LAVALLEE | BRENSINGER ARCHITECTS

ADDENDUM NO. 2

February 26 2016

Re: Sanford High School and Technical Center
12-067-00

To: Bidders and All Others to Whom Bidding Documents have been issued.

All items in this Addendum shall supersede or clarify the Bidding Documents as originally issued. The cost of the Work of all trades affected by the changes in this Addendum shall be included in the Base Bid or Alternates, on the Proposal Form, as applicable. Failure to do so may subject the Bidder to disqualification. This Addendum forms a part of the Contract Documents. It supplements and/or modifies them as follows:

Item No. 2.1 Reference Division 00 and Division 1: The Following modified dates shall apply to this project. Note that these dates supersede the dates in the specifications as well as the dates discussed at the pre-bid conference.

- 03/16/2016, 5:00pm. Last day to submit Bidder Questions to Architect for inclusion in Addendum. Last day to submit alternate products
- 03/30/2016, 3:00pm. Filed Sub Bids Due to AGC
- 04/06/2016, 2:00pm. Bids Due to Sanford School Department. Bid Opening at that time.
- 05/04/2016 Planned Bid Acceptance
- 05/11/2016 Planned Contract Execution* (Construction Commencement may begin immediately after)
- 01/01/2018 Anticipated approximate date for Owner's Consultant for Theater Equipment (High Output) will begin installation of those systems**
- 01/01/2018 Anticipated approximate date for Owner's Consultant for IT Equipment (Tabb Tech) will begin installation of those systems**
- 06/01/2018: Anticipated approximate date for Owner's Consultants and the Owner to begin move in of Equipment and Furnishings**
- 08/01/2018: Latest Date for Project Completion**

*Failure by the General Contractor to execute the agreement by 05/11/2016 or to provide necessary documentation (including bonds) resulting in the delay of the contract execution shall not modify the date of project completion.
**Completion of the project is planned to allow occupancy on or before August 1, 2018. The Owner's vendors must be allowed access to the project site and building before this date. The General Contractor must coordinate with the Architect, the Owner, and the owner's Consultants to allow for this as part of the schedule.

Item No. 2.2 Reference Specification 08 43 13, 2.03: Substitution Request: Oldcastle Zero Sightline Series 30E shall be an acceptable substitution to Efco WV 410 Series Windows. The Condensation Resistance Factor shall be 55. All other aspects of the specifications and drawings shall be met.

Item No. 2.3 **Reference Specification 08 43 13, 2.04A:** Substitution Request: Oldcastle Rugged Wide Stile Doors shall be an acceptable substitution to Efco Durastile Doors. All other aspects of the specifications and drawings shall be met.

Item No. 2.4 **Reference Specification 08 43 13, 2.04B:** Substitution Request: Oldcastle 500 Wide Stile Doors shall be an acceptable substitution to Efco Wide Stile Doors. All other aspects of the specifications and drawings shall be met.

Item No. 2.5 **Reference Specification 08 43 13, 2.04C:** Substitution Request: Oldcastle 375 Medium Stile Doors shall be an acceptable substitution to Efco Medium Stile Doors. All other aspects of the specifications and drawings shall be met.

Item No. 2.6 **Reference Specification 08 44 13, 2.01:** Substitution Request: Oldcastle Reliance Wall shall be an acceptable substitution to Efco Series 5600 Curtainwall. It is understood that the frame width shall be 2.5" for this product. All other aspects of the specifications and drawings shall be met.

Item No. 2.7 **Reference Specification 08 51 13, 2.01:** Substitution Request: Oldcastle Signature Series 3.25" shall be an acceptable substitution to Efco Series PX32. All other aspects of the specifications and drawings shall be met.

Item No. 2.8 **Reference Specification 08 43 13, 2.01:** Substitution Request: Oldcastle Series 3000 shall be an acceptable substitution to Efco Series 403 T Storefront. All other aspects of the Specifications and drawings shall be met.

Item No. 2.9 **Reference Specification 01 00 00 and Filed Sub Bid Package F:** Question: *General Requirements*, page 1 article 1.01.B.1 indicates the word *Contractor* shall mean *General Contractor* when used in this document and page 5 of this same section, article 1.02.Q lists dewatering to be among the tasks required of the contractor which, from the foregoing definition, means the General Contractor. Please consider making dewatering the responsibility of the filed sub-bid package F as it will be that firm which will have overall responsibility for the site work.
Answer: Dewatering associated with Site work activities and scope provided by the Site work Contractor under filed Sub Bid Package F shall be the responsibility of the Site work Contractor and carried within the sub-bid for Package F. All other dewatering activities shall be covered by the General Contractor. The term "overall responsibility" resides with the General Contractor for the project.

Item No. 2.10 **Reference Specification 31 51 00:** Question: Approval of the Rammed Aggregate Pier subcontractor: Section 31 51 00 *Rammed Aggregate Pier Foundation Systems* page 1 article 1.03.A calls for the pier installer to be approved by the geotechnical engineer prior to bid opening and article 1.03.C indicates installers licensed by the Geopier Foundation Company will be accepted as approved installers. If a specialty subcontractor is so licensed, is it not necessary to submit them for approval prior to bid opening?
Answer: Rammed Aggregate Pier sub-contractors licensed by the Geopier Foundation Company do not need to submit for approval. Rammed Aggregate Pier sub-contractors who are not licensed by the Geopier Foundation Company must submit for approval no later than March 30th by 2:00. Qualifications must be submitted for review to Lance Whitehead at Lavallee Brensinger Architects.

<u>Item No. 2.11</u> Reference Specification 01 22 00: Question: We note unit prices are requested for various work items but the bid form does not have a place where they can be entered. See for example: Section 01 22 00 Unit Prices article 1.07, page 2 – several unit prices called for on various topics. Section 31 51 00 *Rammed Aggregate Pier Foundation Systems* page 8 article 8.02.A calls for a lump sum price and article 8.02.B calls for several unit prices.
Answer: See Supplemental Bid Form SECTION 2-B-3 (Attached) for listing of unit process. Specification 01 22 00: 1.02.A. DELETE the words "as a project submittal" and replace with "on 2-B3 Supplemental Unit Price Form."

<u>Item No. 2.12</u> Reference Specification 01 50 00 and Filed Sub Bid Packages D,E,F: Question: Temporary Utility Installation: Section 01 50 00 articles 3.02.A, 3.02.B and 3.02.C call for the contractor to provide temporary services for water, electrical and drainage/storm water control. As the permanent installation of these three utilities are the work of the filed sub-bidders (bid packages D**,** E and F), please clarify that it is they that are to supply these temporary utilities but the usage cost of water and electricity by the general contractor
Answer: Temporary Utilities installation and usage shall be the responsibility of the General Contractor and excluded from the Scope of the Filed Sub-bids.

<u>Item No. 2.13</u> Reference Specification 01 50 00 and Filed Sub Bid Package F: Question: Temporary Support Facilities Installation: Section 01 50 00 articles 3.03B and 3.03.C call for temporary roads and parking to be constructed and temporary traffic control to be provided. Please clarify if these tasks are to be by the site filed sub-bidder (bid package F). Answer: Temporary Facilities Installation and usage shall be the responsibility of the General Contractor and excluded from the Scope of the Filed Sub-bids.

<u>Item No. 2.14</u> Reference Specification 01 50 00 and Filed Sub Bid Package F: Question: Security and Protection of existing trees & plants: Section 01 50 00 article 3.04.F calls for the protection of trees and plants. Please clarify if this task is by the site filed sub-bidder (bid package F).
Answer: Security and Protection of existing trees & plants shall be the responsibility of the General Contractor and excluded from the Scope of the Filed Sub-bids.

<u>Item No. 2.15</u> Reference Specification 01 57 21 and Filed Sub Bid Package D: Question: Indoor Air Quality Controls: Section 01 57 21 calls for tasks that are mechanically and electrically related. Please clarify that these tasks must be performed by these filed sub-bidders (bid packages D and E).
Answer: Section 3.01 D.3. (Sealing and Cleaning of Ductwork), Section 3.01 E. (Inspection and Filter Replacement), and Section 3.02 (Building Flush Out) shall all be carried by the Mechanical Sub Contractor within Filed Sub Bid Package D. All other aspects of Specification 01 57 00 shall be the responsibility of the General Contractor and excluded from the Scope of the Filed Sub-bids.

<u>Item No. 2.16</u> Reference Specification 26 72 30 and Drawings: Question: Duress push buttons are referred to in the spec, however there are no icons on the dwgs matching that. What locations are required? Answer: Buttons are at reception stations as annotated with the push button symbol with the "L" designation. Also located in the SRO office.

<u>Item No. 2.17</u> Reference Specification 26 72 30 and Drawings: Question: Where a card reader is located near a bank of electrified doors, such as the main entry points, do you want the card reader to open all doors in the bank, or just the closest door to the reader? Answer: Closest door only

<u>Item No. 2.18</u> Reference Specification 26 72 30 and Drawings: Question: The intercom door station near D140A does not have a substation console in the reception area near the door. Will this door be monitored by the sub stations in the main office only? Answer: Master is at reception D158 symbol is missing on drawing.

<u>Item No. 2.19</u> Reference Specification 26 72 30 and Drawings: Question: Elevator control: Does access to the elevator, or any floor need to be controlled via the access control system? Answer: Control not required

<u>Item No. 2.20</u> Reference Specification 26 72 30 and Drawings: Question: There are a few doors that appear to be electrified but with no card reader (around the main office). Presume these are remote release doors? If so, how many release buttons are needed and where are they to be located? Wireless or wired?
Answer: Wired and identified by pushbutton symbol with "R" designation. Quantity called out based on doors controlled at that station.

<u>Item No. 2.21</u> Reference Specification 26 72 30 and Drawings: Question: While the access control system and video system can be integrated, is it required? Answer: No

<u>Item No. 2.22</u> Reference Specification 26 72 30 and Drawings: Question: Will badge printing be required? Answer: Yes.

<u>Item No. 2.23</u> Reference Specification 26 72 30 and Drawings: Question: How many card credentials are to be provided? Answer: Provide 500

<u>Item No. 2.24</u> Reference Specification 26 72 30 and Drawings: Question: What are the specific integration requirements of the Access Control and MNS systems? I.e. when MNS sounds, doors go into lockdown mode. Others?
Answer: MNS programming of alarm types shall dictate requirement of lockdown. MNS may be utilized for multiple levels of notification. When a programed soft button or the hardwired buttons in the aforementioned locations are activated it would activate lockdown of access control and activation of MNS

<u>Item No. 2.25</u> Reference Specification 26 72 30 and Drawings: Question: Are the acceptable manufacturers listed in the specification automatically vetted despite inherent system design differences in hardware architecture and feature sets that may exist from the detailed specification requirements?
Answer: It is understood each system has inherent differences but all listed will meet requirements and alternates maybe submitted on as stated in the specification section 01 60 00.

<u>Item No. 2.26</u> Reference Specification 26 71 70 and Drawings: Question: Camera resolution is specified as "high". Do you want to set any minimum standards for them, i.e. 1.3 Megapixel? Answer: 1.3 shall be minimum level.

<u>Item No. 2.27</u> Reference Specification 26 71 70 and Drawings: Question: ExacqVision server spec requires the server to be RAID capable, but does not mandate any level of RAID. Do you want a specific level of RAID specified? Answer: Raid 1

Item No. 2.28 **Reference Specification 26 71 70 and Drawings:** Question: What is the model #'s of the current Exacq servers? How many? Answer: There are no current servers. Existing language shall be disregarded.

Item No. 2.29 **Reference Specification 26 71 70 and Drawings:** Question: What version of Exacq software is running (Pro or Enterprise)? Answer: There are no current versions installed.

Item No. 2.30 **Reference Specification 26 71 70 and Drawings:** Question: What is total # of existing analog and/or IP cameras? Answer: There are no current cameras. Existing language shall be disregarded.

Item No. 2.31 **Reference Specification 26 71 70 and Drawings:** Question: Spec requires heater and blower for exterior cameras. If proposed models do not require either to function in outdoor conditions, do we need to provide housings with this capability?. Answer: Proposed models that do not require additional heaters and blowers and meet the environmental criteria for the project do not require the housings proving operation and performance are assured.

Item No. 2.32 **Reference Specification 26 71 70 and Drawings:** Question: There are no monitors specified. Please confirm if specific quantity and size are required. Answer: Workstation and monitors are owner provided. Software shall be installed on owner provided work stations.

Item No. 2.33 **Reference Specification 26 71 70 and Drawings:** Question: How many video clients will need to be loaded? Answer: There are 3 locations for fixed monitoring main reception, CTE reception and the SRO office.

Item No. 2.34 **Reference Specification 26 79 13 and Drawings:** Question: Mass Notification Section 2.04 and beyond appears to be a copy of the access control system requirements. Duress buttons are being called out in section 2.05. Which system do the Duress buttons belong to and how are they indicated on the prints? There does not appear to be an associated icon.
Answer: See item 2.16 above. Button shall activate MNS and access control for locking of facility in an event.

Item No. 2.35 **Reference Sec 1-B:** Question: Where we can obtain the official envelopes for filed sub-bids?
Answer: The AGC Office in Augusta can provide these.

