as listed in the table. 41. For the culvert run identified on Sheet C400B, the detail for the culvert is Detail 419/C403, which specifies the 24-inch Oldcastle concrete inverted base split culvert (or equivalent). The structures labeled "Headwall (1)" and "Endwall (2)" at each end of that culvert are to be constructed as cast-in-place concrete headwall and endwall. These cast-in-place connections will need to be coordinated with Oldcastle so that the connection geometry match the requirements of the culvert section in Detail 419/C403. Detail 407/C402 may be used as a general headwall/endwall reference, but the final headwall and endwall dimensions and configuration at both ends of the culvert will be based on the Oldcastle manufacturer's shop drawings. 42. The material surrounding the underdrain in Detail 426/C404 shall be AASHTO No. 57 crushed aggregate per General Note 7 and follow PennDOT Publication 408 Section 703. This is equivalent in gradation to 2B stone, with a typical particle size range of approximately 1 inch to ⅛ inch. 43. The PennDOT No. 57 (2B) stone extends from the underside of the Shoreblock SD-475-OC armor (approximately El. 1124.5) down to the underdrain invert at El. 1121. The resulting stone thickness is approximately 3.5 feet. Non-woven geotextile is required beneath the Shoreblock armor to prevent soil migration, consistent with Detail 426. 44. Topsoil Specification will be added to the Project Manual by addendum	

			under Section 32 9119 – Landscape Grading. Pending issuance of the addendum, onsite topsoil intended for reuse shall be single screened to remove debris and stones. The screened topsoil shall be free of rocks, roots, and other deleterious materials and shall be suitable for establishing vegetation. These requirements apply to all areas of topsoil reuse, including within SCM areas. 45. Follow Detail 501/C803 for all on-site storm sewer trench installations. Detail 209/C800 applies only to Township right-of-way work. Bedding, backfill, and compaction shall conform to Detail 501/C803 and its associated tables. 46. Spec attached to this addendum. 47. Stainless Steel Surrounds at slop sinks are by GC. 48. OFE-1a AND OFE-1c notes have been modified to read that the TV and associated brackets will be furnished by Owner, installed by Contractor. Associated wall blocking will be by contractor. 49. Specification Section 32 1313, Paragraph 2.05H, provides the physical material specification for micro synthetic fiber reinforcement where used, but does not note the requirement for its use. Detail 213 on Sheet C801 includes a note stating that "in lieu of steel reinforcement, fibermesh reinforced concrete may be utilized." Steel reinforcement is most typical. However, substitution with macro synthetic fibermesh reinforcement in lieu of welded wire fabric can be considered acceptable as an alternate.	
GC17	Franjo	Civil drawing C-400B calls out for SCM-2(Soil Amendments-1) plan north of the new parking lot along the slope down towards the retention pond. What are the limits for these soil amendments? The hatched area is not labeled and we believe the hatched area is in reference to where erosion control blankets are installed. Do the SCM-2 soil amendments also	Detail 418/C403 (SCM-2 – Soil Amendment Installation) applies wherever the dashed hatch pattern and callout SCM-2 (Soil Amendments-1) are shown on the plans. The hatch pattern defines the full limits of soil amendment placement. These amendments are entirely separate from the areas requiring erosion control blanketing	CEC

		follow the limits of this hatched area? Are these amendments only at a depth of 6"?	(ECB). ECB is shown on the E&S plans as a separate solid hatch pattern. Per the construction sequence, ECBs are required only on slopes of 3H:1V or steeper for temporary stabilization, whereas the SCM-2 soil amendments are a permanent post-construction soil restoration measure. Per Detail 418/C403, soil amendments shall be tilled to a minimum depth of 6 inches. In areas where rock harder than shale is encountered, the amended soil depth shall be increased to 12 inches, as noted directly on the detail. The hatch pattern, in addition to the current labels shown in plan for soil amendments, will be added to the legend prior to issuance of the conformed construction set for clarity.	
GC18	VendRick	Concerning the synthetic stucco ceilings, the specifications call for a prefinished color and on drawing A701, Reflected Ceiling Plans, it calls for it to be painted. (Note 1.1) Which one?	Provide acrylic finish coat specified in 072423, matching color PNT-2a scheduled on A603.	DRAW
GC19	VendRick	Concerning the CMU walls in Wash Bay 119, on the finish schedule, A603, on the comments is refers to "seal block with penetrating liquid treatment." I could not find any reference to any sealer on the drawings or the specifications. Please specify a product for this location.	Provide clear, ready-to-use, water based silane/siloxane blend with 400 grams/liter or less of VOCs; 10 year service life. Acceptable Products: • Sure Klean Weather Seal Siloxane PD by PROSOCO • 300-C Water-based Siloxane by Diedrich Technologies. • Chemstop WB HD by Euclid Chemical. L&M Hydropel WB by Laticrete	DRAW
GC20	VendRick	321216 - Please clarify the paving specification. Sheet C403 - Detail 415 Permanent Access Road Sheet C800 - Detail 201 Road Paving Detail Sheet C801 - Detail 212 Asphalt Pavement Sections There are 3 different details on the drawings, the only one that shows heavy/light duty is the detail on page C801	Paving for the project shall follow Detail 212 on Sheet C801, which depicts both the heavy-duty and light-duty asphalt sections. These pavement types are clearly labeled on the plans, with Sheet C200 showing the limits of heavy-duty asphalt in the bus and drive aisles and light-duty asphalt in the car parking and front access area. Sheet C400B identifies the permanent access road stone section to Bio-Retention Rain Garden-1, which shall follow Detail 415 on Sheet C403 for the	CEC

			maintenance access section. Detail 201 on Sheet C800 was added at the request of South Fayette Township to illustrate their standard public roadway section with underdrain for reference purposes only in case repairs during construction are needed. It does not apply to any private or internal site pavements. All applicable paving details are already clearly identified on Sheets C200 and C400B with callouts.	
GC21	R.A. Glancy	Would the GC or PC own the gas line from the building to the generator?	PC would own plumbing as shown in details 9/P001 and 14/P001. GC shall own all site gas plumbing between building and generator as shown in C500B Utility Plan.	DRAW
GC22	R.A. Glancy	Is a master plumber needed to install the storm piping system?	No, a master plumber is not required to install storm sewer piping.	DRAW
PC01	Wheels Mechanical	Just for confirmation, the sanitary pipe on drawing C500A, from existing manhole (9) to the new building outlet is being installed by the PC, correct?	Site sanitary utility work shall be the responsibility of the GC, from the connection points indicated on plumbing drawing 1/P100 to manhole indicated on Civil drawings. Refer to attached revised SECTION 01 1200 - MULTIPLE CONTRACT SUMMARY for further clarifications.	CEC
PC02	Wheels Mechanical	Will the owners be paying for the tap fees for the new water, gas, and sanitary connections? If not, does the design team have an idea of the known costs of these tap fees per utility? Calling the utility company is of no use for these costs.	Payment of all utility tap, connection, and capacity fees shall be by the Owner. The Contractor shall coordinate with the applicable utility companies to verify the physical extent of required taps and provide all associated documentation, including any referenced fee schedules, to the Owner for processing and payment to the utility provider. The Contractor shall not include such fees in the bid. The Contractor shall include within the scope of work all physical installation labor up to and including the utility point of connection, as indicated and noted on the Contract Drawings. See below revision to specification SECTION 22 0500 – GENERAL PROVISIONS AND COMMON WORK RESULTS FOR PLUMBING for this clarification.	CEC
PC03	Newman Plumbing	221513-2-1.05 Quality assurance. This spec is for medical gas testing, not industrial air. Please advise	See attached revised spec from Addendum #4	Tower
PC04	Newman Plumbing	221513: Compressed air piping Part 2 products call for type K copper & the valves are cleaned ,purged, and bagged according to CGA G-4.1.	See attached revised spec from Addendum #4	Tower

		My question is can this piping and valve schedule be changed? The cost of this material is very high. Are other piping systems acceptable? IE aluminum or steel?		
PC05	Newman Plumbing	Dwg S.200: Detail shows the typical procedure for trench drains installed in new floor pours by GC at the time of whole floor pour. Note on P001 detail 12 states PC responsible for concrete encasement. This conflicts with S200 and is not typical for new floor pours. Will note on P001 be removed?	REVISE Schematic 12/P001 note to read as follows: "GC IS RESPONSIBLE FOR CONCRETE ENCASEMENT AND REINFORCING BASED UPON APPLICATION AND LOCAL CODES. REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR SLOPES." Concrete detailing shall be per K/S200. Trench drain detailing shall be per plumbing drawings. Concrete work shall be by GC and drain itself shall be by PC. Refer to Architectural drawings for floor slopes.	Tower
PC06	Newman Plumbing	221519-2-1.05B: Delegated design are engineer designed and stamped submittals required or are manufactured recommended anchors/supports acceptable?	Delegated design required.	Tower
HC01	LMI	Can Siemens price this project as an extension of the current district wide Desigo CC solution in lieu of their Niagara SLX-8000 solution?	Yes, this is acceptable.	Tower
HC02	LMI	230993 - 3.08; 235523.13: Per equipment specification and sequence of operation, GIH heaters require manufacturers included controls, for require the unit to either include a BACnet or Modbus connection ability, or specified to be controlled by 3rd party install by BAS contractor. This is mentioned as a touchscreen wifi capable thermostat, with a list of points to be displayed on this touchscreen. These points area also listed in the BAS sequence of operation as requiring them to be shown through the BAS. The specifications do not allow for the points to be viewable to the BAS. This would DDC unitary controls. Please clarify.	Furnish equipment with BACnet compatible control equipment having the capabilities of displaying and adjusting the points listed in Section 23 0993 3.08 D. Note: The Roberts Gordon basis of design equipment includes touchscreen WiFi modulating thermostats which have BACnet communication capabilities that enable the listed zone temperature read and write capabilities. Provide current sensors monitored by the BAS to indicate heat power and pump power on/off indication.	Tower
HC03	LMI	230900 - 1.03 3.D: Specification reads "Provide all cabling, terminations, and patch panels associated with equipment requiring IP connections to the districts IT	The owner will provide up to SIX network switch ports for use by the BAS contractor. The BAS contractor shall provide all additional multi-port network switches required for the installed BAS	Tower

		network" Will the district be providing network switches for use by the BAS system?	system. All network switches furnished by the BAS contractor shall meet the owner's specifications for integration into the owner's local area network.	
EC01	Bronder Technical Services	265600 - What is the height of the site lighting poles (Types S01, 02, 03 & 04)? E003/10 - The detail for the site lighting pole base calls out both 36" and 24" diameter for the pole bases. Please confirm the diameter for the pole foundations.	*Types S01, S02, and S03 are 22' poles. Type S04 is 27' pole.* *All pole bases are 36" high, 24" diameter.*	Tower
EC02	Sargent	1. Both in the specifications and at the pre-bid, it is mentioned that this is an OCIP project. Can you please provide any paperwork that is required to be filled out and turned in with the bid? 2. Can you provide a Bid Bond Form? The form in the project manual is labeled as sample only.	1. Nothing additional is required with the bid, but bidders are reminded that each bidder certifies, by submitting a bid, that it has excluded all insurance costs from the Base Bid, Alternates and Unit Prices with respect to those insurance coverages that will be provided under the OCIP as set forth in the Contract Documents. 2. AIA A310 is an acceptable form. Sample is given for convenience, but since it's a copyright protected consumable document, we are not entitled to publish a blank form. It is available from the AIA, or possibly from the surety.	DRAW
EC03	Sargent	1. This spec sections requires the EC to provided a temporary dedicated 120V circuit for each piece of temp heating / colling equipment. Can you provide the quanities of temporary heaters / coolers? 2. This detail calls for concrete encasement under roadways only. Does the entire primary power / telephone duct bank need to be concrete encased? 3. Does the utility transformer require bollards and fencing?	1. No, the design does not estimate quantities of temporary equipment. After the contract award, the locations and quantities of temporary equipment will be determined by the GC, coordinating with the CM, prior to permanent enclosure; and by the HC after permanent enclosure." 2. Concrete encasement is only required where the conduit is routed under roadways. 3. Yes, bollards are required as shown on the civil drawings.	Tower

CHANGES TO PRIOR ADDENDA

Revised Response to Bidding RFI GC16 #3: ~~Temporary fencing locations and limits will be shown on the site logistics and phasing plans being prepared by PJ Dick. These plans will define the exact extents of fencing required for safety, security, and protection of work areas during construction.~~ Temporary construction fencing shall be installed by the GC for site safety, security, and access control. Fencing should be assumed for the entire limit of disturbance perimeter as shown on the E&S plans. There will not be a separate logistics or phasing plan provided in the bidding documents.

CHANGES TO THE BIDDING DOCUMENTS

See below for reference to changes to GC Bid Form.

CHANGES TO PROJECT MANUAL

Item 5.01: SECTION 01 2300 - ALTERNATES

Entire section re-issued to list alternate GC-1: Alternate Lift Manufacturer.

Item 5.02: SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

Entire section re-issued to clarify temporary facility requirements.

Item 5.G01: SECTION 00 4116.01 – GC CONSTRUCTION BID FORM

Entire section re-issued to include alternate GC-1, as stated below.

Item 5.G02: SECTION 07 4243 – COMPOSITE WALL PANELS

Subject to the requirements of the specifications, “Alfrex FR Metal Composite Metal Panels” are approved as an alternate product to the basis-of-design Alucobond system.

CHANGES TO DRAWINGS

Item 5.G03: S000 GENERAL NOTES, ABBREVIATIONS, & LEGENDS

See attached revised sheet with changes related to geotechnical services by Owner.

SUPPLEMENTAL INFORMATION

N/A

END OF ADDENDUM 5

DOCUMENT 00 4116.01 – GENERAL CONSTRUCTION BID FORM

CONTRACT NO. 24-S49-01B-01

ON

PROJECT NO. 24-S49-01B

NEW DISTRICT MAINTENANCE &
BUS DEPOT FACILITY
for

SOUTH FAYETTE TOWNSHIP SCHOOL DISTRICT
3680 Old Oakdale Road, McDonald PA 15057

DRAW Collective
470 Washington Road
Pittsburgh, PA 15228

BID OF _____ _____
(Name) (Date)

_____ _____
(Address) (Telephone Number)

_____
(City, State, Zip)

TO: Dr. Michelle Miller, Superintendent
South Fayette Township School District
3680 Old Oakdale Road
McDonald PA 15057

Ladies and Gentlemen:

The undersigned submits this Bid in conformity with the Drawings and Specifications prepared by DRAW Collective., 470 Washington Road, Pittsburgh, PA 15228-2811, and on file at the above named office; and after examination of the site of the Work, the Bidding Requirements (including the Advertisement for Bids, Instructions to Bidders, and Contractors' Qualification Statement), and the proposed Contract Documents (including the General Conditions, and any addenda issued during the bidding period changing any part of the Contract Documents).

For the price hereinafter stated, it is proposed to provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services, and to do and perform all superintendence of the construction, and to secure and pay for all permits and licenses, and to do all incidental work in order to execute and complete the Work in an expeditious and workmanlike manner to the satisfaction and acceptance of the Owner, and the Architect, all in accordance with the Contract Documents.

Enclosed herewith as bid security is a Bid Bond or certified check drawn to the order of the Owner in the amount stated in the Advertisement for Bids. The undersigned agrees not to withdraw this Bid for a period of 60 days after the designated time for receipt of Bids; and that if this Bid is accepted by the Owner, to execute the Contract and furnish the required bonds and insurance coverages. It is agreed that upon the request of the Owner, that date of award will be extended by 30 days. It is agreed that the bid security will be forfeited as liquidated damages, not as a penalty, if the undersigned fails to furnish the required bonds and insurance coverages within 10 days after receipt of written

notice of award of Contract, or fails to execute and deliver the Agreement for the Work within 10 days after receipt of it.

The Bidder hereby certifies that he is the only person(s) interested in this Bid as principal; and has not entered into collusion with any person, firm, or corporation in respect to this Bid or the submitting of Bids for this Contract.

The Bidder hereby agrees to comply with and to be bound by all applicable governmental regulations, laws, codes, ordinances and legal requirements affecting the work, including, but not limited to, Sections 752, 755, and 757 of the "Public School Code of 1949" of the Commonwealth of Pennsylvania, as amended, and the "Pennsylvania Human Relations Act," as amended.

The Bidder hereby acknowledges that Act 114 of 2006, Act 34 of 1985, and Act 151 of 1994 requires that all of the Contractor's employees and all lower tier contractors' employees produce an FBI Federal Criminal History Record, reports of criminal history record information from the Pennsylvania State Police, or a statement from the State Police that the State Police central repository contains no such information relating to each such person, and an "Official Clearance Statement" (OCS) from the Department of Public Welfare before said person may begin working on School District Projects. (See Division 01 Section, "Regulatory Requirements" for additional information.)

The Bidder hereby agrees to comply with and to be bound by all applicable governmental regulations, laws, codes, ordinances and legal requirements affecting the work, including, but not limited to, Compliance required with the Pennsylvania Prevailing Wage Act of 1961, P.L. 987, No. 442; Title VI and other applicable provisions of the Civil Rights Act of 1964; the Department of Labor Equal Opportunity Clause (41 CFR 60 -1.4); Executive Order 11625 (Utilization of Minority Business Enterprise); Executive Order 12138 (Utilization of Female Business Enterprise); in compliance with Section 504 of Rehabilitation Act of 1973 and Americans with Disabilities Act of 1990.

The Bidder hereby agrees to progress with the Work in accordance with the predetermined schedule, and to achieve Substantial Completion within the Contract Time in accordance with the dates established in the Agreement.

The Bidder hereby agrees that the right is reserved to the Owner to reject any or all Bids and to waive any informality or irregularity in any Bid received. It is further understood that the competency and responsibility of Bidders is a consideration in the award of the Contract.

The Base Bid, price quotations, and other information are submitted in the spaces provided on the Bid Form or attached to the Bid Form. Omission of price quotations or other information requested will be sufficient reason for rejection of this Bid.

In submitting this Bid, the Bidder hereby acknowledges the issuance, receipt, and acceptance of Addenda as indicated below:

Addenda issued: YES / NO [*cross out one*]; if YES list below:			
Addendum:	dated	Addendum:	dated
Addendum:	dated	Addendum:	dated
Addendum:	dated	Addendum:	dated
Addendum:	dated	Addendum:	dated
Addendum:	dated	Addendum:	dated

****

CONTRACT NO. 24-S49-01B-01
BASE BID

For all GC Work, the total sum of:

_____ Dollars ($_____)
(Written) (Figures)

****

ALTERNATE BID SCHEDULE

ALTERNATE NO. G-1: Alternate Lift Manufacturer - Stertil-Koni

ADD / DEDUCT _____ Dollars ($_____)
circle one (Written) (Figures)

(Written) (Figures)

****

UNIT PRICE SCHEDULE

Do not include costs for insurance coverages that will be provided under the OCIP, as set forth in the Contract Documents.

UG-1	Over Excavation and Engineered Fill using Reworked On-Site Soil	CY	$_____.____
UG-2	Over Excavation and Engineered Fill using Crushed Limestone	CY	$_____.____
UG-3	Treatment of Unforeseen Subgrade Springs or Perched Ground Water	LF	$_____.____
UG-4	Yard Inlet	PC	$_____.____

****

****

SIGNATURES

When the Bidder is an Individual:

_____(SEAL)

****

When the Bidder is a Partnership:

_____
Name of Partnership

By_____(SEAL)
Partner

_____(SEAL)
Partner

_____(SEAL)
Partner

****

When the Bidder is a Corporation:

_____
Name of Corporation

By_____
President

Corporate Seal

ATTEST:_____
Secretary

The_____is a corporation

organized and existing under the laws of _____and (has) (has not) been granted a certificate of authority to do business in Pennsylvania, as required by the Business Corporation Law, approved May 5, 1933, P. S. 364, as amended.

****

When the Bidder is trading under a fictitious name:

The_____is an individual, partnership, or corporation trading under a fictitious or assumed name and has (has not) registered under the Fictitious Name Act of Pennsylvania – namely, the Act of May 24, 1945, P. S. 967.

****

END OF DOCUMENT 00 4116.01

SECTION 01 2300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include, as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation, whether or not indicated as part of alternate.

B. Propose Alternate Bids "net of insurance," excluding costs or expenses for General Liability, Workers' Compensation, and Builder's Risk Insurance, in accordance with Article 11 of the Conditions of the Contract.

C. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

D. Execute accepted alternates under the same conditions as other Work of the Contract.

E. Schedule: A Part 3 "Schedule of Alternates" Article is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES for GENERAL CONSTRUCTION CONTRACT 24-S49-01B-01

A. **ALTERNATE G-1 – LIFT MANUFACTURER - PER "CONTRACTOR FURNISHED EQUIP – CONTRACTOR INSTALLED" SCHEDULE ON SHEET A801.**

Base Bid: Furnish and install lifts by "Rotary Solutions" as listed in schedule on sheet A801

Alternate Bid G-1: Subject to required lift, and clear width requirements for Owner's bus fleet, Furnish and install lifts by "Stertil-Koni" as follows:

CFE-1 Mobile Vehicle Lift & Jack - ST-1085-FWA (Stertil-Koni 18k mobile lift)

CFE-2 4-post Vehicle Lift - ST-4250 (Stertil-Koni 4-post)

CFE-3 2-Post Vehicle Lift - SK2.16 (Stertil-Koni 16k 2-post) – *verify width matches base bid product clear width for wider vehicles to completely pass-through.*

3.2 SCHEDULE OF ALTERNATES for HVAC CONSTRUCTION CONTRACT 24-S49-01B-02

A. ALTERNATE **H-1 – 23 0900 AUTOMATIC TEMPERATURE CONTROL FOR HVAC, Article 2.01 ACCEPTABLE MANUFACTURERS**

Base Bid: Johnson Controls Facility Explorer, Niagara Platform (furnished and installed by OZ Enterprises located at 60 Abele Road, Suite 1101, Bridgeville, PA 15017).

Alternate Bid H-1a: Siemens, Talon Niagara Platform, (Located at 400 Mosites Way, Suite 400, Pittsburgh, PA 15205).

Alternate Bid H-1b: KMC, Niagara Platform (furnished and installed by Building Control Systems located at 523 West Main Street, Carnegie, PA)

3.3 SCHEDULE OF ALTERNATES for PLUMBING CONSTRUCTION CONTRACT 24-S49-01B-03

—none scheduled—

3.4 SCHEDULE OF ALTERNATES for ELECTRICAL CONSTRUCTION CONTRACT 24-S49-01B-04

A. ALTERNATE **E-1 – Lighting Controls Manufacturer**

Base Bid: Provide all lighting control work using basis-of-design manufacturer: Cooper ILC (through Knight Sound and Communication.

Alternate Bid E-1a: Provide all lighting control work using alternate manufacturer: Wattstopper DLM

Alternate Bid E-1b: Provide all lighting control work using alternate manufacturer: Sensor Switch nLight

Alternate Bid E-1c: Provide all lighting control work using alternate manufacturer: Hubbell NX

END OF SECTION 01 2300

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements for temporary facilities and controls, including support facilities, and security and protection facilities.

1. Include the products, systems and assemblies listed below, as appropriate, and other facilities, whether or not listed, as necessary for successful prosecution of a complete project.
2. Observe additional requirements of Construction Manager's most current Building and Site Phasing and Logistics Diagrams for limitations to and requirements for Contractors' use of project site.

B. Support facilities:

1. Project identification and other project signs.
2. Sanitary facilities, including toilets, wash facilities, and drinking-water facilities.
3. Waste disposal facilities.
4. Storage and fabrication trailers.
5. Scaffolding.
6. Lifts and hoists.
7. Construction aids and miscellaneous services and facilities.

C. Temporary Utilities:

1. Water service and distribution.
2. Heating, cooling, ventilation and dehumidification.
3. Electrical power service.
4. Lighting.
5. WiFi web access.