Item No. 2.36 **Reference Specification 13 24 12:** Substitution Request: Sunmate Model Greenhouse by Winandy Greenhouse Company shall be an acceptable substitution to Glasshouse by Rough Brothers. 2.05B, the Exhaust Fans will meet the spec but be manufactured by Acme. 2.05C, the Horizontal Air Flow Fans will meet the spec but be manufactured by Shaefer. 2.05D, the controller will meet the spec but be manufactured by Wadsworth. 2.05E, the shading system will meet the spec but be manufactured by TGU/Fiberlane. 2.05I, the grow lights will meet the spec but be manufactured by PL Light or ParSource. 2.03, greenhouse components will meet the spec, but be manufactured by Winandy. All other aspects of the specifications and drawings shall be met.

Item No. 2.37 **Reference Sec 1-B:** Question: Is any type of certification or prequalification required in order to submit a filed sub-bid for this project? Answer: No, there is no prequalification for Filed Sub Bidders.

Item No. 2.38 **Reference Sec 1-B:** Question: Do the filed sub-bidders need to be plan holders of the documents and registered with Bureau of General Service State of Maine in order to submit a Filed Sub-Bid and receive forms and envelopes that get deposited with the bid depository at the AGC office in Augusta Maine? Answer: No.

Item No. 2.39 **Reference Specification 08 63 00, 2.01:** Substitution Request: Custom Metal-Framed Skylights as manufactured by Wisconsin Solar Design Inc shall be an acceptable substitution to Wasco Pinnacle Series 600 and 300 Skylights. All other aspects of the specifications and drawings shall be met.

Item No. 2.40 **Reference Filed Sub Bid Package A:** Question: Should Filed Sub-Bid Package A Unit Masonry include Section 03 45 00 Precast Architectural Concrete? Answer: No.

Item No. 2.41 **Reference Specification 07 25 00:** Question: Weather Barrier Type 1 non-permeable has Air-Bloc 32 MR by Henry as an acceptable product however Henry is not a product listed for the Weather Barrier Type 2 permeable. Is Henry 33 MR an acceptable product for Weather Barrier Type 2 as we would like to stay with same product manufacturer for the permeable and non-permeable air barriers if possible? Please advise. Also Section 07 25 00 Part 2.01 B.9. has Substitutions See Section 01 40 00 which should probably be changed to Section 01 60 00. Please clarify Answer: 07 25 00 2.01 B.9 should reference 01 60 00 not 01 40 00. 07 25 00 2.01 9 should list AirBloc 33MR ad manufactured by Henry as an acceptable Weather Barrier Type 2 Product.

Item No. 2.43 **Reference Specification 01 60 00, 3.02:** Question: Owner-Supplied Product and Contractor installed, 1) Soap dispensers, 2) Interactive marker boards and projectors, 3) Video & TV screens and 4) Interior Signage – surface mounted. Please clarify the scope of this Owner-Supplied and Contractor Installed work and what sections this work is specified in. i.e Is all interior signage specified in section 10 14 24 supplied by the owner and installed by the contractor? Answer: Strike Line C.4. Signage as shown on the drawings and specified under section 10 14 24 and 10 14 26 shall be contractor supplied and installed. Reference the drawings for other owner supplied items.

Item No. 2.44 **Reference Specification 07 53 00, 2.03:** Question: Spec section 075300 2.03 E calls for a protective overlayment membrane. Can you define if this is required and if so then provide locations?
Answer: This should read "protective underlayment" which includes products like Carlisle's Sure-Seal EPDM Polyepichlorohydrin, or similar from other manufacturers meeting the description specified. This shall be provided at roof locations within 4' of all exhaust fans, and within 10' of all kitchen exhaust fans. The intent of this is to for additional protection at areas which may be exposed to grease.

Item No. 2.45 **Reference Drawings A1.30 – A1.39:** Question: Will there be any additional information shown on the roof plans (A1.30-A1.39) in regards to tags/keys for roof edge cuts/details or will elevation sections and corresponding details be all that we will be getting?
Answer: No additional details should be required. See Sections and section details.

Item No. 2.46 Reference Drawings A3.34, A3.35, A3.37, A3.31, and A3.51: Question: There are areas on the perimeter roof that call for insulation board from 072100 (see detail D12/A3.34). Please clarify what type of insulation from 072100 is required.
Answer: This note should read "07 53 00 RIGID ROOF INSULATION". Drawings D1/A3.34, C4/ A3.34, J11/A3.31, J5/A3.35, D1/A3.35, D1/A3.37, and J11/A3.51 have similar conditions that should reference 07 53 00 RIGID ROOF INSULATION at locations where insulation is shown behind Roofing Membrane or Roof Membrane Flashing.

Item No. 2.47 Reference Filed Sub Bid Package B and Specification 09 24 00: Question: Sub-Bid Package B indicates the following sections are included 05 40 00, 09 21 16 and 09 24 00. In Section 09 24 00 Portland Cement Plastering it does not indicate "(Trade Bid Required)" as it does for Sections 05 40 00 & 09 21 16. Please clarify Section 09 24 00 is part of Filed Sub-Bid Package B?
Answer: Section 09 24 00 is part of Filed Sub Bid Package B and should reference such.

Item No. 2.48 Reference Filed Sub Bid Package F and Specification 31 51 00: Question: Section 31 51 00 Rammed Aggregate Pier Foundations is not part of Filed Sub-Bid Package F for the Sitework however should dewatering and removing spoils related to the Rammed Aggregate Piers be included with Filed Sub-bid Package F?
Answer: Dewatering associated with 31 51 00 should be the responsibility of the General Contractor. See Addendum item 2.8.

Item No. 2.49 Reference Sec 1-B: Question: Does a filed sub-bid contractor (sub-bid package F) have to purchase a set of plans to be considered an eligible bidder, or does downloading the plan and specs acceptable?
Answer: Filed Sub Bidders are not required to purchase a set of printed plans from any specific location. It should be noted that as part of the Sub Bid Form, bidders must reference all drawings, specifications, and addenda.

Item No. 2.50 Reference Specification 31 20 00 and 02 41 00: Site Waste disposal as outlined by 31 20 00 and 02 41 16 shall be by the Site Contractor under Filed Sub Bid Package F. All other waste disposal shall be the responsibility of the General Contractor.

Item No. 2.51 Reference Section 2D-1 : Question: The Project Manual / Bid Documents list "Section 2-D1 Form of Subcontractors Bid Bond (Long Form)" and the Bureau of General Services website lists a different document "00 43 16 Subcontractor Bid Bond". The BGS form appears to replace the 2-D1 form. Which Subcontractor Bid Form is acceptable? What is the Obligee name? Answer: Either form is acceptable. The Obligee should be the Treasurer of the School Administrative Unit (it is a selection under the drop down menu on the online form).

Item No. 2.52 Reference Filed Sub Bid Package D: Question: Is Filed Sub-Bid Package D responsible for exhaust ductwork for food service equipment?
Answer: Yes.

Item No. 2.53 Reference General Contractor Bid and Filed Sub Bid Packages E and F: Question: Will the Owner be paying for Power Company (Central Maine Power), Fairpoint and other communication company's fees and back charges including underground and overhead utilities, poles and guy wires for bring utilities to documented designated

locations on site? Or will an Allowance be assigned for either the Electrical Filed Sub-bid contractor or the General contractor to carry in their bid for this work? Please advise.
Answer: The Owner will pay for Power Company and communication company fees and back charges for the permanent utilites. Any fees incurred for temporary power and communications shall be the responsibility of the general contractor

Item No. 2.54 **Reference Civil Drawings 12, 28, 43:** See attached revised drawings for Civil including sheets 12, 28, and 43. Changes include Site Plan Sheet 12: Adjusted track dimensions to meet high school standards. Adjusted dimensions of pole vault landing pad to meeting minimum high school standards, adjusted location of fence and gates at outside edge of track, adjusted location of future concrete pad for scoreboard. Grading Plan Sheet 28: Adjusted spot grades at inside and outside track edge, Adjusted spot grades of pole vault area and landing pad, slightly adjusted location of stilling basin/ level spreader at outlet of 36" pipe to avoid wetland impact. Utility Plan Sheet 43: Adjusted drainage stormdrain and underdrains along inside edge of track, Inverts were revised accordingly at drainage structures, Adjusted interior j-drains to tie into revised underdrain.

Item No. 2.55 **Reference Specification 32 84 00 and Civil Drawing 51:** See attached supplemental information on for the water cannons shown at the artificial turf field on Civil Drawing Sheet 51. The product shall be the Mirage M-115 water cannons or approved equal.

Item No. 2.56 **Reference Specification 26 46 00 and Filed Sub Bid Package E:** See attached spec section 26 46 00 – Dry Type Transformers. This scope shall be included under Filed Sub Bid Package E.

Item No. 2.57 **Reference Specification 31 51 00:** Question: Rammed Aggregate Piers (RAP) are indicated to be installed to a tip elevation of 234.0 at load bearing footings in Areas A1, A3, B, E, F1 and F2 where peat and uncontrolled fills were encountered per SW Cole Report and SW Cole Sheet 1; please clarify approximately what elevation(s) that RAP's should be at for the basement footings in area B indicated on Plan S1.0, sections S2.3 and SW Cole Sheet 2?
Answer: The minimum tip elevation for RAPs is 234.0, including the basement footings.

Item No. 2.58 **Reference Sub Bid Package E and Sub Bid Package F:** Question: It appears within the specification that the electrical contractor is responsible for reinforcing and encasing the electrical duct banks in concrete. This seems unusual as we would have expected it to be within the site utility scope of work along with the excavation for the duct bank. Assigning this work to the excavation sub-contractor to the GC ensures the trenching will be adequately executed without unforeseen costs to the electrical contractor. For example; having to provide forming materials because the trench was over excavated. It is also out of the norm for electrical contractors to hire iron workers to provide reinforcing of the duct bank. Please confirm that it is you intention to assign concrete encasement and reinforcement of electrical duct banks to the electrical sub-trade.
Answer: The site contractor will be responsible for the excavation, backfill, concrete and reinforcing under Sub Bid Package F. The Electrical contractor will be responsible to provide and install the conduit under Sub Bid Package E. The GC shall be responsible to coordinate with both contractors to accomplish this.

Item No. 2.59 **Reference Sub Bid Package E and Sub Bid Package F:** Clarification: Exterior Precast Light Pole Bases shall be provided and installed by the Site Contractor under Sub Bid Package F.

Item No. 2.60 **Reference Division 00 and Division 1:** Clarification: Payment for Stored Materials – Requisitions will be reviewed on a monthly basis. Stored materials will be reviewed per payment application. Stored materials must be delivered and stored suitably on site. If materials are stored off-site, the request must be presented with the bill of sale, right of entry, and insurance. Stored materials must be completed products, not raw materials. For example, steel must be fabricated to the sizes specific to the project.

Item No. 2.61 **Reference Division 00 and Division 1:** Clarification: Sub-Contractors do not need to be prequalified by DOT in order to submit the filed sub-bid for Sub-Bid Package F. However, the sub-bid package must include a company already be prequalified by DOT at the time filed sub-bids are due in order to perform the off-site work. Indicate DOT prequalified firm on attached revised sub-bid form, applicable only to Sub-Bid Package F

Item No. 2.62 **Reference Specification 01 22 00:** Specification 01 22 00, 1.02.B. DELETE the words "overhead and profit and insurance & bond." Since the differences in cost from the Allowance will be adjusted by Change Order, the provisions from Section 3-A Standard General Conditions, Article 16: Changes in the Work will apply.

Item No. 2.63 **Reference Table Of Contents:** Section 2-B2 should ADD the words "Proposal Form for Subcontractors"

Item No. 2.64 **Reference Section 1A:** Question: Please clarify the basis of award; Section 1-A Instructions To Bidders, Part 4 states "the general contractor will be selected on the basis of the sum of the lowest acceptable proposal plus such of the alternates as the owner desires to use, it being understood that the Sub-Contractors listed in said proposal shall be acceptable to the Owner. Please clarify what would be an unacceptable proposal of the bonded General Contractor and the listed bonded Sub-Contractor assuming bid forms are completed correctly and Addenda are acknowledged?
Answer: An example of an unacceptable proposal could be one where the Contractor has provided a bid containing limitations or qualifications. A Sub-Contractor bid could be found unacceptable if the required qualifications are not met.

Item No. 2.65 **Reference General Information:** Question: Are there any state, local federal railway right of way road restrictions/postings/permits required for access to the site and building pad; i.e. for Old Mill Road, Main Street Route 109, proposed main access drive from Route 109 Main Street to building pad, State Route 4 and access from Route 4 to secondary access drive/proposed easement/former Sanford & Cape Porpoise Railway? Please advise.
Answer: There is no railway and no railway crossings on or near the site. The easement is in former reference only and has been abandoned.

Item No. 2.66 **Reference Drawing A1.38 and A1.68:** Question: On sheet A1.38 and E2.38 there are 4 tubular skylights shown over the practice gym, but on sheet A1.68 and M3.18 none are shown in the same location. Please confirm the count of the Tubular Skylights so the correct amount can be priced.
Answer: There are 4 tubular skylights in the smaller gym as shown on A1.38

Item No. 2.67 **Reference Plumbing Drawing P2.02 & P5.01:** See attached revised drawings for Plumbing including sheets P2.02 & P5.01

Item No. 2.68 **Reference Drawing AI0.02 and AI1.12**: Question: Finish schedule AI0.02 calls for SC-Pattern (Polished Concrete) and Wood Flooring at A183 Auditorium Stage / Back Stage. Finish Plan AI1.12 only shows wood flooring. Is any SC-Pattern (polished Concrete) required in A183?
Answer: SC2 is shown at each stage side adjacent to the spiral stair access on Drawing AI1.12.