D. Security and protection facilities:

1. Environmental protection.
2. Site enclosure fence.
3. Security enclosure and lockup.
4. Barricades, warning signs, and lights.
5. Temporary enclosures.
6. Temporary partitions.
7. Fire protection.

1.2 DEFINITIONS

A. Temporary Enclosure (of new and existing construction): As determined by Architect and Construction Manager, including, but not limited to:

1. Permanent roofing system has been installed and is weathertight.
2. Exterior walls, studs and sheathing or masonry are in place and insulated, and air barriers/weather barriers installed.
3. Concrete floor slab installation has been completed.
4. Insulated temporary closures, plywood, tarpaulins or reinforced polyethylene film are placed in all window and door openings. Provide access doors where deemed appropriate to facilitate construction activities.

B. Permanent Enclosure (of new and existing construction): As determined by Architect and Construction Manager, including, but not limited to:

1. Permanent roofing system has been installed and is weathertight.
2. Exterior walls, metal studs and sheathing and masonry are complete and weathertight.
3. Concrete floor slab installation is complete.
4. Permanent windows are installed and weathertight.
5. Permanent doors are installed.

a. To prevent damage to permanent doors during construction, Architect and Construction Manager may approve insulated, weathertight, self-closing temporary closures.

C. Major Portion: A fully enclosed wing or section of the building, or an addition being constructed; as determined by Architect and Construction Manager during construction per the Construction Schedule.

1. A Major Portion shall be field determined, based on the sequencing and relative progress of the construction, and is subject to approval by Construction Manager and Architect. This determination does not necessarily correspond to any relationship to any building area, matchline, or room designation schedule indicated in the Contract Documents.

D. Web-Based Project Software: Construction Manager will host Web-Based CMiS Project Management account for posting and distribution of project documents.

1.3 USE CHARGES

A. General: Utility use charges for temporary utilities will be paid by the Owner as long as the source is available from the Owner's existing utilities. If the type of utility source needed for temporary service is not available from the Owner's existing utilities, the Prime Contractor responsible for providing the temporary service shall be responsible for supplying and paying for the utility or fuel source needed.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS

A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.

B. Implementation and Termination Schedule: Within 15 days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.

C. Project Identification and other Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.

D. Project Health and Safety Statement: Written company policy identifying how health and safety will be managed on the Project, and indicating a commitment to the health, safety, and injury and illness prevention of workers and others. Include training provided for field personnel regarding awareness, communication, enforcement, and documentation policies. Observe requirements of this Section and appropriate occupational health and safety regulations and standards, including State requirements, OSHA/29 CFR 1926 and ANSI/ASSE A10.6.

E. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

F. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold. Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.

1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and requirements for replacing water-damaged Work.
2. Indicate methods to be used to avoid trapping water in finished work.
3. Indicate sequencing of work that requires water, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

G. Odor-, dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
4. Waste-handling procedures.
5. Other odor- and dust-control measures.

H. Noise and Vibration Control Plan: Identify construction activities that may impact the occupancy and use of existing spaces within the building, whether occupied by others, or occupied by the Owner. Include the following:

1. Methods used to meet the goals and requirements of the Owner.
2. Concrete cutting method(s) to be used.
3. Location of construction devices on the site.
4. Show compliance with the use and maintenance of quieted construction devices for the duration of the Project.
5. Indicate activities that may disturb building occupants and that are planned to be performed during non-standard working hours as coordinated with the Owner.
6. Indicate locations of sensitive areas or other areas requiring special attention as identified by Owner. Indicate means for complying with Owner's requirements as applicable.

1.5 QUALITY ASSURANCE

A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.

1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions in ICC/ANSI A117.1.

1.6 PROJECT CONDITIONS

A. General: Installation and removal, as well as occasional relocating where deemed necessary, of temporary facilities and controls shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary

services and facilities without cost, including, but not limited to, Owner's construction forces, Construction Manager, Architect, testing agencies, authorized visitors, and authorities having jurisdiction.

B. Keep temporary services and facilities clean and neat.

C. Any Contractor who fails to carry out its responsibility in supplying utilities required for execution of the Work shall be held responsible for such failure. Owner will have the right to take action, as it deems proper for the protection and conduct of the Work and will deduct the cost involved from the amount due the Contractor at fault.

D. Temporary Water and Electric: At earliest feasible time, as coordinated with Owner, change over from use of temporary service to use of permanent service.

E. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility until Final Completion and commencement of applicable warranties; and for restoration to condition prior to commencement of temporary use, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.

B. Pavement: Comply with Division 32 Section "Asphalt Paving."

C. Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch-OD corner and pull posts, with 1-5/8-inch-OD top rails.

1. Secure fence posts into the earth or provide steel bases for supporting posts, as appropriate for conditions after consulting with CM.
2. Walk Gates: 4-ft wide x 6'ft high single-swing hung on 2 1/2-in OD galv post set in concrete footing.
3. Drive Gates: 12-ft wide x 6-ft high double-swing (24-ft opening) hung on 4-in OD galv posts set in concrete footing.
4. Portable Panels: 6-ft high free-standing galvanized pipe-frame/ metal fabric fence.
    a. Base Support: Galv. welded pipe stands or alternative base subject to CM approval. Include sandbags.
    b. Fabric: 2 1/2-in x 11 1/2 ga chain-link mesh or 2 x 4-in 12-ga welded wire mesh
    c. Frame: Manufacturer's standard galvanized pipe or tube

D. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less in accordance with ASTM E84 and passing NFPA 701 Test Method 2.

E. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats, minimum 36 by 60 inches.

F. Gypsum Board: Minimum 1/2 inch thick by 48 inches wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36.

G. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

H. Roofings: Comply with requirements in appropriate Division 07 Sections.

I. Paint: Comply with requirements in Division 09 Section "Painting."

J. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.

K. Water: Potable.

2.2 TEMPORARY FACILITIES

A. Sanitary Facilities:

1. Provide and maintain temporary toilets and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
2. ~~Location: In accordance with Phasing and Logistics Diagrams, or as otherwise approved by Construction Manager~~

B. Field Offices:

1. Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
2. ~~Location: In accordance with Phasing and Logistics Diagrams, or as otherwise approved by Construction Manager~~

~~C. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and Construction Manager personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Provide approximately 50 ft x 12 ft trailer including delivery, anchoring, leveling, skirting, entrance stairs. Floor plan to include conference room, two private offices, and drawing plan table area. Restroom can be hooked up as a portable system with separate holding tank for sanitary and potable water for washing hands. Furnish and equip offices as follows:~~

1. ~~Location: In accordance with Phasing and Logistics Diagrams, or as otherwise approved by Construction Manager~~
2. ~~Conference room of sufficient size to accommodate meetings of 12 individuals. Furnish room with conference table, chairs, and 4-foot-square tack and marker boards.~~
3. ~~Drinking water and private toilet.~~
4. ~~Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.~~
5. ~~Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.~~
6. ~~Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle every 8 feet on each wall.~~
7. ~~Furniture required for Project-site documents, including file cabinets, plan tables, plan racks, desks, and bookcases.~~

   a. ~~Provision field office in accordance with Construction Manager's Site Logistics Diagram~~

8. ~~Field office shall be cleaned, maintained and serviced by the General Contractor until Substantial Completion.~~

D. Project Computer: Each Contractor or individual worker will be responsible to provide a laptop computer for its own use, capable of accessing and operating the Construction Manager's web-based project software system.

1. Refer to Section 01 3100 for project-specific information about web-based project software system

~~E. Printer: For use by Construction Manager, Architect, Owner, their respective consultants, agents, and subcontractors, and others as authorized by CM~~

~~1. "All-in-one" unit equipped with printer server, combining color printing, photocopying, scanning, and faxing, or separate units for each of these three functions.~~

~~a. Printer needs to accommodate color printing for 8-1/2" x 11" and 11"x17".~~

~~2. Maintain printer in proper operating condition and with consumable supplies to meet project needs.~~

~~3. Lead Contractor to provide and pay for printer consumables (paper and toner or ink) throughout the entire project.~~

F. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Location: In accordance with Logistics Diagrams, or as otherwise approved by Construction Manager
2. Store combustible materials apart from building.

2.3 EQUIPMENT

A. General: Provide equipment suitable for use intended, properly sized and engineered specifically for the temporary construction demands of this project.

B. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

C. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.

1. Each unit to contain hand sanitizing stations.

D. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.

E. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

F. Temporary HVAC Equipment: . Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained heaters with individual space thermostatic control.

1. If portable heaters are required, provide individual vented, self-contained, air-recirculating units with individual space control, as needed for job conditions.

a. Safety features and operating controls:

1) Fuel-fired units to include air proving switch, high temperature limit switch, electronic ignition with flame safe-guard system.

2) Electric units to include fan-only switch and variable thermostat and high-temperature cut-out switch with auto-reset. Provide self-contained industrial grade fan units, painted safety yellow with safety screens cover each end of the heat drum, with protected finned tubular heating elements, long-life motor and fan assembly, magnetic contactor, input terminal power block, and factory-standard cordset.

b. Units listed and labeled by a testing agency acceptable to authorities having jurisdiction, and marked for intended use for type of fuel being consumed.

c. Use of gasoline- or kerosene-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.

2. Area Cooling: Portable, self-contained packaged refrigeration air conditioning units with individual programmable electronic space control, removable condensate tank and flexible duct hose designed to provide quiet event, maintenance, supplemental or construction spot cooling.
3. Drying: Portable industrial desiccant dehumidifier, suitable for use as positive pressure system or negative pressure systems, as recommended by manufacturer for removal of excess humidity or to accelerate reduction of moisture emission in new concrete in affected areas, or as otherwise directed or approved. Provide quiet units designed for constant running as well as individual electronic humidistat control.

G. Permanent HVAC System: If Owner and Architect authorize use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and provide new filters at end of construction. Clean HVAC system as required in Section 01 7700 "Closeout Procedures."

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

B. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Location subject to approval by Construction Manager. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Section 01 1000 "Summary."
2. Locate field offices, storage trailers, sanitary facilities, and other temporary construction and support facilities for easy access and as directed by CM, but a minimum distance of 30 feet from existing and new structures.

C. Provide each facility ready for use when needed to avoid delay. Maintain until removed. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

D. Construction Aids: Each Prime Contractor shall provide construction aids and equipment required by its personnel and to facilitate execution of its own work; scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes, and other such facilities and equipment.

1. Relocate construction aids as required by progress of construction, by storage or work requirements.

E. Refer to and comply with applicable local, state, and federal regulations and Contractor's project health and safety statement, as well as Owner's Project health and safety requirements, if any, for worker safety, public safety, fire protection, and other precautions.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Connect to existing service, using appropriately certified personnel, as approved by Owner and Construction Manager. Comply with utility company recommendations.

1. Arrange with utility company, and Owner for time when service can be interrupted, if necessary, to make connections for temporary services.
2. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.

B. Water Service: Install distribution piping in sizes and pressures adequate for construction.

1. Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Temporary Electric Power: Provide electric power distribution system of sufficient size, capacity, and power characteristics required for construction operations.

1. Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
2. Where supply of electrical power greater than that available from existing service is required for specialized project construction equipment, Contractor requiring same shall install and pay all costs of such special service.
3. Do not overload the existing panels. Provide adequate fuse protection and necessary ground fault protection required by code. In all cases the feeds shall not present a hazardous condition to the existing building.

D. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. 20% of the temporary lighting shall be provided to illuminate interior work spaces on a 24-hour per day basis. Lights shall be placed in corridors and entryway and be circuited to remain energized when the balance of the temporary system has been shut down.

E. Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity for the entire duration of the project. Select equipment that will not have a harmful effect on completed installations or elements being installed.

1. Provide temporary dehumidification systems when required to reduce ambient and substrate moisture levels to level required to allow installation or application of finishes and their proper curing or drying.

F. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in areas where work is to be performed according to coordination drawings.
    a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
    b. Maintain negative air pressure within work area, using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
4. As directed by CM, post lists of important telephone numbers.
    a. Police and fire departments.
    b. Ambulance service.
    c. Contractor's home office.
    d. Contractor's emergency after-hours telephone number.
    e. Architect's office.
    f. Construction Manager's home office].
    g. Engineers' offices.
    h. Owner's office.
    i. Principal subcontractors' field and home offices.

G. Electronic Communication Service: Provide secure WiFi wireless connection to internet with provisions for access by Construction Manager, Architect and Owner, and others as authorized by Construction Manager.

1. Internet Service: Broadband modem, router, and ISP, equipped with hardware firewall, with minimum Wi-Fi 5 meeting the IEEE standard 802.11ac,-providing at least 50 Mbps upload and 100 Mbps download speeds at each computer.
2. Internet Security: Integrated software, providing secure logins, software firewall, virus, spyware, phishing, and spam protection in a combined application.
3. Backup: External hard drive or cloud-based storage, minimum 2 terrabytes, with automated backup software providing daily backups.
4. Provide, locate, and maintain additional wireless access points, as directed or approved by Construction Manager, to provide secure web access within construction areas of the building. Relocate access points as directed or otherwise necessary from phase to phase.
5. Provide interface as needed for separate Prime Contractors to provide remote web access devices for their use in their respective field office trailers. Coordinate standards and specifications with CM and separate Contractors.
6. Provide devices built to survive transient surges and maintain continuous power during 5V brownouts and spikes
7. Provide devices with built-in battery charge protection to monitor ignition state and battery voltage
8. Comply with IP64 standard for resistance to dust and water ingress and MIL-STD-810G specifications for shock, vibration, temperature, and humidity.

3.3 SUPPORT FACILITIES INSTALLATION

A. Comply with the following:

1. Provide placement and construction for temporary field offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible in accordance with ASTM E136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
3. Relocate extant temporary facilities as directed by CM upon initial mobilization of other Prime Contractors.

B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate and install temporary roads and paved areas as indicated on Construction Manager's current Phasing and Logistics Diagrams.

1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.

C. Temporary Use of Planned Permanent Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, as indicated on Drawings, Construction Manager's Phasing and Logistics Diagrams, or subject to approval, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas in accordance with Section 31 2000 "Earth Moving."
3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course in accordance with Section 32 1216 "Asphalt Paving."

D. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain, including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

E. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

F. Storage and Staging: Use designated areas of Project site for storage and staging needs.

G. Dewatering Facilities and Drains (if required): Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

H. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from demolition and construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 01 7300 "Execution."

1. General disposal containers to be provided and maintained by Lead Contractor.

I. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
2. Restrict hoisting over new or existing construction to times of day when spaces are unoccupied. Confirm in writing that spaces exposed to risk are not occupied prior to beginning each hoisting operation.

J. Temporary Elevator Use: Use of elevators for transport of construction materials or waste is prohibited.

K. Stair Usage: Use of permanent stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.

1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas, so no evidence remains of correction work.

3.4 PROJECT IDENTIFICATION AND INFORMATION SIGNAGE

A. Project Signs: Provide project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification sign as indicated.
2. Temporary Signs: Provide signs as indicated and as required to inform public and individuals seeking entrance to Project.

    a. Provide temporary directional signs for construction personnel and visitors.

3. Maintain and touch up signs, so they are legible at all times.

B. Project Identification: Lead Contractor to provide one project sign of exterior grade plywood and wood frame construction, painted, with exhibit lettering by professional sign painter, to Architect's design and colors as indicated.

1. List title of Project, names of Owner, Construction Manager, Architect, and Prime Contractors.

C. Within 20 days of the receipt of the Notice to Proceed, erect project signs on- site at locations established by Owner and Architect.

D. No other signs are allowed without Owner permission except those required by law.

E. Remove or relocate signs as directed by the Construction Manager as work progresses and shall remove these signs after completion of the Project.

3.5 PROJECT PROGRESS CLEANING

A. Provide debris collection facilities at locations acceptable to Construction Manager:

1. Lead Contractor shall be responsible for the removal and replacement of trash collection containers from the jobsite for the duration of the Work, for normal demolition waste of all Prime Contracts as indicated below, and the maintaining of overall cleanliness of the entire jobsite.
    a. Dismantle crates, crush cardboard boxes, and otherwise attempt to compact all such trash deposited in these collection facilities.
    b. Remove debris, garbage, litter, rubble, and rubbish from pipe chases, plenums, attics, crawlspaces, and other closed or remote spaces, prior to enclosing those spaces.
2. In addition to the trash collection facilities, the Lead Contractor shall be responsible to provide 55 gallon trash collection barrels within each building construction area, one for every 10,000 square foot area under construction and renovation. Lead Contractor shall be responsible for emptying the barrels at the end of each work day.
    a. Each Prime Contractor shall be responsible to collect and to deposit his demolition and construction waste in such collection facilities daily.
3. Contractor who does not comply with overall procedures and standards shall be reported to the Owner for possible reduction of its Contract Sum in order to have Contractor's trash picked up by another separate contractor.
4. Stock wood pallets neatly on-site in area designated by the Construction Manager. Remove pallets from site on a weekly basis.
5. Broom-clean the entire project at least once a week.
    a. Broom and vacuum clean interior areas at least once a week to eliminate dust and dirt from being present.
    b. Provide cleaning equipment and materials for daily and weekly cleaning operations.
    c. Broom and vacuum clean interior areas prior to start of surface finishing and continue through to Substantial Completion or acceptance by Owner.
6. Accumulations of trash, dust, and dirt of any kind will not be allowed.
7. No burning of trash, debris, and rubbish allowed.

B. The Prime Contractor responsible for cutting, patching, and demolition work is responsible to remove from the site the demolition debris, trash, dirt, scrap, rubbish, and dust created by that demolition work. This demolition debris shall not be placed in General Contractor's collection facilities.

C. Contractors and each Subcontractor shall collect and remove their own liquid waste from the jobsite. Hazardous materials shall not be placed in the shared trash collection containers, but shall be removed from the site by the Contractor or Subcontractor responsible for the material.

D. Overall General Clean-Up: In addition to the cleaning procedure specified within this Section, each Prime Contractor shall provide one worker for one half day per week to participate in a general trash clean-up of the project during renovation and construction of the building, at the direction of the Construction Manager. This clean-up will require picking up incidental trash of other Prime Contractors. However, this does not preclude each Prime Contractor from cleaning up their particular trash on a daily basis. Those Prime Contractors who do not comply with these procedures will be charged $500.00 per week for compensation to the Owner, in accord with Conditions of the Contract for Construction. Lead Contractor shall provide cleaning equipment and materials for this general trash clean-up crew.

E. Contractors' personnel will not be allowed to eat meals within the confines of the building.

F. Contractor receiving materials at the jobsite shall be responsible for prevention of mud or other deposits on public roadways and other areas outside project limit lines, which may result due to methods of material delivery. Contractor shall instruct delivery conveyor to take appropriate measures to prevent depositing mud and other construction deposits outside contract limit lines. Total responsibility of clean- up of mud and other construction deposits outside contract limits lines shall be the responsibility of the Prime Contractor receiving the delivery.

G. Lead Contractor shall maintain and clean existing paved parking and access road areas, and shall be responsible for keeping public roads adjacent to the project site clean at all times during the construction period. Lead Contractor shall clean public roads and existing access areas within a two-hour period after being directed to do so by the Construction Manager.

1. The use of water to clean roadways is prohibited. Mechanical means must be used to clean roadways.

3.6 SHARED SUPPORT FACILITIES

A. Sanitary Facilities: Lead Contractor to provide and maintain temporary toilets for use by all Prime Contractors personnel for the entire Contract Time. Existing facilities shall not be used. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

1. Follow or exceed OSHA requirements for portable toilet quantities, plus one additional unit at Common-Use Project Office.
2. Each unit shall comply with the following:
    a. Disposable Supplies: Provide toilet tissue and similar disposable materials for each facility. Maintain adequate supply.
    b. Supply and pay for antibacterial hand sanitizer for each facility. Maintain adequate supply.
3. Locate toilets so personnel need not walk more than 200 feet to facilities.
4. Permit no public nuisance or unsanitary conditions to exist on the project site.
5. Relocate and remove temporary facilities when directed by the Construction Manager.
6. At end of construction, return area surrounding the temporary facilities to same or better condition than originally found.

B. Lifts and Hoists: Each Prime Contractor shall provide facilities necessary for hoisting materials and personnel as required for its own construction operations.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

C. Janitorial Services:

1. The Lead Contractor is responsible for providing Janitorial Services for the project field office on a bi-weekly basis.
2. Each Prime Contractor to provide janitorial services for its own field office and similar areas.

3.7 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 01 1000 "Summary."

C. Temporary Erosion and Sedimentation Control: Comply with authorities having jurisdiction and requirements specified in Section 31 2500 "Erosion and Sediment Control"

D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

E. Tree and Plant Protection: Provide temporary fencing located outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

F. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals, so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using materials approved by authorities having jurisdiction.

G. Site Enclosure Fence: Prior to commencing earthwork, furnish and install site enclosure fence in a manner that will prevent people from easily entering work area of site except by entrance gates.

1. Extent of Fence: As indicated on Logistic and Phasing Diagrams.
2. Location and extent of fencing is subject to change in accord with directions of Construction Manager and Architect if necessary, as work progresses. Lead Contractor shall be responsible to maintain and reposition fencing until scheduled for removal.
3. Maintain fencing, drive gates and walk gates appropriately located in accord with project requirements, coordinated with the Documents, and as directed by the CM.
4. Provide padlocks at all gate locations and provide keys to each Prime Contractor, Construction Manager and Architect.
5. Missing, damaged, and vandalized fencing shall be replaced by Lead Contract within 24 hours of notification of the occurrence.
6. When no longer needed, completely remove fencing and restore site in compliance with requirements.

H. Security Enclosure and Lockup by Lead Contractor:

1. Provide temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
2. Provide secure fencing around project staging and storage areas. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

I. Each Prime Contractor shall be responsible for the security of its own materials and equipment stored within the Project site.

J. Each Prime Contractor shall coordinate with Owner's existing security program.

K. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard.

L. Temporary Egress: Provide temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction. Provide signage directing occupants to temporary egress.

M. Temporary Enclosures: Lead Contractor to provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight insulated enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
2. Vertical Openings: Close openings with plywood or similar materials.
    a. Vertical openings fronting on areas of new construction shall be sound-insulated as well.
3. Horizontal Openings: Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction in accordance with authorities having jurisdiction.
4. Install tarpaulins securely using fire-retardant-treated wood framing and other materials.

N. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner and occupants from fumes and noise.

1. Construct dustproof partitions with gypsum wallboard, with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
    a. At Contractor's discretion, where acceptable to Construction Manager and Architect, employ reusable modular containment assemblies similar to Starc Systems, www.starcsystems.com where applicable, in lieu of temporary studwall assemblies.
    b. If doorways are required within temporary partitions/corridors, they shall be hollow metal doors and frames with the appropriate hardware to suit their function. Keys for this hardware, if any, will be provided to the Owner.
    c. Provide fire-rated construction where indicated or otherwise necessary.
2. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
3. Insulate partitions to control noise transmission to occupied areas.
4. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
5. Protect air-handling equipment. Block air-return registers.
6. Provide walk-off mats at each entrance through temporary partition.
7. Paint surfaces exposed to view from occupied areas.
8. Weatherstrip exterior openings.
9. Relocate temporary partitions as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements by Owner and other contractors employed at the site

O. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition in accordance with requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide portable fire extinguishers, installed on walls on mounting brackets, where convenient and effective for their intended purpose, visible and accessible from space being served, with sign mounted above.
5. Temporary fire protection equipment used for fire protection during construction shall be replaced by the Contractor responsible for its use.
6. Equipment shall be in accord with OSHA standards and requirements.