Item No. 2.69 **Reference Specification 12 61 00**: Question: Section 12 61 00 Fixed Audience Seating, Part 2.04 standards: A. Support standards: "cast aluminum" or "cast iron"; will "steel" support standards also be acceptable?
Answer: Cast Steel shall be acceptable. Tubular Steel will not.

Item No. 2.70 **Reference 03 45 00 Precast Concrete and Drawings A8.50, A8.51, A6.52:** Cast in Place Concrete shall be an acceptable substitution to the Precast Concrete shown on building signage on drawings A8.50, A8.51, and A8.52. The Cast in Place Concrete here shall comply with sections 03 30 00. At these locations, the concrete finish must be of high quality (aka "Architectural Concrete"). Forms shall be in excellent condition, free of dents, scratches or surface deposits. Forms at these lcoations shall be HDO (High Density Overlaid) Plyform, in "like-new" condition. Use appropriate thickness of Class I, II or Structural I Plyform as recommended by APA for specific installations. Provide a concrete Sealer at these locations including Silpro "Silocks VOC", Conproco "Shield W20", or approved equal. Use Plastic Control Joints at locations as shown on the drawings and required by the design. At these locations, materials, which will impart a stain to the concrete, shall not be applied to the form surfaces. Where the finished surface is required to be painted or treated, the material applied to the form surface shall be compatible with the type of paint to be used. All necessary chamfer strips and related architectural detail strips shall be provided for as indicated on the Drawings. Construction joints shall be located so as to least impair the strength and watertightness of the structure. All joints shall be keyed. Concrete forms, mix designs, conveying, placing, consolidating, finishing, and all other work related to architectural concrete shall be provided as required to produce a suitable concrete finish in its natural state, without cutting, patching, rubbing or coating. NOTE: It shall be the Contractor's responsibility to establish mix designs and provide materials as required to satisfy all structural and aesthetic requirements related to architectural concrete. General concrete requirements specified elsewhere herein may be modified as necessary to meet design intent, subject to recommendations of the Contractor and the Architect's prior written approval. A suitable architectural finish shall be defined as one that produces: Form joints, rustication marks, chamfers, tie holes, and all other cast-in-place features as identified in the Contract Documents and on the Shop Drawings. Minimal surface defects. Consistent color and texture in conformance with approved samples. NOTE: Form sealer and release agents to be used on architectural concrete shall be clear, non-coloring and non-staining.

Item No. 2.71 **Reference Specification 11 53 00 and 12 34 00**: Within the Laboratory Equipment Spec Section (11 53 00) it notes that the section includes Laboratory Equipment and Welding booths. There are only two products listed in the spec, 2.02 – Welding Booths and 2.03 Medical Headwall Equipment. Please confirm these are the only required Laboratory equipment.
Answer: These are the only items under 11 53 00. It should be noted that there are items specified elsewhere. Provide (2) Document Cameras and (2) Fumes hoods as shown on drawings at Chemistry Labs and specified under 12 34 00.

Item No. 2.72 **Reference Specification 23 97 50, 1.04:** Substitution Request: Schneider Electric Struxureware Controls shall not be an acceptable substitution to Trane / Honeywell / Siemens / Johnson Controls as specified.

Item No. 2.73 **Reference Mechanical Drawings:** Question: Please specify exactly were double wall duct is required? Answer: All doublewall ductwork is clearly shown on the drawings and the ductwork schedules in standard spec clearly defines type based on location.

Item No. 2.74 **Reference Mechanical Drawings:** Question: Are all mechanical/ductwork expansion joints shown on drawings? Answer: Piping thermal expansion compensation is indicated on the drawings in addition to flex pipe at building expansion joints. Ductwork expansion joints need clarification and will be issued in future addendum.

Item No. 2.75 **Reference Mechanical Drawings:** Question: On the mechanical drawings, there appear to be unlabeled radiant panels (for example, M2.14, Office C119). These symbols/panels appear in several instances throughout the drawings. They do not have labels or supply piping and appear to be in random places. Please advise.
Answer: Refer to the "Radiant Heat Ceiling Panel" detail on drawing M4.04. The panels labeled without a gpm component are supplied/returned from the adjacent panel which has a label displaying the total gpm for the connected Radiant Panels.

Item No. 2.76 **Reference Mechanical Drawings:** Question: Is all round spiral duct to be factory equipped with epdm rubber gaskets or can slip joints with duct sealer be used where concealed?
Answer: Gaskets are not required where ductwork is concealed.

Item No. 2.77 **Reference Specification 07 84 00 Fire Stopping:** Clarification: Fire stopping shall be excluded from all Filed Sub Bid Packages, but shall be included under the General Contractors Bid. See 07 84 00, section 1.06 for other requirements. The General Contractor does have the option of allowing multiple subs to perform this work as long submittals are coordinated to limit the amount of products when possible, and the installers are qualified to install the fire-stopping.

Item No. 2.78 **Reference Specification 10 14 24:** Question: Section 10 14 24 2.02 5 a & b: Are all entrances to school HC accessible? If not, what entrances are not HC accessible? Answer: Provide 1 at door E139A

Item No. 2.79 **Reference Specification 10 14 24:** Question: Section 10 14 26 2.01 Exterior Building Mounted Signage – SANFORD HIGH SCHOOL AND TECHNICAL CENTER: Where are these located on the building? What is the exterior elevation? Answer: Spec should read: "SPARTANS" as shown on B1/A8.52

Item No. 2.80 **Reference Specification 10 14 24:** Question: Plan A6.10 Elevation B1 Typical Classroom Teaching Wall – Exit Map – Are there specs for these? Is this part of interior signage?
Answer: Provide wall mounted 8.5 x 11 acrylic window sign – Graphic Components, In Case of Fire Window Sign or equal. Color to match Interior Signage with raised borders. Note: a similar window sign shall be provided for the phone list as indicated on A0.60 IC – Information Center.

Item No. 2.81 **Reference Specification 10 14 24:** Question: Plan A6.31 F7 Public Lobby D140 and F4 Entry Vestibule – what is the thickness and finish of the laser cut stainless steel panels?
Answer: F7 and F4 on A6.31 add "10 14 24" to Laser-Cut Stainless Steel Sign Panels: 10 14 24 2.04 A. add " Provide lettering cut as indicated on drawings. Sign Panel to be 13 GA or thicker. Finish to be brushed or similar.

<u>Item No. 2.82</u> Reference Specification 10 14 24: Question: Section 10 14 26 2.01 B – Is there interior signage that goes with the exterior #'s for 911. If so, what is the type of material and size?
Answer: No. Interior signage at these locations in not required.

<u>Item No. 2.83</u> Reference Specification 01 40 00: Question: Please clarify what will be expected for full scale mock-ups that are not considered in place mock-ups for both exterior and interior items?
Answer: The full scale mockup is shown on Drawing A8.10. Other mock ups are listed in several spec sections with most acceptable ones remaining as part of the work.

<u>Item No. 2.84</u> Pre-Bid Conference: See attached Sign-in Sheet from Pre-Bid Conference

END OF ADDENDA #2

2-B2
MAINE CONSTRUCTION BID DEPOSITORY
(PUBLIC SCHOOL PROJECTS)
PROPOSAL FORM FOR **SUB-BID PACKAGE F** SUBCONTRACTORS
LONG FORM

To:_____

_____
For green envelope copy, list any general contractor(s) excluded from your bid.

PROJECT: **Sanford High School and Technical Center, Sanford, Maine 04073, Project: 12-067-00, Dated: 11 February 2016, Issuance: Bid Documents**
SECTION(S) QUOTED:_____
PRICE QUOTED: SECTION_____$_____SECTION_____$_____
TOTAL COMBINED PRICE (if applicable) SECTIONS_____$_____
DOT PREQUALIFIED FIRM FOR OFF-SITE WORK (NAME)_____

A. The undersigned propose to furnish all labor and materials required for completing in accordance with the hereinafter described plans, specifications general conditions and addenda, all the work specified in the above stated section(s) of the specifications and contract drawings dated **11 February 2016**.
Prepared by **Lavallee Brensinger Architects**.

B. Alternate bids are included on this project. Refer to Section 01 23 00 – Alternates. Any dollar amount line below that is left blank by the Bidder shall be taken as a bid of $0.00. Alternate Bid prices are as follows: (Use separate sheets as necessary)

Alternate No.	Title of Alternate	Dollar Amount
1	*Roof Protection Board*	
	ADD / DEDUCT (Circle One)	$ _____
2	*Concrete Brick at Rear Elevations*	
	ADD / DEDUCT (Circle One)	$ _____
3	*Concrete Brick at Front Elevations*	
	ADD / DEDUCT (Circle One)	$ _____
4	*Resilient Floor Tile and Ceramic Floor Tile*	
	ADD / DEDUCT (Circle One)	$ _____
5	*Porcelain Tile at Main Spine Area*	
	ADD / DEDUCT (Circle One)	$ _____
6	*Field Storage Building*	
	ADD / DEDUCT (Circle One)	$ _____
7	*Additional Fencing at Track*	
	ADD / DEDUCT (Circle One)	$ _____

8 *Organic Infill at Turf*

ADD / DEDUCT $ _____
(Circle One)

9 *Turf Custom Logo*

ADD / DEDUCT $ _____
(Circle One)

10 *Emergency Access Road Paving*

ADD / DEDUCT $ _____
(Circle One)

11 *Vinyl Fencing*

ADD / DEDUCT $ _____
(Circle One)

12 *Building Automation System / Controls Manufacturer*

ADD / DEDUCT $ _____
(Circle One)

13 *Stadium and Press Box Emergency Inverter*

ADD / DEDUCT $ _____
(Circle One)

14 *Metal Panel at Gym*

ADD / DEDUCT $ _____
(Circle One)

15 *Site Signs*

ADD / DEDUCT $ _____
(Circle One)

16 *Site Underdrain Reduction*

ADD / DEDUCT $ _____
(Circle One)

C. The subcontract proposal includes the following addenda to the drawings and specifications: (List addenda and issue date of each).

Addendum No._____, Dated_____Addendum No._____, Dated_____

Addendum No._____, Dated_____Addendum No._____, Dated_____

Addendum No._____, Dated_____Addendum No._____, Dated_____

D. The undersigned agrees that, if he is selected as a subcontractor, he will execute with the selected general contractor a subcontract in accordance with the terms of this subproposal, and furnish the general contract with a 100% performance bond and a 100% payment bond <u>for his portion of the work.</u>

E. _____License # (if applicable)_____
(Firm Name of Sub-bidder)
Signed by:_____Date_____
Address_____
Street City State Zip

F. All foreign corporations intending to do business in Maine must comply with the provisions of 13A M.R.S.A., Chapter 12 and shall contact the Secretary of State for compliance.

END OF SECTION

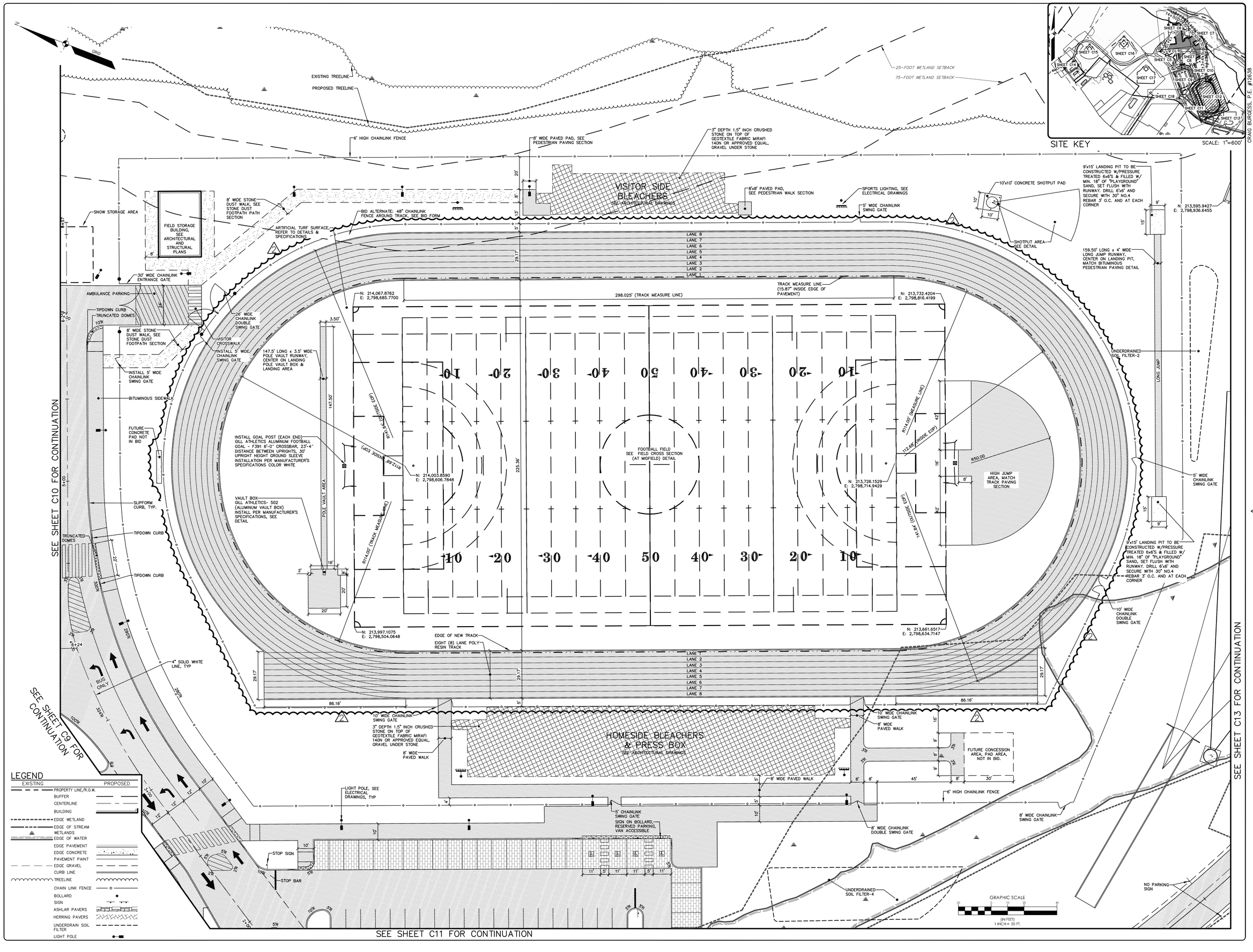
SECTION 2-B-3

SUPPLEMENTAL UNIT PRICE FORM
(PUBLIC SCHOOL PROJECTS)

Refer to Section 01 22 00 – Unit Prices. Unit prices are as follows:

Unit Price No.	Description	Add Price	Deduct Price
1.1	Unsuitable soils excavation and off-site disposal	/cu. yd.	/cu. yd.
1.2	Unsuitable soils excavation and on-site processing for on-site reuse	/cu. yd.	/cu. yd.
1.3	Unsuitable soils excavation and on-site disposal at a location approved by the Owner	/cu. yd.	/cu. yd.
1.4	Structural fill delivered, placed and compacted to 95% requirement	/cu. yd.	/cu. yd.
1.5	Granular Borrow delivered, placed and compacted to requirement	/cu. yd.	/cu. yd.
2.1	Mass rock excavation and off-site disposal	/cu. yd.	/cu. yd.
3.1	Power outlet wired to nearest power source	/completed device	/completed device
3.2	Power outlet wired to nearest panel including 20 A breaker	/completed device	/completed device
3.3	IT/AV/Communication outlet wired to associated patch panel location	/completed device	/completed device
3.4	Security Camera wired to associated system	/completed device	/completed device
3.5	Card Access module wired to associate system	/completed Device	/completed device

END OF SECTION



CRAIG BURGESS, P.E. #12638

STATE OF MAINE
CRAIG A. BURGESS
No. 12638
PROFESSIONAL ENGINEER

LICENSED LANDSCAPE ARCHITECT
KYLIE S. MASON
3335
STATE OF MAINE

DESIGNED	CHECKED
CAB	KSM

REV.	BY:	DATE:	STATUS:
J	CAB	02-26-16	ISSUED FOR ADDENDUM 2
I	CAB	02-11-16	BID DOCUMENTS
H	CAB	12-18-15	CONSTRUCTION DOCUMENTS
G	CAB	11-17-15	REISSUED
F	CAB	11-12-15	REVISED PER CITY COMMENTS & REISSUED
E	CAB	10-28-15	SUBMITTED FOR CITY SITE PLAN REVIEW & APPROVAL

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250 Gisdera Rd.
Suite 1
Lewiston, ME 04240
Tel: 207-783-5656

SITE PLAN
OF:
SANFORD HIGH SCHOOL & TECHNICAL CENTER
ROUTE 109 & ROUTE 4
SANFORD, MAINE 04073
FOR:
SANFORD SCHOOL DEPARTMENT & STATE OF MAINE
DEPARTMENT OF EDUCATION
SANFORD, MAINE 04073

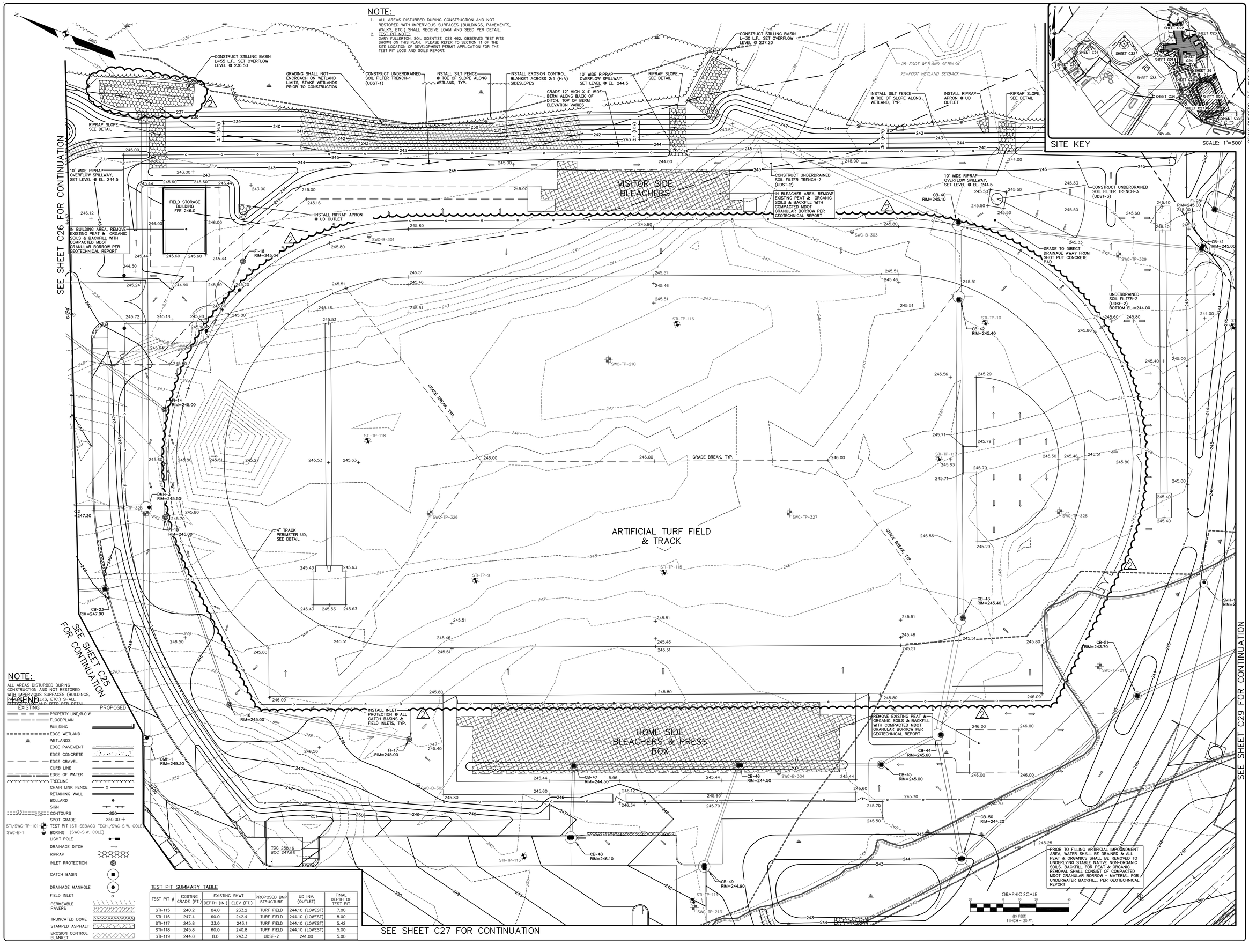
PROJECT NO.	SCALE
12233	1" = 20'

SHEET C12 OF C75

122335.dwg, TAB:S-SHT 12

NOTE:

1. ALL AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE LOAM AND SEED PER DETAIL.
2. TEST PIT NOTE:
   GARY FULLERTON, SOIL SCIENTIST, CSS 462, OBSERVED TEST PITS SHOWN ON THIS PLAN. PLEASE REFER TO SECTION 11 OF THE SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION FOR THE TEST PIT LOGS AND SOILS REPORT.



NOTE:

ALL AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE LOAM AND SEED PER DETAIL.

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE/R.O.W.	
	FLOODPLAIN	
	BUILDING	
	EDGE WETLAND	
	WETLANDS	
	EDGE PAVEMENT	
	EDGE CONCRETE	
	EDGE GRAVEL	
	CURB LINE	
	EDGE OF WATER	
	TREELINE	
	CHAIN LINK FENCE	
	RETAINING WALL	
	BOLLARD	
	SIGN	
251 250	CONTOURS	250
	SPOT GRADE	250.00 +
STI/SWC-TP-101	TEST PIT (STI-SEBAGO TECH./SWC-S.W. COLE)	
SWC-B-1	BORING (SWC-S.W. COLE)	
	LIGHT POLE	
	DRAINAGE DITCH	
	RIPRAP	
	INLET PROTECTION	
	CATCH BASIN	
	DRAINAGE MANHOLE	
	FIELD INLET	
	PERMEABLE PAVERS	
	TRUNCATED DOME	
	STAMPED ASPHALT	
	EROSION CONTROL BLANKET	

TEST PIT SUMMARY TABLE

TEST PIT #	EXISTING GRADE (FT.)	EXISTING SHWT		PROPOSED BMP STRUCTURE	UD INV. (OUTLET)	FINAL DEPTH OF TEST PIT
		DEPTH (IN.)	ELEV (FT.)			
STI-115	240.2	84.0	233.2	TURF FIELD	244.10 (LOWEST)	7.00
STI-116	247.4	60.0	242.4	TURF FIELD	244.10 (LOWEST)	8.00
STI-117	245.8	33.0	243.1	TURF FIELD	244.10 (LOWEST)	5.42
STI-118	245.8	60.0	240.8	TURF FIELD	244.10 (LOWEST)	5.00
STI-119	244.0	8.0	243.3	UDSF-2	241.00	5.00

CRAIG BURGESS, P.E. #12638

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STATE OF MAINE

DESIGNED	CHECKED
CAB	KSM

REV.:	BY:	DATE:	STATUS:
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J	CAB	02-11-16	BID DOCUMENTS
H	CAB	12-18-15	CONSTRUCTION DOCUMENTS
G	CAB	11-17-15	REVISED PER CDM COMMENTS
F	CAB	11-12-15	REVISED PER CITY COMMENTS & REISSUED
E	CAB	10-28-15	ISSUED FOR 85%

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GRADING & EROSION CONTROL PLAN

OF:

SANFORD HIGH SCHOOL & TECHNICAL CENTER
ROUTE 109 & ROUTE 4
SANFORD, MAINE 04073

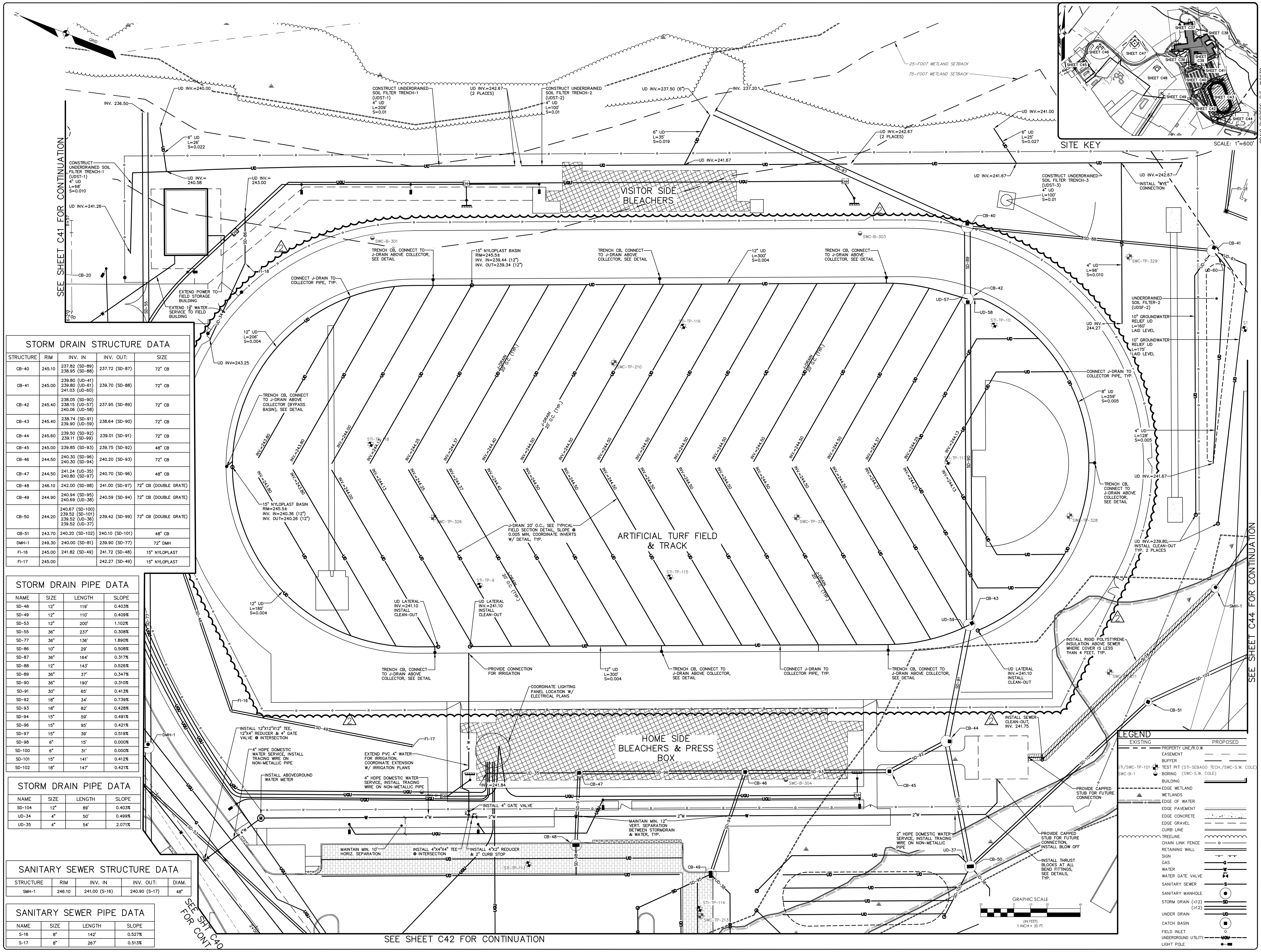
FOR:

SANFORD SCHOOL DEPARTMENT & STATE OF MAINE DEPARTMENT OF EDUCATION
SANFORD, MAINE 04073

PROJECT NO.	SCALE
12233	1" = 20'

SHEETc280FC75

12233SU.dwg, TAB:GU-SHT 28



STORM DRAIN STRUCTURE DATA

STRUCTURE	RIM	INV. IN	INV. OUT:	SIZE
CB-40	245.10	237.82 (SD-89) 238.95 (SD-88)	237.72 (SD-87)	72" CB
CB-41	245.00	239.80 (UD-41) 239.80 (UD-61) 241.03 (UD-60)	239.70 (SD-88)	72" CB
CB-42	245.40	238.05 (SD-90) 238.15 (UD-57) 240.06 (UD-58)	237.95 (SD-89)	72" CB
CB-43	245.40	238.74 (SD-91) 239.90 (UD-59)	238.64 (SD-90)	72" CB
CB-44	245.60	239.50 (SD-92) 239.11 (SD-99)	239.01 (SD-91)	72" CB
CB-45	245.00	239.85 (SD-93)	239.75 (SD-92)	48" CB
CB-46	244.50	240.30 (SD-96) 240.30 (SD-94)	240.20 (SD-93)	72" CB
CB-47	244.50	241.24 (UD-35) 240.80 (SD-97)	240.70 (SD-96)	48" CB
CB-48	246.10	242.00 (SD-98)	241.00 (SD-97)	72" CB (DOUBLE GRATE)
CB-49	244.90	240.94 (SD-95) 240.69 (UD-38)	240.59 (SD-94)	72" CB (DOUBLE GRATE)
CB-50	244.20	240.67 (SD-100) 239.52 (SD-101) 239.52 (UD-36) 239.52 (UD-37)	239.42 (SD-99)	72" CB (DOUBLE GRATE)
CB-51	243.70	240.20 (SD-102)	240.10 (SD-101)	48" CB
DMH-1	249.30	240.00 (SD-81)	239.90 (SD-77)	72" DMH
FI-16	245.00	241.82 (SD-49)	241.72 (SD-48)	15" NYLOPLAST
FI-17	245.00		242.27 (SD-49)	15" NYLOPLAST

STORM DRAIN PIPE DATA

NAME	SIZE	LENGTH	SLOPE
SD-48	12"	119'	0.403%
SD-49	12"	110'	0.409%
SD-53	12"	200'	1.102%
SD-55	36"	237'	0.308%
SD-77	36"	136'	1.890%
SD-86	10"	29'	0.508%
SD-87	36"	164'	0.317%
SD-88	12"	143'	0.526%
SD-89	36"	37'	0.347%
SD-90	36"	190'	0.310%
SD-91	30"	65'	0.413%
SD-92	18"	34'	0.739%
SD-93	18"	82'	0.428%
SD-94	15"	59'	0.491%
SD-96	15"	95'	0.421%
SD-97	15"	39'	0.519%
SD-98	6"	15'	0.000%
SD-100	6"	31'	0.000%
SD-101	15"	141'	0.412%
SD-102	18"	147'	0.421%

STORM DRAIN PIPE DATA

NAME	SIZE	LENGTH	SLOPE
SD-104	12"	89'	0.403%
UD-34	4"	50'	0.499%
UD-35	4"	54'	2.071%

SANITARY SEWER STRUCTURE DATA

STRUCTURE	RIM	INV. IN	INV. OUT:	DIAM.
SMH-1	246.10	241.00 (S-16)	240.90 (S-17)	48"

SANITARY SEWER PIPE DATA

NAME	SIZE	LENGTH	SLOPE
S-16	8"	142'	0.527%
S-17	8"	267'	0.513%

CRAIG BURGESS, P.E. #12638

STATE OF MAINE CRAIG A. BURGESS No. 12638 PROFESSIONAL ENGINEER

LICENSED LANDSCAPE ARCHITECT KYLIE S. MASON 3335 STATE OF MAINE

DESIGNED	CHECKED
CAB	KSM

REV:	BY:	DATE:	STATUS:
2	CAB	02-26-16	ISSUED FOR ADDENDUM 2
J	CAB	02-11-16	BID DOCUMENTS
I	CAB	12-18-15	CONSTRUCTION DOCUMENTS
H	CAB	11-25-15	RESUBMITTED TO DEP
G	CAB	11-17-15	REVISED PER CITY COMMENTS & REISSUED
F	CAB	11-12-15	ISSUED FOR 85%
E	CAB	10-28-15	SUBMITTED FOR CITY SITE PLAN REVIEW & APPROVAL

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250 Goddard Rd. Suite B Lewiston, ME 04240 Tel. 207-783-5656

UTILITY PLAN

OF: SANFORD HIGH SCHOOL & TECHNICAL CENTER
ROUTE 109 & ROUTE 4
SANFORD, MAINE 04073
FOR: SANFORD SCHOOL DEPARTMENT & STATE OF MAINE DEPARTMENT OF EDUCATION
SANFORD, MAINE 04073

PROJECT NO.	SCALE
12233	1" = 20'

SHEET C43 OF C75

12233U.dwg, TAB:U-SHT 43

Mirage M-125 and M-115 Series
Bidding Specifications

Model and Nozzle Number
The full or part circle pop-up impact sprinkler model _____ capable of covering _____radius at a base pressure of _____. The sprinkler shall be installed with a number_____ nozzle.

Performance
The part circle sprinkler shall have adjustable arc coverage of 30º to 360º with a spray trajectory of 22^0. Arc adjustment can be performed with or without the sprinkler in operation and shall not require any special tools. Both series sprinklers shall have a fixed rotation speed of a full circle of 60 seconds.

The M-115 series shall be available with 9 different nozzles while the M-125 shall be available with 11 different nozzles. The operating range of both series shall be from 45-120 psi (3-8 bars). Radius ranges are from 62-115 feet (19.0-35.0 meters) for the M-115 and from 62-125' (19.0-38.0 meters). Flow rates vary from 25-108 gpm (5.6-24.6 lpm) for the M-115 series and 25-126 gpm (5.6-28.6 lpm) for the M-125 series.

The sprinkler shall be fully serviceable from the top without requiring special tools. The pop-up height shall be 4" (99mm) for the M-125 series and 8.1" (206mm) for the M-115 series. The retract spring shall be of stainless steel and of sufficient force for positive pop down. The lid cover the M-115 shall be 9.5" (242mm) in diameter and 7" (180mm) in diameter for the M-125 series. The depth of the sod cup model of the M-115 shall be 4" (101mm) depth.

Materials
The sprinkler internal case shall be made of galvanized steel and outer body of molded Engineering-grade plastic and shall have a brass female BSP 1 ½" threaded bottom inlet.

Both models shall be available in either electric-valve-in-head or block-style configurations (particularly for artificial turf applications where valves are to be located behind the side lines or outside of running tracks).

Electric-Valve-in-Head *(e.g. M-125-E-P, M-115-E-P)*
The sprinkler shall have a 24 VAC 50/60 cycle solenoid actuated normally closed valve in the base of the case.

Block Configuration *(e.g. M-125-B-P, M-115-B-P)*
The sprinkler shall have shall have an in-line electrically actuated valve.

Installation

Once the final sprinkler head location is determined flush the mainline and sub-laterals after the swing joint subassembly has been installed to ensure that any debris or dirt has been flushed out of the piping system before installing sprinkler heads. Mate the M-115 or M-125 to Schedule 80 or 40 PVC or ductile iron swing joint assemblies verifying the male threads are wrapped with a minimum of 6-8 winds of Teflon tape, (PVC swings are recommended for lower operating pressure systems only). Do not use pipe dope or Teflon paste. Adjust the sprinkler head to be flush with existing surrounding grades.

For artificial turf applications, the sprinkler can be located within a stainless steel valve box with lid of the same diameter as the top of the sprinkler head. The valve box lid has a ½" lip allowing for Trex-type material to be secured to the lid surface. Then adhesive and the artificial turf system are adhered to the Trex material, providing an even and unbroken surface between the top of the sprinkler and surrounding grades. Adjust the sprinkler head for verticality and centering within the valve box. To stabilize the installed sprinkler head during operation, backfill the interior of the sprinkler valve box per the installation details.

An arrow or pointer is molded into the top of the sprinkler head lid denoting the nozzle direction. Verify this arrow is pointing into the field prior to operating the system. Adjust the spray pattern by moving the spring stops as needed.

The M-115 / M-125 sprinkler series shall be sold and distributed by Underhill International Corp. Lake Forest, CA.

SECTION 26 46 00

DRY TYPE TRANSFORMERS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Provide dry type transformers, 600 volts or less.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary General Conditions and other Division 01 specification sections, apply to this Section and to all Contractors, Subcontractors, or other persons supplying materials and/or labor, entering into the Project site and/or premises, directly, or indirectly.

B. The Specifications and Drawings are intended to be complementary. A particular section, paragraph, or heading in a Division may not describe each and every detail concerning work to be done and materials to be furnished. The Drawings are diagrammatic and may not show all of the work required or all construction details. Dimensions are shown for critical areas only; all dimensions and actual placements are to be verified in the field. It is to be understood that the best trade practices of the Division will prevail. It remains the responsibility of the Contractor or Subcontractor to provide all items, equipment, construction, and services required to the proper execution and completion of the Work.

C. Reference listings are provided as a convenience to the Contractor or Subcontractor providing the Work of this Section and may not contain all the requirements affecting this Section. It remains the responsibility of the Contractor or Subcontractor to locate and comply with all requirements of the Contract Documents.

D. All trade subcontractors are to note that the organization of these Specifications into divisions, sections, and paragraphs, and likewise the arrangement of the Drawings, is set up for the convenience of understanding the scope of the Work only. This structuring shall not control the Construction Manager in dividing the Work among trade subcontractors or in establishing the extent of the Work to be performed by any trade.

1.03 SUBMITTALS

A. Submit product data in accordance with Section 260100.

B. Submit data including transformer dimensions, construction, sound level, temperature power ratings, and efficiency ratings.

C. Submit test results in accordance with Section 260800.

1.04 REGULATORY REFERENCES

A. All specified items or systems shall be designed, manufactured, tested, and installed in compliance with applicable provisions of all governing codes, rules, laws, and ordinances in accordance with Section 260100.

1. If there is a conflict between applicable documents, then the more stringent requirement shall apply. All documents listed are believed to be the most current releases of the documents. The Contractor has the responsibility to determine and adhere to all applicable documents and to the most recent release when developing the proposal for installation.
2. This document does not replace any code, either partially or wholly. The Contractor must be aware of local codes that may impact this project.

1.05 QUALITY ASSURANCE

A. Transformers shall be listed by Underwriter's Laboratories.

B. Transformers shall be tested in accordance with NEMA 5720.

C. Energy efficient transformers shall be tested in accordance with DOE 2016 standards.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Dry Type Transformer

1. Square D
2. Siemens
3. Hammond Power Solutions
4. General Electric
5. Cutler-Hammer

B. Substitutions: Items of equal quality, function, and performance may be proposed for substitution by following the procedures outlined in Section 260100.

2.02 ENERGY EFFICIENT TRANSFORMERS

A. Transformers shall be air-cooled, dry type, designed and constructed in accordance with the latest applicable NEMA, ANSI, and IEEE Standards.

B. All dry type transformers shall have a K-4, K-factor rating.

C. Transformers 15KVA and larger enclosure shall be of heavy-gauge, sheet steel with ventilation openings that will not allow any rod of 1/2" diameter to be inserted into the transformer. Enclosure shall be finished with gray, baked enamel.

D. Transformers 25KVA and larger shall have full capacity taps above and below high-voltage and with the following minimum quantity and ratings, 2-2½% FCAN and 4 - 2½% FCBN.

E. Primary Voltage/Phase/Wire and Secondary Voltage/Phase/Wire shall be as designed on the Drawings. Frequency shall be 60HZ.