P. Lead Contractor shall provide temporary first-aid facilities as follows:

1. First-Aid Supplies: Approved by a physician licensed to practice in the Commonwealth of Pennsylvania, conforming to the requirements of OSHA 1926.50, and accessible for immediate use. One 16-unit first-aid kit (or equivalent) shall be provided for each 25 persons, or fraction thereof, employed on the worksite, in location approved by the Construction Manager, and maintained, protected, and readily accessible at all times.
2. First-Aid Station: To be clearly identified as such, and shall be an enclosed space protected from the weather, cooled in hot weather, warmed in cold weather, and lighted. First-aid station shall be located adjacent to either access road or public street. First-aid station shall have facilities permitting the rendering of minor medical services. First-aid station shall be checked on a weekly basis, and first-aid supplies used shall be replaced in kind.
3. Removal: Contractor shall completely remove the temporary first-aid facilities from the worksite upon Acceptance of Final Inspection by the Construction Manager.
4. Each Prime Contractor shall provide:

    a. First-Aid Personnel: Personnel trained in the rendering of first-aid, with valid certificate issued by either the U.S. Bureau of Mines, or the American Red Cross. First-aid emblem shall be affixed to rear of hard hats worn by first-aid personnel. First-aid personnel training shall conform to the requirements of OSHA 1926.50 Not fewer than one such trained person shall be furnished for every ten employees in any single location on the worksite; not fewer than two such trained persons shall be furnished for every 25 employees on the worksite.

3.8 MOISTURE AND MOLD CONTROL

A. Moisture and Mold Protection: Protect stored materials and installed Work in accordance with Moisture and Mold Protection Plan.

B. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Period: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard and replace stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.

D. Controlled Construction Period: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.

3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

   a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours will be considered defective and require replacing.
   b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
   c. Remove and replace materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.9 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and weather events.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Coordinate change over from using temporary security and protection facilities to permanent facilities with Owner and Construction Manager. Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Each Prime Contractor shall be responsible for the removal of each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of installing Contractor except as otherwise specified herein. Owner reserves right to take possession of Project identification signs and temporary fencing materials.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures."

3.10 TEMPORARY HEATING AND COOLING RESPONSIBILITIES

A. Temporary responsibilities by phase: Requirements of this Article relative to Temporary Enclosure, Permanent Enclosure, and Major Portion apply in equal force to each respective phase of the Work.

B. Work by Separate Prime Contracts:

1. Lead Contract (General Contract):
    a. Provide and maintain adequate equipment, along with necessary hoses, connections, and other accessories to provide specified temporary heat as needed for the duration of the Project.
    b. Provide and maintain adequate dehumidification and air moving equipment as needed for the duration of the Project, to be used for needed dehumidification.
2. Electrical Contract:
    a. Temporary Enclosure: Provide a dedicated temporary 120 V circuit for each piece of equipment.
    b. Permanent Enclosure: Provide a dedicated 120 V circuit to a central location within each Designated Area (Area A, Area B, etc.) on each Floor of the building to support the temporary heating equipment. Location shall be coordinated with the Lead Contractor and Construction Manager.
3. Plumbing Contract:
    a. Temporary Enclosure: Provide temporary supply and connections required for operation of temporary heat
    b. Permanent Enclosure: Provide temporary gas line to a central location on each Floor of the Addition to support the use of temporary heating equipment. Location shall be coordinated with the Lead Contractor and Construction Manager.

C. **Construction-Phase Use of Temporary Equipment:** Where project conditions, construction schedule or manufacturer's recommendations require additional mechanical cooling, humidification or dehumidification, the Lead Contractor shall employ a service or consultant acceptable to the Construction Manager who specializes in temporary construction heating, cooling, ventilating and humidity control, at no cost to the Owner.

D. **Conditions and Limitations of Construction-Phase Use of Permanent Heating Equipment**:

1. The entire piping system serving the permanent heating equipment being used for temporary heat must be complete, tested, flushed and treated prior to operation.
2. Boilers, boiler pumps, heating pumps and related equipment must be operational and under control before permanent heating equipment can be used to supply temporary heat.
3. For any permanent heating units with heat recovery wheels are used for temporary heat, the heat wheels should be temporarily de-powered and covered on both faces with plastic film; the wheel bypass damper should then be locked open for the duration of temporary heat. Once the need for temporary heat is over, these measures should be undone.
4. If permanent equipment, piping and valves is used for temporary heat to extend, go around and/or bypass unenclosed areas, install in manner to keep equipment and piping from freezing. If necessary, provide temporary insulation and heat tracing for permanent equipment, piping and values in unenclosed areas.
5. If radiator valves and traps are used to supply heat during construction, properly clean and adjust valves and traps to efficiently operate in permanent system.
6. Install temporary filters until construction phase is completed.
    a. Replace filters as needed or at weekly intervals, whichever is shorter. If dust causing construction activities need to occur in areas where the permanent heating system is being used for temporary heat, the HVAC Contractor conducting this work must install filtering materials on the ductwork in the areas where the dust causing activities will occur.
    b. Install permanent filters in permanent system just prior to testing and balancing
7. Operate and maintain permanent heating system until Final Completion and acceptance of the Work.
8. Heating coils on all Fan Powered VAV boxes shall be cleaned prior to final balancing. Change filters as described above.
9. Operate the permanent heating system in a manner which does not interfere with the project balancing and commissioning.

E. **Construction-phase use of permanent equipment for cooling or dehumidification is prohibited.**

F. **Prior to Temporary Enclosure:** Each Prime Contractor shall provide, operate, and maintain provisions, including costs of installation, fuel, operation, maintenance, and removal of equipment necessary to provide temporary heat for the purpose of construction related activities on the building exterior (i.e. masonry, EIFS, metal panel installation, concrete slab placement, window or door installations, etc.) This requirement also extends to all site related construction activities.

G. **Temporary Enclosure**:

1. During period of temporary enclosure of any major portion, Lead Contractor shall provide temporary ambient heating and ventilation required by construction activities, for preparing new construction to receive finish work, or for protecting installed construction from adverse effects of improper conditions. Use equipment that will not have a harmful effect on completed installations or elements being installed. Except as otherwise noted, comply with the following minimum requirements:

    a. Maintain minimum temperature of 45 degrees F in temporary enclosed portions of the Work.
    b. Maintain minimum temperature of 55 degrees F in permanently enclosed portions of building for normal construction activities, and 65 degrees F for finishing activities and areas where finished Work has been installed.

2. At all times, each Prime Contractor and its subcontractors shall provide the necessary equipment to properly ventilate or otherwise spot-condition enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases for their particular work and product requirements. This obligation exists independently of Lead Contractor's obligation to provide general ambient construction heat and ventilation.

    a. Other responsibilities for climate control in individual spaces remain as follows:

        1) Ventilation and exhaust: If construction activities within a space create conditions that require additional tempered outside air or evacuation of inside air, fumes, dust, etc., beyond the design capacity of the equipment providing temporary heat, the responsibility remains with each Prime Contractor requiring that condition
        2) Maintain for the durations required by the particular construction activity

    b. Cooling and dehumidification: If construction activities within a space, or activities related to adherence to the approved Combined Construction Schedule or Remedial Construction Schedule, require additional cooling or dehumidification beyond the design capacity of the equipment providing temporary heat, the responsibility remains with each Prime Contractor requiring that condition.

        1) Where project conditions, construction schedule or manufacturer's recommendations require additional mechanical cooling, humidification or dehumidification, employ a service or consultant acceptable to Architect and specializing in temporary construction heating, cooling, ventilating and humidity control, at no cost to the Owner.
        2) Maintain continuously 24 hours a day until conditions are acceptable to flooring manufacturer and approved by Architect.

3. Remove, to the satisfaction of the Architect, Construction Manager and Owner, soot, smudges, stains and other deposits resulting from the use of portable heating equipment, prior to the application or installation of any finish work.
4. Include costs of installation, power wiring, operation, maintenance, and removal of equipment.
5. If the type of utility source needed for portable heaters is not available from the Owner's existing utilities, the Lead Contractor shall be responsible for supplying and paying for the utility source needed to operate portable heaters.
6. When building or major portion thereof is a Permanent Enclosure notify Architect, Construction Manager and Owner in writing. If Architect, construction Manager, and Owner concur with Lead Contractor, give notice of Permanent Enclosure at regularly scheduled job conference and record in meeting minutes.
7. Lead Contractor shall give written notice to HC and Construction Manager that Permanent Enclosure has been established. Verify at weekly job conference and record notice in meeting minutes.

H. **Permanent Enclosure**:

1. Upon acceptance by Architect and Construction Manager of a Permanent Enclosure of any major portion of the building is established, the HVAC Contractor has 14 calendar days to supply (take over) the temporary heat to the permanently enclosed portion of the building. The HVAC Contractor will be responsible for temporary heat, temporary cooling, temporary ventilation and dehumidification and maintain until the entire project is substantially complete.
2. All Prime Contractors are required to have permanent or temporary utilities to the permanent mechanical equipment within the 14 calendar days if permanent equipment is to be used for temporary heat.
3. At all times, each Prime Contractor and its subcontractors shall provide the necessary equipment to properly ventilate or otherwise spot-condition enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases for their particular work and product requirements. This obligation exists independently of HVAC Contractor's obligation to provide general ambient construction heat and ventilation.

    a. Select appropriate equipment that will not have a harmful effect on completed installations or elements being installed.
    b. Ventilation and exhaust: If construction activities within a space create conditions that require additional tempered outside air or evacuation of inside air, fumes, dust, etc., beyond the design capacity of the equipment providing temporary heat, the responsibility remains with each Prime Contractor creating that condition.

        1) Maintain for the durations required by the particular construction activity.

    c. Cooling and dehumidification: If construction activities within a space, or activities related to adherence to the approved Combined Construction Schedule or Remedial Construction Schedule, require additional cooling or dehumidification beyond the design capacity of the equipment providing temporary heat, the responsibility remains with each Prime Contractor creating that condition.

        1) Where project conditions, construction schedule or manufacturer's recommendations require additional mechanical cooling, humidification or dehumidification, employ a service or consultant acceptable to Architect and specializing in temporary construction heating, cooling, ventilating and humidity control, at no cost to the Owner.
        2) Maintain continuously 24 hours a day until conditions are acceptable to flooring manufacturer and approved by Architect and Construction Manager.

4. Maintain appropriate design temperature in completed areas scheduled to receive finishes, furnishings and equipment; and meet requirements below in existing areas under construction.

    a. Maintain minimum temperature of 55 degrees F in permanently enclosed portions of building for normal construction activities, and 65 degrees F for finishing activities and areas where finished Work has been installed.

        1) Use appropriate equipment that will not have a harmful effect on completed installations or elements being installed.

    b. Maintain more stringent conditions where required by manufacturers of systems, finishes or assemblies being installed in an area under construction.
    c. Conditions to be maintained 24 hours a day, 7 days a week.
    d. If the type of utility source needed for portable heaters is not available from the Owner's existing utilities, the HVAC Contractor shall be responsible for supplying and paying for the utility source needed to operate portable heaters.
    e. Clean soot, smudges, stains and other deposits resulting from the use of heaters equipment to the satisfaction of the Architect and Construction Manager.

5. Construction-phase use of permanent heating equipment is prohibited, except as strictly limited in sub-paragraph 6 below.

6. Conditions and limitations of construction-phase use of permanent heating equipment:

   a. The entire piping system serving the permanent heating equipment being used for temporary heat must be complete, tested, flushed and treated prior to operation. This includes system water piping to and thru the evaporative cooler
   b. Boilers, boiler pumps, heating pumps and related equipment must be operational and under control before permanent heating equipment can be used to supply temporary heat.
   c. For any permanent heating units with heat recovery wheels are used for temporary heat, the heat wheels should be temporarily de-powered and covered on both faces with plastic film; the wheel bypass damper should then be locked open for the duration of temporary heat. Once the need for temporary heat is over, these measures should be undone.
   d. If permanent equipment, piping and valves is used for temporary heat to extend, go around and/or bypass unenclosed areas, install in manner to keep equipment and piping from freezing. If necessary, provide temporary insulation and heat tracing for permanent equipment, piping and values in unenclosed areas.
   e. If radiator valves and trap are used to supply heat during construction, properly clean and adjust valves and trap to efficiently operate in permanent system.
   f. Install temporary filters until construction phase is completed.

      1) Replace filters as needed or at weekly intervals, whichever is shorter. If dust causing construction activities need to occur in areas where the permanent heating system is being used for temporary heat, the HVAC Contractor conducting this work must install filtering materials on the ductwork in the areas where the dust causing activities will occur.
      2) Install permanent filters in permanent system just prior to testing and balancing.

   g. Operate and maintain permanent heating system until Final Completion and acceptance of the Work.
   h. All mechanical units and equipment shall be thoroughly cleaned inside and out prior to final balancing. Change filters as described above.
   i. Operate the permanent heating system in a manner which does not interfere with the project balancing and commissioning.