F. Transformers 15KVA and larger shall be 150°C temperature rise above 40°C ambient with 220 °C insulation system.

G. Impedance shall be 2.5% minimum.

H. All winding shall be of high conductivity aluminum. Provide with full-width electrostatic shield between primary and secondary windings.

I. Provide with terminal bar for grounding and bonding inside and connected to the transformer enclosure.

J. Transformers shall meet the current energy efficiency standards of Code of Federal Regulations, 10 CFR 431.192.

K. Efficiency ratings shall be equal or greater than the following:

Single Phase		Three Phase	
kVA	Efficiency	kVA	Efficiency
15	97.7	15	97.89
25	98.0	30	98.23
37.5	98.2	45	98.40
50	98.3	75	98.60
75	98.5	112.5	98.74
100	98.6	150	98.83
167	98.7	225	98.94
250	98.8	300	99.02
333	98.9	500	99.14
–	–	750	99.23
–	–	1000	99.28

L. Sound levels shall be warranted by the transformer manufacturer not-to-exceed NEMA ST-20 sound levels listed here:

NEMA Standard ST-20	
KVA Rating	Sound Level
15 to 50 kVA	45 dB
51 to 150 kVA	50 dB
151 to 300 kVA	55 dB
301 to 500 kVA	60 dB
501 to 700 kVA	62 dB
701 to 750 kVA	64 dB

M. Transformers shall be constructed with internal vibration isolation pads located between the transformer core and coil assembly and the transformer enclosure. Bolts at isolation pads that are tightened for shipping shall be loosened per manufacturer recommendations, prior to energizing of transformer.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Floor-mounted transformers shall be mounted on 4-inch high concrete housekeeping pads. Neoprene pads shall be provided between transformer mounting feet and building mounting surface. Flexible conduits of sufficient lengths shall be used for termination of primary and secondary wiring to transformers, so as to reduce the transmission of vibration to the building structure.

B. Transformers shall be located a minimum of 10 inches from all walls and/or other obstructions or, if greater, the required clearances marked on the transformer by the manufacturer. Wherever possible, transformers shall not be located in corners of rooms.

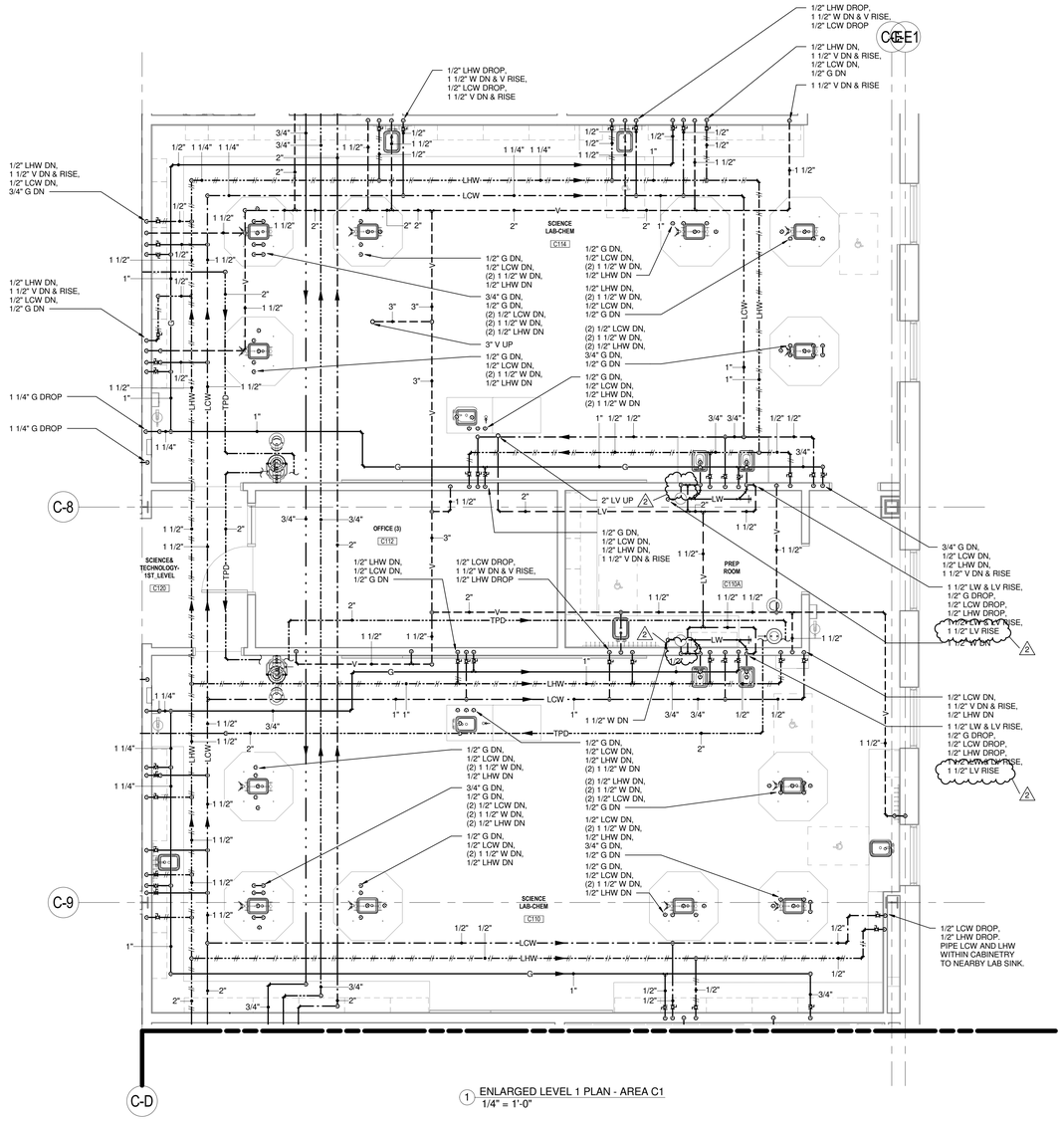
C. All ceiling- and wall-mounted transformers shall be mounted on brackets or supports that are provided by the transformer manufacturer and/or properly sized for the specific transformer they are designed to support. Mounting hardware shall be properly sized for the dead weight of the transformer. Brackets and supports shall be mounted to structural building members which are properly sized to support the added dead weight of the transformer.

D. Provide grounding conductor from transformer secondary to nearest building ground for each separately derived system. Grounding electrode conductor shall be sized in accordance with NEC Article 250 for the derived phase conductors.

E. All transformers shall be labeled to match the designation on the one-line diagram, or the designation noted on the plans. Nameplates shall be laminated, phenolic, with 1/2" high white block letters on a black background. Nameplates shall be securely fastened to front covers of equipment with brass screws.

F. Transformers shall be tested in accordance with Section 260800.

END OF SECTION



1 ENLARGED LEVEL 1 PLAN - AREA C1
1/4" = 1'-0"

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SANFORD HIGH SCHOOL and TECHNICAL CENTER

SANFORD, ME 04073

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	2016-02-26

N

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT:
ENLARGED PLUMBING PART PLANS

DRAWN BY:	A. SAK
PROJECT NO:	12-067-00
DATE:	02/11/2016
REVISED:	
SCALE:	1/4" = 1'-0"

P2.02

Project Phase
BID DOCUMENTS

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PLUMBING FIXTURE SCHEDULE

NO.	FIXTURE	WASTE	VENT	HW	CW	MTG HT AFF	DESCRIPTION
PF-1	WATER CLOSET	4"	2"		1"	15"	ZURN ECOVANTAGE WATER CLOSET MODEL Z5615-BWL, WALL MOUNT ELONGATED FRONT, SIPHON JET ACTION WATER CLOSET WITH ZURN MODEL ZER6000PL-HET-CPM AQUASENSE BATTERY POWERED SENSOR OPERATED FLUSH VALVE, 1.28 GPF, CONTROL STOP WITH INTERNAL SIPHON-GUARD PROTECTION, PRESSURE VACUUM BREAKER, VANDAL RESISTANT CAP, CAST WALL FLANGE, TPE CHLORAMINE RESISTANT, MANUAL OVERRIDE, CHROME PLATED FINISH. ZURN MODEL Z5955SS-EL-STS HEAVY DUTY OPEN FRONT TOILET SEAT LESS COVER, SOLID PLASTIC, WHITE, WITH STAINLESS STEEL CHECK HINGE.
PF-2	ADA COMPLIANT WATER CLOSET	4"	2"		1"	17"	ZURN ECOVANTAGE WATER CLOSET MODEL Z5615-BWL, WALL MOUNT ELONGATED FRONT, SIPHON JET ACTION WATER CLOSET WITH ZURN MODEL ZER6000PL-HET-CPM AQUASENSE BATTERY POWERED SENSOR OPERATED FLUSH VALVE, 1.28 GPF, CONTROL STOP WITH INTERNAL SIPHON-GUARD PROTECTION, PRESSURE VACUUM BREAKER, VANDAL RESISTANT CAP, CAST WALL FLANGE, TPE CHLORAMINE RESISTANT, MANUAL OVERRIDE, CHROME PLATED FINISH. ZURN MODEL Z5955SS-EL-STS HEAVY DUTY OPEN FRONT TOILET SEAT LESS COVER, SOLID PLASTIC, WHITE, WITH STAINLESS STEEL CHECK HINGE. ADA COMPLIANT.
PF-4	ADA COMPLIANT TANK TYPE WATER CLOSET	4"	2"		1/2"	16 1/2"	ZURN ECOVANTAGE TANK TYPE WATER CLOSET MODEL Z5555, FLOOR MOUNT ELONGATED FRONT, SIPHON JET ACTION WATER CLOSET, 1.28 GPF, VITREOUS CHINA, 12" ROUGH-IN, 3" FLUSH VALVE, CHROME PLATED HANDLE, 2 1/8" GLAZED TRAPWAY, CHLORAMINE RESISTANT INTERNAL COMPONENTS, HEAVY DUTY STABILIZERS FOR RIGID TANK TO BOWL CONNECTION, 2 1/2" TRAP SEAL, BOLT CAPS. ZURN MODEL Z5958SS-EL ELONGATED, WHITE, CLOSED FRONT TOILET SEAT WITH COVER AND STAINLESS STEEL CHECK HINGE. ADA COMPLIANT.
PF-5	URINAL	2"	1 1/2"		3/4"	24"	ZURN ECOVANAGE URINAL MODEL Z5798.205.00 ULTRA LOW CONSUMPTION BATTERY POWERED URINAL SYSTEM, 0.125 GPF, VITREOUS CHINA, TOP SPUD, WITH ZEG6003EV HIGH EFFICIENCY FLUSH VALVE, "aa" BATTERIES, VANDAL RESISTANT, CONTROL STOP WITH INTERNAL SIPHON-GUARD PROTECTION, CAST FLANGE WITH SET SCREW, MANUAL OVERRIDE.
PF-6	ADA COMPLIANT URINAL	2"	1 1/2"		3/4"	17"	ZURN ECOVANAGE URINAL MODEL Z5798.205.00 ULTRA LOW CONSUMPTION BATTERY POWERED URINAL SYSTEM, 0.125 GPF, VITREOUS CHINA, TOP SPUD, WITH ZEG6003EV HIGH EFFICIENCY FLUSH VALVE, "aa" BATTERIES, VANDAL RESISTANT, CONTROL STOP WITH INTERNAL SIPHON-GUARD PROTECTION, CAST FLANGE WITH SET SCREW, MANUAL OVERRIDE. ADA COMPLIANT.
PF-7	ADA COMPLIANT COUNTERTOP LAVATORY WITH SENSOR FAUCET	1 1/2"	1 1/2"	1/2"	1/2"	COUNTER	ZURN COUNTERTOP LAVATORY MODEL Z5111, 20"x17"x 6 5/8"DEEP, VITREOUS CHINA, SINGLE HOLE, SELF-RIMMING, ZURN MODEL Z6955-XL-S BATTERY POWERED SENSOR FAUCET, CHROME PLATED CAST BRASS, 0.5 GPM VANDAL RESISTANT NON-AERATED, PROVIDE WITH THERMOSTATIC MIXING VALVE FOR MULTIPLE FAUCETS AND 10 YEAR BATTERY. ADA COMPLIANT.
PF-8	ADA COMPLIANT COUNTERTOP LAVATORY WITH MANUAL FAUCET	1 1/2"	1 1/2"	1/2"	1/2"	COUNTER	ZURN COUNTERTOP LAVATORY MODEL Z5114, 20"x17"x 6 5/8"DEEP, VITREOUS CHINA, 4" CENTER SET, SELF-RIMMING, ZURN MODEL Z812G6-XL MANUAL FAUCET, CHROME PLATED CAST BRASS, 0.5 GPM VANDAL RESISTANT PRESSURE COMPENATING FEMALE SPRAY OUTLET, HOT AND COLD TEXT INDEXES, PROVIDE WITH THERMOSTATIC MIXING VALVE FOR MULTIPLE FAUCETS. ADA COMPLIANT.
PF-8A	ADA COMPLIANT UNDERMOUNT LAVATORY WITH MANUAL FAUCET	1 1/2"	1 1/2"	1/2"	1/2"	COUNTER	ZURN UNDERMOUNT LAVATORY MODEL Z5220, 19" X 16"X5" DEEP, VITREOUS CHINA, FRONT OVERFLOW, ZURN MODEL Z812G6-XL MANUAL FAUCET, CHROME PLATED CAST BRASS, 0.5 GPM VANDAL RESISTANT PRESSURE COMPENATING FEMALE SPRAY OUTLET, HOT AND COLD TEXT INDEXES, PROVIDE WITH THERMOSTATIC MIXING VALVE FOR MULTIPLE FAUCETS. ADA COMPLIANT.
PF-9	ADA COMPLIANT WALL MOUNTED LAVATORY WITH SENSOR FAUCET	1 1/2"	1 1/2"	1/2"	1/2"	34"	ZURN WALL HUNG LAVATORY MODEL Z5361, 20"x18"x5 3/4"DEEP, VITREOUS CHINA, SINGLE HOLE, SELF-RIMMING, FRONT OVERLFOW, 4" HIGH BACKSPLASH, CONCEALED ARM CARRIER, ZURN MODEL Z6955-XL-S BATTERY POWERED SENSOR FAUCET, CHROME PLATED CAST BRASS, 0.5 GPM VANDAL RESISTANT NON-AERATED, PROVIDE WITH THERMOSTATIC MIXING VALVE FOR MULTIPLE FAUCETS AND 10 YEAR BATTERY. ADA COMPLIANT.
PF-10	ADA COMPLIANT SINGLE WASH SINK	1 1/2"	1 1/2"	1/2"	1/2"	34"	ELKAY WALL MOUNTED WHEELCHAIR LAVATORY MODEL WCLWO1923OSD, #18 GAUGE TYPE 304 STAINLESS STEEL, ROUNDED CORNERS, SATIN FINISH, FRONT AND SIDE APRONS, UNDERCOATED UNDERSIDE FOR SOUND DAMPENING, WALL HANGER, STAINLESS STEEL SUPPORT BRACKETS, GRID STRAINLER WITH ELBOW AND OFFSET TAILPIECE. ZURN MODEL Z812C1-XL MANUAL FAUCET, CHROME PLATED CAST BRASS, 8" RIGID/SWING GOOSENECK SPOUT, CERAMIC DISC CARTRIDGES, COLOR CODED METAL LEVER HANDLES, 0.5 GPM VANDAL RESISTANT PRESSURE COMPENATING FEMALE SPRAY OUTLET, PROVIDE WITH THERMOSTATIC MIXING VALVE FOR SINGLE FAUCET. ADA COMPLIANT.
PF-11	ADA COMPLIANT 3 STATION WASH SINK	1 1/2"	1 1/2"	3/4"	3/4"	34"	ELKAY THREE STATION WASH SINK MODEL EWMA720, WALL HUNG, #14 GAUGE TYPE 304 STAINLESS STEEL, SATIN FINISH, 2" APRON, 10" HIGH FULL LENGTH BACKSPLASH,WALL HANGERS AND STAINLESS STEEL SUPPORT BRACKETS. ZURN MODEL Z843B1-XL WALL MOUNTED GOOSENECK FAUCET, CHROME PLATED CAST BRASS, QUARTER TURN CERAMIC DISC CARTRIDGES, INTEGRAL SERVICE STOPS, VANDAL RESISTANT COLOR CODED METAL LEVER HANDLES, 0.5GPM VANDAL RESISTANT PRESSURE COMPENSATING FEMALE SPRAY OUTLET. ADA COMPLIANT.
PF-12	ADA COMPLIANT SMALL SS SINK	1 1/2"	1 1/2"	1/2"	1/2"	COUNTER	ELKAY LUSTERTONE MODEL ELUHAD1316 SELF RIMMING SINGLE BOWL UNDERMOUNT SINK, 18 GAUGE STAINLESS STEEL SINK, 3 HOLES, 13 1/2"X16"x5". CHICAGO FAUCET MODEL 1100-CP MANUAL FAUCET, 8" CENTERS, 8" L TYPE SWING SPOUT, QUATURN COMPRESSION OPERATING CARTRIDGE, 2" CANOPY SINGLE WING HANDLES, POLISHED CHROME FINISH, PROVIDE WITH 1.5 GPM AERATOR. ADA COMPLIANT.
PF-12A	ADA COMPLIANT SMALL SS SINK	1 1/2"	1 1/2"	1/2"	1/2"	COUNTER	ELKAY LUSTERTONE MODEL ELUHAD1316 SELF RIMMING SINGLE BOWL UNDERMOUNT SINK, 18 GAUGE STAINLESS STEEL SINK, 3 HOLES, 13 1/2"X16"x5". CHICAGO FAUCET MODEL 349-L8ABCP MANUAL FAUCET, SINGLE HOLE, 8" L TYPE SWING SPOUT, QUATURN COMPRESSION OPERATING CARTRIDGE, 2-3/8" VANDAL PROOF LEVER HANDLE, POLISHED CHROME FINISH, PROVIDE WITH 1.5 GPM AERATOR. ADA COMPLIANT.
PF-13	ADA COMPLIANT LARGE SS SINK	1 1/2"	1 1/2"	1/2"	1/2"	COUNTER	ELKAY LUSTERTONE MODEL ELUHAD2816 SELF RIMMING SINGLE BOWL UNDERMOUNT SINK, 18 GAUGE STAINLESS STEEL SINK, 3 HOLES, 28"X16"x5". CHICAGO FAUCET MODEL 1100-CP MANUAL FAUCET, 8" CENTERS, 8" L TYPE SWING SPOUT, QUATURN COMPRESSION OPERATING CARTRIDGE, 2" CANOPY SINGLE WING HANDLES, POLISHED CHROME FINISH, PROVIDE WITH 1.5 GPM AERATOR. ADA COMPLIANT.
PF-14	ADA COMPLIANT DOUBLE BOWL SS SINK	(2) 1 1/2"	1 1/2"	1/2"	1/2"	COUNTER	ELKAY GOURMET MODEL LR4322 SELF RIMMING DOUBLE BOWL SINK, 18 GAUGE STAINLESS STEEL SINK, 4 HOLES, 19"X16"x7 5/8" EACH BASIN. CHICAGO FAUCET MODEL 1200-AXKCP, WITH HOSE SPRAY, 8" CENTERS, L9 SWING SPOUT, 1/4 TURN CERAMIC DISC CARTRIDGES, 1000 WING HANDLES, 2.2 GPM E3 SOFTFLO AERATOR, POLISHED CHROME FINISH.
PF-15	SHAMPOO CHAIR	1 1/2"	1 1/2"	1/2"	1/2"	FLOOR	SALON SHAMPOO CHAIR WITH INTRAGRAL SINK BY OTHERS, PROVIDE ZURN MODEL Z1176-CP HAIR INTERCEPTOR, STOPS AND SUPPLIES.
PF-16	ADA COMPLIANT BI-LEVEL DRINKING FOUNTAIN WITH BOTTLE FILLER	1 1/2"	1 1/2"		1/2"	33" & 39 1/2" TO BUBBLERS	HALSEY TAYLOR MODEL HTHB-HACDBLWFSS BI-LEVEL WATER COOLERS WITH BOTTLE FILLING STATION, WALL-MOUNTED, SELF-CLOSING FRONT AND SIDE PUSHBAR ACTUATORS, ONE PIECE, CHROME PLATED, TWO-STREAM DOUBLE BUBBLER, STAINLESS STEEL TOP WITH SATIN FINISH, STAINLESS STEEL COOLER PANELS, HYDROBOOST BOTTLE FILLING STATION WITH SENSOR-ACTIVATED FILLER, 1.1 GPM FILL RATE, AUTOMATIC 20-SECOND SHUT-OFF TIMER, PROVIDED WITH MODEL HWF3000 WATERSENTRY PLUS FILTER AND GREEN COUNTER WHICH DISPLAYS NUMBER OF BOTTLES SAVED. ADA COMPLIANT.
PF-16A	ADA COMPLIANT BI-LEVEL CHILLED DRINKING FOUNTAIN WITH BOTTLE FILLER	1 1/2"	1 1/2"		1/2"	33" & 39 1/2" TO BUBBLERS	HALSEY TAYLOR MODEL HTHB-HACG8BLSSWF BI-LEVEL WATER COOLERS WITH BOTTLE FILLING STATION, WALL-MOUNTED, ELECTRIC REFRIGERATED, SELF-CLOSING FRONT AND SIDE PUSHBAR ACTUATORS, ONE PIECE, CHROME PLATED, TWO-STREAM DOUBLE BUBBLER, STAINLESS STEEL TOP WITH SATIN FINISH, STAINLESS STEEL COOLER PANELS, HYDROBOOST BOTTLE FILLING STATION WITH SENSOR-ACTIVATED FILLER, 1.1 GPM FILL RATE, AUTOMATIC 20-SECOND SHUT-OFF TIMER, PROVIDED WITH MODEL HWF3000 WATERSENTRY PLUS FILTER AND GREEN COUNTER WHICH DISPLAYS NUMBER OF BOTTLES SAVED. ADA COMPLIANT.
PF-17	ADA COMPLIANT BATHTUB/SHOWER	2"	1 1/2"	1/2"	1/2"	FLOOR	AQUARIUS BATHWARE MODEL G 6004 TS GELCOAT BATHTUB/SHOWER, ONE PIECE CONSTRUCTION, WHITE, SMOOTH WALL, 32 3/4" x 59 5/8" OVERALL DIMENSIONS. SYMMONS TEMPTROL MODEL S-9606-PLR-1.5-X TUB/SHOWER/HAND SHOWER SYSTEM, 1.5 GPM SHOWER HEAD, INTEGRAL SERVICE STOPS, PRESSURE BALANCING VALVE, 36" SLIDE BAR, IN-LINE VACUUM BREAKER, 60" FLEXIBLE METAL HOSE, AND ADA HAND SHOWER. (2)
PF-18	WHIRLPOOL TUB	2"	1 1/2"	1/2"	1/2"	FLOOR	WHIRLPOOL PROVIDED BY OTHERS, PROVIDE DRAIN, STOPS AND SUPPLIES.