END OF SECTION 01 5000

GENERAL NOTES

1.0 GENERAL

1.1 Shop drawings
a. Shop drawings for materials shall be submitted to the Architect for review prior to the start of fabrication or commencement of work.
b. No portion of the Structural Contract Drawings may be reproduced for submittal as shop drawings unless authorized by KSS in writing. Violation of this provision will result in the rejection of the shop drawings and will be returned not reviewed by the structural engineer.
c. Shop drawings shall bear the General Contractor's stamp of approval, which shall constitute certification that he has verified all field measurements, construction criteria, materials and similar data and has checked each drawing for completeness, coordination, and compliance with the contract documents. Shop drawings not reviewed by the General Contractor prior to submittal will be rejected.
d. Changes to shop drawings that are re-submitted must be clouded or otherwise clearly indicate the changes that have been made to a previously issued and reviewed drawing.
e. The contractor shall provide written notice of deviations of any type from the requirements of the Construction Documents. The notice must be received prior to shop drawing submittal. The contractor remains liable for any deviation unless reviewed by the structural engineer and acknowledged in writing, prior to receipt of the shop drawings.
f. The contractor shall provide a schedule for submittal and shop drawing submissions as well as required return dates to the architect/structural engineer at least 30 days before submittals are received.
g. Shop drawings will be returned not later than 10 working days after receipt by the structural engineer.
h. Shop drawings shall be submitted electronically for structural review in the form of pdf files. Shop drawings will be returned to the contractor with Structural Engineer's comments, also in the form of pdf files. This requirement applies to shop drawings for structural review only and it supersedes any other requirements indicated on any other drawings or in any section of the specifications.

1.2 The structural drawings shall govern the work for structural features, unless otherwise noted. Discrepancies between the architectural and structural drawings shall be reported to the architect and engineer for review and clarification before proceeding with related work.

1.3 In case of conflict between the General Notes, Specifications, and Drawings regarding structural issues, the Contractor shall submit an RFI for clarification.

1.4 Work not indicated on a part of the drawings, but reasonably implied to be similar to that shown at corresponding places, shall be repeated.

1.5 The contractor is responsible for means and methods of construction and construction procedures, fabrication processes, coordination of work with other trades and jobsite safety.

1.6 The structure has been designed for its final/in use condition. Temporary bracing, sheeting, shoring, etc., required to ensure the structural integrity/stability of the structure, adjacent existing structures, sidewalks, utilities, etc., during construction is the Contractor's responsibility and shall be designed by a Registered Professional Engineer employed by the contractor.

1.7 The Contractor shall refer to Architectural, Mechanical, Plumbing, and Electrical Drawings for size and locations of openings, sleeves, concrete housekeeping pads, inserts and depressions.

1.8 The contractor shall coordinate support of all mechanical equipment with the mechanical drawings and the appropriate equipment manufactures.

1.9 Information contained on the hard copy of this drawing retained by Keystone Structural Solutions controls over variances or changes that might be introduced due to plotting by others via electronic document transfer.

1.10 The distribution and/or use of the electronic files of the structural drawings is strictly prohibited unless written authorization is provided by Keystone Structural Solutions.

1.11 The structural construction documents are instruments of professional services and shall remain the property of KSS. The documents are not intended or represented to be suitable for reuse by the Client or others on extensions of this project or on any other project.

2.0 DESIGN CRITERIA

2.1 Design Codes:
a. IBC 2021
b. ANSI/ASCE-7 2016
c. PA Uniform Construction Code (UCC)

2.2 Live Loads:
a. Roof live load — 20 psf
b. Upper level live load — 80 psf
c. Stairs — 100 psf

2.3 Snow Load:
a. Ground snow load (Pg) — 25 psf
b. Flat-roof snow load (Pf) — 18 psf
c. Exposure factor (Ce) — 1.0
d. Thermal Factor (Ct) — 1.0
e. Snow Importance factor (Is) — 1.0
f. Additional drift load at conditions per ASCE-7

2.4 Wind Load:
a. Risk Category II Wind — 110 mph
b. Wind Exposure category — B
c. Internal pressure coefficient — +/- 0.18
d. Components & Cladding per ASCE-7 — 25 psf min.

2.5 Seismic Load:
a. Seismic Occupancy Category — II
b. Seismic importance factor (Ie) — 1.00
c. Spectral response accel. – short (Ss) — 0.090
d. Spectral response accel. – 1 sec.(S1) — 0.045
e. Site Class (S) — C
f. Spectral response coeff. – short (Sds) — 0.078
g. Spectral response coeff. – 1 sec. (Sd1) — 0.045
h. Seismic Design Category — A
i. Basic seismic force resisting system:
  • Ordinary reinforced masonry shear walls
j. Seismic-response coefficient (Cs) — 0.048
k. Response modification factor (R) — 2.0
l. Seismic Base Shear — 0.01W
m. Analysis procedure: — Equivalent Lateral Force

3.0 FOUNDATIONS

3.1 Foundations have been designed and shall be constructed in accordance with criteria established by Civil & Environmental Consultants, Inc. in their report prepared for this project dated June 9, 2025, and revised on August 15, 2025. The contractor shall be thoroughly familiar with the requirements of this report.

3.2 Spread footings have been designed to bear on weathered rock/bedrock, or imported PennDOT 2A aggregate fill, assuming an allowable net bearing capacity of 3,000 psf. Where weathered rock/bedrock is not encountered at the footing bearing elevation, over-excavate to rock and back fill with imported aggregate.

3.3 Concrete slabs-on-grade have been designed to bear on 6" (min.) granular sub-base, AASHTO #57 grading, over weathered rock/bedrock, or imported PennDOT 2A aggregate fill. Where weathered rock/bedrock is not encountered at the bottom of sub-base elevation, over-excavate to rock and back fill with imported aggregate.

3.4 The owner (5) shall retain the services of a professional geotechnical engineer to verify that the material on which foundations bear meets the criteria of the geotechnical report.

3.5 Elevations shown on the drawings at which foundations bear are approximate. Step-in footing locations and elevations shown on the drawings shall be field verified and adjusted as required so that bottom of exterior footings are a minimum of 3'-6" below surrounding finished grade for frost protection.

3.6 Retaining walls have been designed based on the following criteria:
a. At Rest Pressure: 72 PCF
b. Active Pressure: 52 PCF
c. Passive Pressure: 250 PCF
d. Soil Friction Coefficient: 0.3
e. Soil Weight: 115 PCF

3.7 Divide floor slabs on grade into segments by means of contraction and construction joints as indicated on the drawings. Position of joints other than those shown on the drawings shall be submitted to the architect for approval.

3.8 No backfilling against walls shall be done until the slabs at the top and bottom have been placed or proper temporary shoring has been installed to brace the wall. Walls having backfill against both sides shall have the backfill placed on both sides with a maximum differential height of 8 inches.

3.9 Construction joint keys shall be 2x4 (nominal & tapered) u. n. o.

3.10 Coordinate foundation drain locations with architectural, mechanical and/or civil drawings.

4.0 REINFORCED CONCRETE

4.1 Reinforced concrete work shall be in accordance with the "Building Code Requirements for Reinforced Concrete" (ACI 318) and the Specifications for Structural Concrete (ACI 301) of the American Concrete Institute (editions as required by governing code).

4.2 Cast-in-place concrete shall have a minimum 28-day compressive Strength (f'c) of 3000 psi u.n.o. below:
a. Slabs-on-Metal Deck / Slabs-on-Grade (4) 4000 psi

4.3 Air entrainment: 6% (+/-1.5%) in piers, grade beams, footings and other concrete exposed to freeze/thaw.

4.4 Concrete shall be normal weight concrete (144 pcf) with cement conforming to ASTM C150, Type I or ASTM C595, Type IL. Aggregate shall conform to ASTM C33.

4.5 Prior to concrete placement, the contractor shall submit to the architect for review, a concrete mix design for each type of concrete, prepared in accordance with the specifications.

4.6 Reinforcement:
a. Deformed bars: ASTM A615, Grade 60.
b. Welded Wire Reinforcement: ASTM A1064
c. Deformed Bar Anchors: Nelson Type D2L, ASTM A496.

4.7 Reinforcement shall be detailed, fabricated, and placed in accordance with the A.C.I. "Detailing Manual No. SP-66", latest edition.

4.8 Reinforcement shall be securely held in place while placing concrete. If required, additional bars, stirrups, or chairs shall be provided by the contractor to furnish support for bars.

4.9 Reinforcing bars shall have the following minimum concrete cover:
a. Cast against earth: 3"
b. Exposed to earth or weather
  • (No. 5 or smaller): 1-1/2"
  • (No. 6 or larger): 2"
c. Concrete not exposed to weather
  • Slabs, Walls, Joists: 3/4"
  • Beams and Columns: 1-1/2"

4.10 Reinforcing bar splices shall be Class 'B' tension lap per ACI 318 u.n.o. Lap welded wire fabric two full mesh lengths at splices and wire tie together.

4.11 Fiber reinforcing of the type and dosage as specified on plan shall be uniformly dispersed throughout concrete slabs.

4.12 Welded wire fabric shall be placed one-third of the slab thickness from the top or 2" from the top (1" for slabs on deck), whichever is closest to the surface, u.n.o.

4.13 Leveling grout shall be non-shrink, non-metallic, factory pre-mixed grout in accordance with ASTM C1107, with f'c of not less than 5000 psi.

4.14 Contractor shall verify dimensions and locations of slots, pipe sleeves, etc., as required for mechanical trades before concrete is placed.

4.15 The beams and girders supporting elevated floors are designed to have a deflection of not more than one inch under the wet weight of concrete and self-weight of structure. The contractor is responsible to provide a level concrete surface in accordance with the specifications. Additional concrete or temporary shoring may be needed and shall be provided by the contractor.

4.16 Construction joints in slabs on metal deck shall be located as indicated on the drawings.

5.0 POST INSTALLED ANCHORS

5.1 Post installed anchors shall be used only where specified on structural drawings.

5.2 The installation of post installed anchors for missing or misplaced cast in place anchors shall be approved by the engineer of record (EOR).

5.3 Anchors shall be installed in strict accordance with manufacturer's printed installation instructions in conjunction with edge distance, spacing and embedment depths as indicated on the drawings.

5.4 The contractor shall arrange for a manufacturer's field representative to provide installation training for all products to be used, prior to the commencement of work. Only trained installers shall perform post installed anchor installation. A record of training shall be kept on site and be made available to the EOR/IOR as requested.

5.5 Adhesive anchors installed in horizontal to vertically overhead orientation to support sustained tension loads shall be done by a certified adhesive anchor installer (AAI) as certified through ACI/CRSI (ACI 318-11 D.9.2). Proof of current certification shall be submitted to the engineer for approval prior to commencement of installation.

5.6 Concrete adhesive anchors must be installed in concrete aged a minimum of 21 days (ACI 318-11 D.2.2).

5.7 Post installed anchors shall be the type and product specified on the structural drawings or product substitutions are as follows:

Post Installed Concrete Anchors	
Type	Approved Anchors
Expansion	Dewalt Power-Stud+SD2 or Hilti Kwik Bolt TZ
Screw	Dewalt Screw Bolt+ or Hilti Kwik HUS-EZ
Adhesive	Dewalt AC200+, Dewalt Pure220+, Dewalt Pure110+ or Hilti HY200

Solid Grouted Masonry Anchors	
Type	Approved Anchors
Expansion	Dewalt Power-Stud+SD1 or Hilti Kwik Bolt 3
Screw	Dewalt Screw Bolt+ or Hilti Kwik HUS-EZ
Adhesive	Dewalt AC100+ Gold or Hilti HY70

Post Installed Reinforcing Bars	
Type	Approved Anchors
Adhesive	Dewalt Pure220+, Dewalt Pure110+, Dewalt AC200+ or Hilti HY200

6.0 MASONRY

6.1 Masonry work shall be in conformance with the latest edition of the "Building Code Requirements for Masonry Structures" (TMS 402) and the "Specifications for Masonry Structures" (TMS 602) of The Masonry Society.

6.2 Mortar for structural masonry shall conform to ASTM C270 and ASTM C780. Materials include: Portland cement - ASTM C150, Type I. Lime - ASTM C207. Type S mortar shall be used for structural masonry, except Type M mortar shall be used for ivany block and masonry retaining walls and basement walls. Type N mortar shall be used for veneers.

6.3 Grout shall conform to ASTM C476 and ASTM C-1019, and have a minimum compressive strength of 2150 psi. u.n.o. Grout for ivany type units shall have a minimum compressive strength of 3000 psi. Slump shall be 8 to 10 inches. Maximum aggregate size shall be 3/8".

6.4 Concrete masonry units: Hollow block shall conform to ASTM C90 , Type 1. Solid blocks shall conform to ASTM C145. Block to have a minimum net area compressive strength of the units of 2,000 psi, and a minimum net area compressive strength of masonry (prism strength) of 2,000 psi (f'm), unless noted otherwise.

6.5 Ivany type (open end block) units shall conform to ASTM C90, Type 1. Block to have a minimum net area compressive strength of the units of 4,000 psi, and a minimum net area compressive strength of masonry (prism strength) of 3,000 psi (f'm).

6.6 Deformed bar reinforcement shall conform to ASTM A615, grade 60. Provide lap splices with a min. of 48 bar diameters. Provide bar spacers as required to properly locate reinforcing within CMU cells.

6.7 Horizontal joint reinforcing for vertically reinforced walls shall be galvanized, standard class, Ladder type DUR-O-WAL (or equal), conforming to A1064 and ASTM A951, spaced at 16" o.c. u.n.o. Side rods shall be No. 9 with No. 9 cross rods u.n.o. Ladder type or truss type may be used for walls without vertical reinforcing. Provide one-piece prefabricated units at 8" o.c. at all wall corners and intersections. Provide additional joint reinforcing in the first two courses above and below masonry openings. Extend at least 2'-0" beyond each side of the opening. Provide lap as recommended by the manufacturer with a minimum of 6". Discontinue reinforcing at control joints.

6.8 Provide full bed and head joints.

6.9 Grout cells of CMU solid for CMU lintels, bond beams, cells with vertical reinforcement and at least two courses, 24" wide below beam bearing plates, u.n.o.

6.10 Vertical control joints in masonry veneers shall be provided where indicated on the Architectural Drawings or as approved by Architect. Joints should be located at a maximum spacing of 20 feet on center, and in accordance with the latest NCMA standards.

6.11 Vertical control joints in CMU walls shall be provided where indicated on the Structural Drawings or as approved by the Structural Engineer. Joints should be located at a maximum spacing of 25 feet on center, and in accordance with the latest NCMA standards. CMU control joints need not align with veneer control joints. If joint locations are not provided on structural drawings, the masonry contractor shall submit a joint location plan for review and approval by the engineer of record.

6.12 Masonry walls shall be securely braced until floor and/or roof systems have been installed and are capable of stabilizing the walls.

6.13 Brick veneer anchors shall be spaced not more than 24" o.c. vertically and horizontally and shall not support more than 2.67 sq. ft. of wall area. Provide additional anchors at 8" o.c. around openings.

7.0 STRUCTURAL STEEL

7.1 Structural steel work shall be in accordance with the AISC Steel Construction Manual (15th Edition - (ASD), including the "Specification for Structural Steel Buildings" (AISC 360-16) and the "Code of Standard Practice for Steel Buildings and Bridges" (AISC 303-16).

7.2 Structural steel shall conform to the following:
a. Wide flange shapes and WT's: ASTM A992 with a minimum yield strength of 50,000 psi.
b. Channels, angles, plates and miscellaneous connection material: ASTM A36 with a minimum yield strength of 36,000 psi, u.n.o.
c. Pipes: ASTM A53, Types E or S, with minimum yield strength of 35,000 psi.
d. Steel Tubing: ASTM A500, Grade B, with a minimum yield strength of 46,000 psi for square and rectangular and 42,000 psi for round.

7.3 Anchor bolts shall be ASTM F1554, Grade 36, u.n.o. Nuts shall be ASTM A 563 Heavy Hex carbon steel. Washers shall be ASTM F 436.

7.4 Headed shear stud connectors shall conform to ASTM A108, Grade 1015 or 1020, cold finished carbon steel.

7.5 Steel beams shall be equally spaced in bays unless otherwise noted.

7.6 Steel exposed to the exterior shall be hot dipped galvanized according to ASTM A-123. When galvanized steel is field welded provide appropriate ventilation measures. Welded surfaces shall be ground smooth and coated with galvanizing repair paint. Galvanizing repair paint shall be a high zinc dust content paint complying with Military Specifications MIL-P-21035 (Ships) or SSPC-Paint-20.

7.7 Do not paint steel where encased with concrete, to receive spray-on fireproofing, at field weld areas, at the top flange of composite beams or at S.C. bolt areas.

7.8 Structural Steel Fabricator shall provide for vertical and horizontal field adjustment of support assemblies.

7.9 Cuts, holes, coping, etc. required for other trades shall be shown on the shop drawings and made in the shop. Cuts or burning of holes in the field will not be permitted.

7.10 Structural steel frames shall be securely braced until floor slabs, roof decks and shear walls have been installed and are capable of stabilizing the frames.

7.11 STEEL STAIRS
a. Design and detailing of steel stairs, handrails and top rails of guards shall be provided by the fabricator.
b. The fabricator shall provide design drawings for the stairs signed and sealed by a professional engineer registered in the state in where the project is located.
c. Design drawings shall be submitted to the EOR for review and approval prior to fabrication. Shop drawing submissions shall adhere to the guidelines noted in section 1.1 of these general notes.
d. Design loads:

Stairs:
Uniform Load: 100 lbf/sq. ft.
Concentrated Load: 300 lbf applied on an area of 4 sq. in
Uniform and concentrated loads need not be assumed to act concurrently.

Handrails and Top Rails of Guards:
Uniform load of 50 lbs/ft. applied in any direction.
Concentrated load of 200 lbf applied in any direction.
Uniform and concentrated loads need not be assumed to act concurrently.

Limit deflection of treads, platforms, and framing members to L/360 or 1/4 inch, whichever is less.

e. Coordinate all dimensions and elevations with the architectural drawings.

8.0 STRUCTURAL STEEL CONNECTIONS

8.1 All steel details and connections shall be in accordance with the requirements of the AISC Steel Construction Manual (15th Edition - (ASD), including the "Specification for Structural Steel Buildings" (AISC 360-16) and the "Code of Standard Practice for Steel Buildings and Bridges" (AISC 303-16).

8.2 All connections, unless indicated as being fully designed on structural drawings shall be designed and detailed by a licensed professional engineer working for or retained by the fabricator licensed in the state where the project is located. The design and detail shall comply with all applicable codes and specification sections.

8.3 Unless otherwise noted as being fully designed, details indicated on drawings indicate general criteria for design and detailing of connections. Details indicated on drawings are not intended to convey complete connector sizes, plate sizes, weld sizes, number of bolts, or any other specific information that is obtained through designing of an individual connection for a given set of loads.

8.4 Submit connections not indicated as being fully designed on the drawings to KSS for review prior to the preparation of shop drawings.

8.5 Alternate connections to those shown on drawings will only be considered acceptable if contractor formally submits alternates prior to the preparation of shop drawings and KSS approves the submittal.

8.6 For connection design and detailing, set connection work point at intersection of member centerlines, u.n.o.

8.7 Design all connections for forces indicated on the drawings and/or notes. Connection design forces indicated on the drawings represent the total combined un-factored load (ASD) forces, uno

8.8 Design of members is based on assumption of 3/4-inch diameter ASTM A325 bolts. Use no more than two bolt diameters, one grade per diameter, skip one size between diameters. Connections shall be Type N for framed connections and Type SC Class A for bracing and hangers uno.

8.9 Unless alternate connections are approved by the structural engineer, bolted connections shall be double angle connections in accordance with AISC. Alternatively, single plate connections in accordance with AISC can be used for beam to beam connections only. The minimum depth of the connection must be more than 67% of the beam depth except that beams framing to columns shall have full depth connections using minimum 5/16" double angle connections; minimum 5/16" single connection plates may be used at wind moment connections at HSS columns and skewed connections, u.n.o.

8.10 Non-composite beam connections shall be designed for loads indicated on the drawings, or a minimum of one half the uniform load capacity of the beam as indicated in the AISC Manual, Maximum Total Uniform Load Tables. The steel fabricator is responsible for the connection design utilizing the above criteria. Fabricator's responsibilities include using a Registered Professional Engineer to design the structural-steel connections.

8.11 Composite beams require connection capacities indicated for non-composite beams to be increased by 50% unless higher loads are indicated on the drawings.

8.12 Welding shall be in accordance with the "Structural Welding Code ANSI/AWS D1.1", American Welding Society, latest edition. Use E70XX electrodes.

8.13 Field welded surfaces shall be cleaned, ground smooth, and coated with appropriate primer/paint as specified.

8.14 Where reinforcing bars are shown welded to structural steel, provide deformed Low-Alloy-Steel Reinforcing Bars: ASTM A706 or use ASTM A615, Grade 60 reinforcing bars with E90xx electrodes.

9.0 METAL DECK

9.1 Metal deck shall be designed, detailed and installed in accordance with the "Design Manual for Floor Decks and Roof Decks" of the Steel Deck Institute, latest edition.

9.2 Composite floor deck shall be in conformance with the "Specifications for Composite Steel Floor Deck" of the Steel Deck Institute, latest edition. Sheet steel for galvanized deck shall conform to ASTM A653 G60, Structural Quality with a minimum yield strength of 33 ksi.

9.3 Roof deck shall be in conformance with the "Specifications for Steel Roof Deck" of the Steel Deck Institute, latest edition. Sheet steel for galvanized deck shall conform to ASTM A653 G60, Structural Quality with a minimum yield strength of 33 ksi.

9.4 Roof deck shall be fastened to the supporting steel at the ends of the units and at all intermediate supports with Hilti powder actuated fasteners (PAFs). Hilti X-HSN24 PAFs shall be used into joists and Hilti X-ENP19 PAFs shall be used into steel beams. PAFs shall be spaced at 12" o.c. in a 36/4 pattern. Deck side laps shall be connected with Hilti S-SLC-01 screws at quarter points between the supports. Fasten perimeter edges of deck panels with PAFs at 12" o.c. Any split or partial panels shall be fastened to the supporting structure in every valley regardless of adjacent fastener patterns.

9.5 Composite steel floor deck shall be fastened to the supporting steel at the ends of the units and at all intermediate supports with Hilti powder actuated fasteners (PAFs). Hilti X-ENP19 PAFs shall be spaced at 12" o.c. in a 36/4 pattern where no shear studs are used. Fasten side laps and perimeter edges of panels between supports using Hilti S-SLC-01 screws at intervals not exceeding the lesser of 1/2 of the span or 36 inches.

9.6 Verify actual base material thickness on-site prior to purchasing or installing powder actuated fasteners. Consult manufacturer for correct fastener for corresponding base material thickness.

9.7 Deck installer may substitute alternate means of welding in lieu of mechanical fastening if connection and diaphragm capacity is maintained.

9.8 Deck units shall be placed in three (3) spans continuous, if possible. A minimum two (2) span condition must be maintained at all locations. Ends of adjacent deck units shall meet, either lapped or butted as appropriate, over supports.

9.9 Metal deck supplier shall provide light gage metal concrete pour stops, deck closure pieces and shall reinforce or support deck at openings and column areas as required, in accordance with the Steel Deck Institute.

10.0 STRUCTURAL WOOD

10.1 Design, fabrication and construction of wood framing shall conform with:
a. "National Design Specifications for Wood Construction" (NDS), latest edition.

10.2 Sawn lumber shall be Spruce-Pine-Fir (SPF) No.1/No.2 or better, graded in accordance with the NFPA National Design Specification with the following base design values:
a. Fb=875 psi (bending – single member use)
b. Fv=135 psi (horizontal shear)
c. Fc=1150 psi (compression parallel to grain)
d. E=1,400,000 psi (modulus of elasticity)

10.3 Connections for wood framing shall be made in accordance with the nailing schedule shown in, Table 2304.10.1 of the IBC 2021, u.n.o.

10.4 Connections for wood framing, shall be made with appropriate metal hangers, framing angles, post caps or bases, straps, etc. as manufactured by Simpson Strong-Tie or approved equal and galvanized with G185 zinc coating minimum. Bolts or lag screws shall conform to ASTM A-307. Nails/Screws/Staples in contact with treated lumber shall be galvanized.

10.5 Plywood or OSB sheathing shall be in conformance with American Plywood Association (APA) specifications. Panels should be installed with a 1/8" spacing at all panel end and edge joints. Floor sheathing to be glued and nailed.

10.6 Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete shall be preservative treated by pressure process in accordance with AWPA UC2.

11.0 PREFABRICATED WOOD TRUSSES

11.1 Design, fabrication and construction of prefabricated wood trusses shall conform to "Design Specifications for Metal Plate Connected Wood Trusses" (TPI-85) and the "Commentary & Recommendations for Handling, Installing and Bracing Metal Plate Connected Wood Trusses" (TPI/HIB-91).

11.2 Prefabricated wood trusses shall be designed and engineered by the manufacturer. Design calculations and shop drawings for construction shall be submitted to the architect for review and shall bear the engineering seal of the professional engineer responsible for their preparation.

11.3 Prefabricated wood trusses shall be designed to support the loads indicated by the design criteria, at the depth and spacing indicated on the drawings. Self weight of the trusses are not included in these loads. Lateral and uplift loads shall be applied in accordance with the design criteria.

11.4 The stability of the trusses during erection is the sole responsibility of the truss installer. Design of temporary and permanent bracing is the responsibility of truss fabricator/truss installer. The wood truss fabricator should indicate on the roof truss layout all temporary and permanent bracing as required by the truss design and by standard practice.

11.5 Truss manufacturer shall arrange truss web members as required by design. Web arrangements shown on the architectural or structural drawings are for illustrative purposes only. Truss connector plates shall be 20 gage minimum and designed in accordance with Truss Plate Institute Specifications.

11.6 Wood truss framing plans indicate the required basic truss layouts. Alterations to the plans which require design revisions to the contract documents are not permitted.

11.7 If the truss manufacturer changes the truss layout, the new layout must be coordinated with all other structural drawings prior to submission of shop drawings. Shop drawings must be approved prior to start of fabrication.

11.8 Truss to truss connections are the truss manufacturer's responsibility.

11.9 No field alteration of prefabricated trusses is permitted unless done in accordance with truss manufacturer's approved modification detail.

11.10 Refer to mechanical drawings for locations and weights of any mechanical units to be supported by the roof trusses.

12.0 SPECIAL INSPECTIONS AND TESTING

12.1 INSPECTION AGENCY:
a. Inspection agency or individual shall be retained by the owner to conduct the inspections and testing outlined below and as defined in Chapter 17 of the International Building Code
b. Special Inspectors shall keep records of all inspections and tests and submit records to the Architect.

SOIL	
• Bearing capacity	Periodic
• Excavation depth to proper material	Periodic
• Classification and testing of compacted material	Periodic
• Proper use of material	Continuous
• Site preparation	Periodic

CONCRETE	
• Verifying use of required mix designs	Periodic
• Anchor bolt placement	Continuous
• Post-installed anchors	Continuous
• Reinforcing steel and placement	Periodic
• Formwork	Periodic
• Concrete Sampling	Continuous
• Curing Techniques	Periodic

MASONRY	
• Material certificates of compliance	Periodic
• Verification of f'm every 5,000 S.F.	Periodic
• Mortar proportions	Periodic
• Placement of CMU and joints	Periodic
• Reinforcement placement	Continuous
• Grout placement	Continuous
• Anchor bolt type,size & placement	Continuous

STRUCTURAL STEEL	
• Material Certificates of Compliance	Periodic
• Identification markings	Periodic
• Welding – Fillet welds < 5/16"	Periodic
• Welding – Fillet welds > 5/16"	Continuous
• Welding – Full / Partial Penetration	Continuous
• Inspection of steel frame connections	Periodic

METAL DECKING	
• Welding	Periodic
• Verification of deck type, gage, finish	Periodic
• Sidelap fastening	Periodic

ABBREVIATIONS

A	
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
ASTM	American Society of Testing & Materials
AB	Anchor bolt
ADD'L	Additional
ADJ	Adjustable
AESS	Architecturally Exposed Structural Steel
AFF	After Final Fitup, Above Finished Floor
AISI	American Iron & Steel Institute
ALUM	Aluminum
ALT	Alternate
ANC	Anchor
ANG	Angle
APA	American Plywood Association
ARCH	Architect/Architectural
ASD	Allowable Stress Design
B	
BLDG	Building
BPL	Base Plate
BLKG	Blocking
BM	Beam
BOT	Bottom
BRG	Bearing
BT	Bent
BTW	Between
C	
CANT	Cantilever
CA	Caisson
CAP	Caisson Cap
C/C	Center to Center
CFS	Cold-Formed Steel
CIP	Cast-In-Place
CJ	Contraction Joint
CLR	Clear / Clearance
CMU	Concrete Masonry Unit(s)
COL	Column
CONC	Concrete
CONN	Connection
CP	Concrete Pier
CONTR	Contractor
CONT	Continuous
COORD	Coordinate
CSK/S	Countersunk Screw
D	
d(penny)	Nails(penny-weight)
D	Depth
DBA	Deformed Bar Anchor
DBL	Double
DEMO	Demolish
DET	Detail
DIA / ∅	Diameter
DIAG	Diagonal
DIM	Dimension
DWL(S)	Dowel(s)
DWG	Drawing
E	
EA	Each
EF	Each Face
EW	Each Way
EL	Elevation
ELEC	Electrical
ENG	Engineer
EOD	Edge of Deck
EOR	Engineer of Record
EOS	Edge of Slab
EQ	Equal
EX	Existing
EXP	Expansion
EJ	Expansion Joint
F	
FND	Foundation
FIN	Finish
FLG	Flange
FLR	Floor
FOM	Face of Masonry
FF	Finished Floor
FS	Far Side, Footing Step
FT(')	Foot
FTG	Footing
FRT	Fire Retardant Treated
FR	Fully Restrained
G	
GA	Guage,gage
GALV	Galvanize
GB	Grade Beam
GC	General Contractor
GR	Grade
GT	Girder Truss
GYP	Gypsum
H	
HD	Hold Down
HC	Hollow Core
HNGR	Hanger
HT	Height
HP	High Point
HORZ	Horizontal
HSS	Hollow Structural Steel
I	
IBC	International Building Code
ID	Inside Diameter
IF	Inside Face
IN(")	Inch
INCL	Inclusive, Including
INFO	Information
IOR	Inspector of Record
J	
JNT	Joint
JST	Joist
K	
KB	Knee Brace
K	KIP (1000 pounds)
KLF	Kips Per Linear Foot
KSS	Keystone Structural Solutions
L	
L	Angle
L	Long or Length
LAT	Lateral
LF	Linear Foot
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LONG	Longitudinal
LG	Long
LP	Low Point
LRFD	Load & Resistance Factor Design
LSH	Longside Horizontal
LSV	Longside Vertical
LVL	Laminated Veneer Lumber
LW	Long Way
LWC	Lightweight Concrete
M	
MSRY	Masonry
MAX	Maximum
MC	Moment Connection
MECH	Mechanical
MEMB	Membrane, Member
MEP	Mechanical, Electrical and Plumbing
MFG	Manufacturer
MIN	Minimum
MISC	Miscellaneous
MO	Masonry opening
MP	Masonry Pier
MTL	Metal
MW	Masonry Wall
N	
NIC	Not in Control
NS	Near Side
NTS	Not to Scale
NWC	Normal Without Concrete
O	
OC	On Center
OD	Outside Diameter
OF	Outside Face
OPNG	Opening
OH	Opposite Hand
OPP	Opposite
OSB	Oriented Strand Board
OSH	Oversized Hole
P	
PAF	Power Actuated Fastener
PC	Precast Concrete
PCF	Pounds per Cubic Foot
PEMB	Pre-engineered Metal Building
PEN	Penetration
PL	Plate
PLYWD	Plywood
PreFab	Prefabricate(d)
PMJ	Premolded Joint Filler
PROJ	Project; Projected, Projection
PSL	Parallel Strand Lumber
PCY	Pounds Per Cubic Yard
PSF	Pounds per Square Foot
PSI	Pounds per Square Inch
PT	Pressure Treated, Pre/Post Tensioned
R	
R	Radius
R/C	Reinforced Concrete
REF	Refer(ence)
REINF	Reinforcing
REQ	Required
RFI	Request for Information
RTN	Return
REV	Revise; Revision
RO	Rough Opening
RTU	Rooftop Unit
S	
SCHED	Schedule
SECT	Section
SHT	Sheet
SIM	Similar
SC	Slip Critical
SJ	Steel Joist
SGLT	Struct. Glue Lam. Timber
SL	Slope
SOG	Slab-on-Grade
SOD	Slab-on-Deck
SPA	Space(s)
SPEC	Specification
SQ	Square
SSH	Short Slotted Hole
SS	Stainless Steel
STD	Standard
STIF	Stiffener
STIR	Stirrup
STL	Steel
STRUCT	Structural
SYM	Symmetrical
T	
T or T/	Top
T&B	Top & Bottom
TD	Trench Drain
TEMP	Temporary
TEMP	Temperature
T&G	Tongue & Groove
TJ	Tie Joist
T/SL	Top of Slab
T/STL	Top of Steel
T/W	Top of Wall
THK	Thick
THRU	Through
TRANS	Transverse
TYP	Typical
TBD	To Be Determined
U	
UNO	Unless Noted Otherwise
V	
VERT	Vertical
VIF	Verify In Field
W	
W	Width, Wide Flange
WF	Wall Footing
W/	With
W/O	Without
WD	Wood
WP	Work Point, Wood Post
WPL	Wall Plate
WT	Weight
WWF	Welded Wire Fabric
Y	
YD	Yard

SYMBOLS LEGEND

CONCRETE WALL
MASONRY WALL
SHEAR WALL
STUD WALL
EXISTING FRAMING MEMBER
NEW FRAMING MEMBER
BRACE FRAME LOCATION
MASONRY CONTROL JOINT
MOMENT CONNECTION
OPENING IN BEAM WEB
DECK OR SLAB SPAN DIRECTION
P# — PLANK MARK & SPAN DIRECTION
STEP IN SLAB
ELEVATION WORK POINT
X / X-X — BUILDING OR WALL SECTION, ELEVATION MARK
X / X-X — DETAIL MARK
1 — REVISION MARK
1 / 1 — SLOPE
MW# — REINFORCED MASONRY WALL, SEE SCHEDULE
MP# — REINFORCED MASONRY PIER, SEE SCHEDULE
BP# — BEARING PLATE, SEE SCHEDULE
(SL) — SLOPING STEEL
SL → — SLOPE TO LOW POINT
[##] — NUMBER OF HEADED STUDS
X — COLUMN GRID CENTER LINE
X — STEEL LINE

DRAWING LIST

DRAW COLLECTIVE
470 Washington Road, Pittsburgh, PA 15228
412.561.7117 www.DRAWcollective.com

KEYSTONE STRUCTURAL SOLUTIONS
8150 Perry Highway Suite 302
Pittsburgh, PA 15237 | 412-369-9020
www.kss-eng.com Project No. 25113

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REVISIONS
4 10/31/2025 Addendum #4
5 11/03/2025 Addendum #5

BIDDING SET

NEW DISTRICT MAINTENANCE & BUS DEPOT FACILITY
3600 OLD OAKDALE RD MCDONALD, PA, 15057
SOUTH FAYETTE TWP SCHOOL DISTRICT 3680 OLD OAKDALE RD MCDONALD, PA 15057

GENERAL NOTES, ABBREVIATIONS & LEGENDS

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