PF-19	SHOWER BASE AND CONTROLS	2"	1 1/2"	1/2"	1/2"	FLOOR	FIAT MONTEREY MODEL 36 MFT PRECAST TERAZZO SHOWER BASE, 36"x36", STAINLESS STEEL DRAIN WITH REMOVABLE STAINLESS STEEL STRAINER PLATE, INTEGRAL CAST FLANGE, STAINLESS STEEL TILING FLANGES, SYMMONS TEMPTROL MODEL S-96-1 SHOWER SYSTEM, PRESSURE BALANCING MIXING VALVE WITH ADJUSTABLE STOP SCREW, INTEGRAL VOLUME CONTROL HANDLE, INTEGRAL SERVICE STOPS, INTEGRAL CHECK STOPS, SINGLE BLADE STYLE LEVER HANDLE, 1.5 FLOW RATE RESTRICTOR, POLISHED CHROME FINISH. PROVIDE WITH STAINLESS STEEL PIPE SHROUD AS NEEDED FOR ANY EXPOSED SUPPLY PIPING TO SHOWER SYSTEM.
PF-19A	SHOWER VALVE ADA			1/2"	1/2"	WALL	ACORN MODEL 488B-W SURFACE MOUNTED SHOWER SYSTEM, TRI-LEVER HANDLE, INTEGRAL CHECKS, AND TEMPERATURE-PRESSURE BALANCING MIXING VALVE. PROVIDE WITH DELTA MODEL RP46384 LOW FLOW SHOWERHEAD, 1.6 GPM, H20KINETIC TECHNOLOGY, FULL SPRAY FUNCTION, CHROME PLATED FINISH.
PF-20	SHOWER ADA ROLL-IN	2"	1 1/2"	1/2"	1/2"		AQUARIUS MODEL G 6233 BF ADA MAS ROLL-IN SHOWER, O.D. 62 ¼" X 33" WITH HIGH GLOSS GELCOAT FINISH, MOLDED SOAP DISHES, PADDED FOLD-UP SEAT & STAINLESS STEEL GRAB BAR.
PF-20A	ADA COMPLIANT SHOWER VALVE			1/2"	1/2"	WALL	ACORN MODEL 488ADAB-W SURFACE MOUNTED SHOWER SYSTEM, ADA COMPLIANT, TRI-LEVER HANDLE, HAND SHOWER WITH IN-LINE VACUUM BREAKER AND ON/OFF PUSHBUTTON, 2.5 GPM FLOW RATE, 24" SLIDE RAIL, VALVE SUPPLY FLEXIBLE HOSE CONNECTORS, TEMPERATURE-PRESSURE BALANCING MIXING VALVE. PROVIDE WITH STAINLESS STEEL PIPE SHROUD AS NEEDED FOR ANY EXPOSED SUPPLY PIPING TO SHOWER SYSTEM.
PF-21	24"x24" MOP SINK	3"	1 1/2"	1/2"	1/2"	FLOOR	FIAT MODEL TSB-3000 TERRAZZO MOP BASIN, 24"x24"x12" DEEP WITH 6" DROP FRONT, 3" STAINLESS STEEL INTEGRAL DRAIN BODY, STAINLESS STEEL CURB CAPS. CHICAGO FAUCET MODEL 897-CP SERVICE SINK FACUET, ADJUSTABLE 8" CENTERS, VACUUM BREAKER SPOUT WITH PAIL HOOK AND WALL BRACE, POLISHED CHROM FINISH. PROVIDE WITH FIAT MODEL 832AA HOSE AND HOSE BRACKET, 889CC MOP BRACKET AND MODEL MSG-2424 WALL GUARDS.
PF-22	36"x36" MOP SINK	3"	1 1/2"	1/2"	1/2"	FLOOR	FIAT MODEL TSB-3002 TERRAZZO MOP BASIN, 36"x36"x12" DEEP WITH 6" DROP FRONT, 3" STAINLESS STEEL INTEGRAL DRAIN BODY, STAINLESS STEEL CURB CAPS. CHICAGO FAUCET MODEL 897-CP SERVICE SINK FACUET, ADJUSTABLE 8" CENTERS, VACUUM BREAKER SPOUT WITH PAIL HOOK AND WALL BRACE, POLISHED CHROM FINISH. PROVIDE WITH FIAT MODEL 889CC MOP BRACKET AND MODEL MSG-3636 WALL GUARD.
PF-23	UTILITY SINK	1 1/2"	1 1/2"	1/2"	1/2"	FLOOR	FIAT MODEL FL-1 FLOOR MOUNTED UTILITY SINK, 20 1/4"x17 1/4"x13" DEEP MOLDED STONE BASIN WITH ANGLE LEGS. CHICAGO FAUCETS MODEL 1891-XKCP DECK MOUNTED FAUCET, 4" CENTERS, 6" CAST BRASS SWING SPOUT, 1/4 TURN CERAMIC DISC CARTRIDGES, 2" METAL SINGLE WING HANDLES, 2.2 GPM PRESSURE COMPENSATING SOFTFLO AERATOR.
PF-23A	EXTERIOR UTILITY SINK	1 1/2"				GRADE	FIAT MODEL FLTDII FLOOR MOUNTED DOUBLE BOWL UTILITY SINK, 40"X24"X13 7/8", MOLDED STONE, FURNISHED WITH WHITE BAKED ENAMEL STEEL ANGLE LEGS.
PF-24	WASHING MACHINE VALVE BOX	2"	2"	1/2"	1/2"	36"	SYMMONS LAUNDRY-MATE MODEL W-602-X SUPPLY AND DRAIN FIXTURE WITH 1/2" SWEAT CONNECTIONS AND 2" DRAIN CONNECTIONS, SERVICE STOPS.
PF-25	LAB SINK & TRIM	1 1/2"	1 1/2"	1/2"	1/2"	COUNTER	ELKAY LUSTERTONE UNDERMOUNT SINGLE BOWL SINK, MODEL ELUHAD1116, 11 1/2"X16"X5 1/2" DEEP. PROVIDE WITH CHICAGO FAUCET MODEL 930-GN8BVBE7-317XK, SINGLE HOLE, GN8A RIGID/SWING VACUUM BREAKER SPOUT, 1/4 TURN CERAMIC DISC CARTRIDGES, 4" METAL VANDAL PROOF WRIST BLADE HANDLES, FULL FLOW SERRATED NOZZLE, 3/8" FLEXIBLE STAINLESS STEEL SUPPLY HOSES, POLISHED CHROME FINISH.
PF-26	LAB FAUCET, TRAP AND TRIM	1 1/2"	1 1/2"	1/2"	1/2"	COUNTER	CHICAGO FAUCET MODEL 930-GN8BVBE7-317XK, SINGLE HOLE, GN8A RIGID/SWING VACUUM BREAKER SPOUT, 1/4 TURN CERAMIC DISC CARTRIDGES, 4" METAL VANDAL PROOF WRIST BLADE HANDLES, FULL FLOW SERRATED NOZZLE, 3/8" FLEXIBLE STAINLESS STEEL SUPPLY HOSES, POLISHED CHROME FINISH. SINK TO BE PROVIDED WITH ZURN NEUTRALIZATION TANK, MODEL Z9A-NT-5, HIGH DENSITY POLYETHLENE, GASKETED BOLT DOWN COVER, STAINLESS STEEL HARDWARE AND NEOPRENE GASKET MATERIAL.
PF-26A	LAB SINK & TRIM	1 1/2"	1 1/2"		1/2"	COUNTER	ELKAY LUSTERTONE UNDERMOUNT SINGLE BOWL SINK, MODEL ELUHAD1116, 11 1/2"X16"X5 1/2" DEEP. PROVIDE WITH CHICAGO FAUCET MODEL 930-GN8BVBE7-317XK, SINGLE HOLE, GN8A RIGID/SWING VACUUM BREAKER SPOUT, 1/4 TURN CERAMIC DISC CARTRIDGES, 4" METAL VANDAL PROOF WRIST BLADE HANDLES, FULL FLOW SERRATED NOZZLE, 3/8" FLEXIBLE STAINLESS STEEL SUPPLY HOSES, POLISHED CHROME FINISH.
PF-27	DECK MOUNTED SINGLE TURRET					COUNTER	CHICAGO FAUCETS MODEL 980-VR909CAGCP DECK MOUNTED SINGLE TURRET, BALL VALVE AND CHECK, FULL FLOW SERRATED NOZZLE, FACTORY ASSEMBLED THREADED CONNECTIONS, ANTI-ROTATIONAL BODY DECK PIN, RATED OPERATING PRESSURE OF 0-0.5PSI.
PF-28	DECK MOUNTED 90 DEGREE DOUBLE TURRET					COUNTER	CHICAGO FAUCETS MODEL 982-VR909CAGCP DECK MOUNTED DOUBLE TURRET AT 90 DEGREES, BALL VALVES AND CHECKS, FULL FLOW SERRATED NOZZLES, FACTORY ASSEMBLED THREADED CONNECTIONS, SHANK ASSEMBLY, MALE THREAD, ANTI-ROTATIONAL BODY DECK PIN, RATED OPERATING PRESSURE OF 0-0.5PSI.
PF-29	EMERGENCY SHOWER EYE WASH STATION					FLOOR	GUARDIAN MODEL G1909 FREE STANDING EMERGENCY SHOWER EYE/FACE WASH STATION WITH STAINLESS STEEL EYE/FACE WASH BOWL, BARRIER FREE, SINGLE MOTION FLAG HANDLE ACTIVATION WITH STAY OPEN BALL VALVE, TWO FS-PLUS SPRAY HEADS WITH FLIP TOP DUST COVERS. 10" DIAMETER ORANGE ABS PLASTIC SHOWER HEAD, 1" CHROME PLATED STAYOPEN SHOWER BALL VALVE WITH STAINLESS STEEEL ACTUATING ARM AND 29" STAINLESS STEEL PULL ROD. ADA COMPLIANT. SINGLE EMERGENCY EYEWASH/SHOWER STATIONS SHALL BE PROVIDED WITH GUARDIAN MODEL G3802LF TEMPERING VALVE WHEN TPD WATER SUPPLY IS NOT PROVIDED AS PART OF A LOOPED TPD WATER SYSTEM.
PF-31	GAS VALVE BOX						ACUDOR MODEL ARVB RECESSED VALVE BOX, 16 GAUGE STAINLESS STEEL DOOR, FRAME AND BOX, DOOR FLUSH TO FRAME WITH KEY AND LOCK.
PF-32	EXTERIOR HOSE BIBB				3/4"	SEE ARCH PLANS	ZURN MODEL Z-1320, ENCASED ECOTROL "ANTI-SIPHON" AUTOMATIC DRAINING NON-FREEZE WALL HYDRANT WITH INTEGRAL BACKFLOW PREVENTER, BRONZE INTERIOR PARTS, 1/2 TURN CERAMIC DISC CARTRIDGE, 3/4" MALE PIPE THREAD INLET AND STAINLESS STEEL BOX WITH HINGED COVER, KEY LOCK AND "WATER" STAMPED ON COVER.
PF-32A	EXTERIOR HOSE BIBB				3/4"	SEE ARCH PLANS	ZURN MODEL Z-1346, EXPOSED NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING WALL FAUCET, EXTERIOR CHROME FINISH, BRASS CASING, BRONZE INTERIOR PARTS, Z1399-VB ANTI SIPHON INTEGRAL VACUUM BREAKER, ¾" MALE HOSE CONNECTION. PLUMBING SUB-CONTRACTOR SHALL ORIENT WALL FAUCET OUTLET SO THAT IT DISCHARGES INTO SINK BASIN.
PF-33	INTERIOR HOSE BIBB				3/4"	16" TO BOT. OF COVER	ZURN MODEL Z-1330, ENCASED ECOTROL "ANTI-SIPHON" AUTOMATIC DRAINING WALL HYDRANT WITH INTEGRAL BACKFLOW PREVENTER, BRONZE INTERIOR PARTS, 1/2 TURN CERAMIC DISC CARTRIDGE, 3/4" MALE PIPE THREAD INLET AND STAINLESS STEEL BOX WITH HINGED COVER, KEY LOCK AND "WATER" STAMPED ON COVER.
PF-34	INTERIOR HOSE BIBB				3/4"	16" TO BOT. OF COVER	ZURN MODEL Z-1341-BFP, EXPOSED "ANTI-SIPHON" WALL HYDRANT WITH Z1399-BFP BACKFLOW PREVENTER, BRONZE INTERIOR PARTS, 3/4" MALE PIPE THREAD HOSE CONNECTION.
PF-35	FINISHED FLOOR DRAIN	3"	1 1/2"			FLOOR	ZURN MODEL ZN-415S-P FINISHED FLOOR DRAIN WITH 8"x8" SQUARE STRAINER, DURA-COATED CAST IRON BODY, MEMBRANE CLAMP, ADJUSTABLE COLLAR AND TYPE "S" POLISHED NICKEL BRONZE HEEL-PROOF STRAINER, TRAP PRIMER CONNECTION.
PF-35A	FINISHED FLOOR SHOWER DRAIN	3"	1 1/2"			FLOOR	ZURN MODEL ZN-415S-P FINISHED FLOOR DRAIN WITH 8"x8" SQUARE STRAINER, DURA-COATED CAST IRON BODY, MEMBRANE CLAMP, ADJUSTABLE COLLAR AND TYPE "S" POLISHED NICKEL BRONZE HEEL-PROOF STRAINER, TRAP PRIMER CONNECTION.
PF-36	MECHANICAL ROOM FLOOR DRAIN	4"	2"			FLOOR	ZURN MODEL Z-505-Y-P MECHANICAL ROOM FLOOR DRAIN 12" DIAMETER STRAINER, DURA-COATED CAST IRON BODY, SEEPAGE PAN, COMBINATION MEMBRANE FLASHING CLAMP, HEAVY DUTY SLOTTED GRATE, SEDIMENT BUCKET, TRAP PRIMER CONNECTION.
PF-37	TRENCH DRAIN	4"	2"			FLOOR	ZURN MODEL Z-895-HPD 12" STAINLESS STEEL TRENCH DRAIN SYSTEM WITH 1% SLOPE, 60" LENGTHS WITH BOLTED FLANGED CONNECTIONS, PROVIDE WITH 12" WIDE DUCTILE IRON HEEL PROOF GRATE RATED FOR H20 LOADING. TRENCH DRAIN TO BE 40' LONG COMPLETE WITH END CAPS AND 4" END OUTLET. OUTLET TO DISCHARGE DIRECTLY INTO TRENCH DRAIN CATCH BASIN.
PF-38	TRENCH DRAIN CATCH BASIN	4"	2"			FLOOR	ZURN MODEL Z-897-HP-12 12" WIDE x 24" LONG x 24 3/4" DEEP STAINLESS STEEL TRENCH DRAIN CATCH BASIN, PROVIDE WITH 12" WIDE DUCTILE IRON HEEL PROOF GRATE RATED FOR H-20 LOADING, 4" END INLET CONNECTION FROM 40' TRENCH DRAIN AND 4" BOTTOM OUTLET.
PF-39	KITCHEN FLOOR DRAIN	4"	2"			FLOOR	ZURN MODEL ZN-1900-P SANI-FLOR RECEPTOR 12"x12"x6" DEEP CAST IRON BODY, SQUARE SLOTTED MEDIUM DUTY POILSHED NICKEL BRONZE GRATE WITH ACID RESITING WHITE PORCELAIN ENAMEL INTERIOR AND TOP, ANTI-SPLASH INTERIOR DOME STRAINER WITH TRAP PRIMER CONNECTION.
PF-40	KITCHEN FLOOR SINK - HALF GRATE	4"	2"			FLOOR	ZURN MODEL ZN-1902-2-P SANI-FLOR RECEPTOR 12"x12"x10" DEEP CAST IRON BODY, SQUARE SLOTTED 1/2 LIGHT DUTY POLISHED NICKEL BRONZE GRATE WITH ACID RESISTING WHITE PORCELAIN ENAMEL INTERIOR AND TOP, ANTI-SPLASH INTERIOR DOME STRAINER WITH TRAP PRIMER CONNECTION.
PF-41	ROOF DRAIN	SAME SIZE AS PIPE				ROOF	ZURN MODEL Z-100-C-VP, 15" DIAMETER ROOF DRAIN, DURA-COATED CAST IRON BODY, COMBINATION MEMBRANE FLASHING CLAMP, UNDERDECK CLAMP, LOW SILHOUETTE CAST IRON DOME, VANDAL PROOF SECURED TOP.
PF-41A	SCUPPER DRAIN	SAME SIZE AS PIPE				ROOF/WALL	ZURN MODEL Z-187 SCUPPER DRAIN, CAST IRON BODY, BACK OUTLET, OBLIQUE ALUMINUM GRATE, FRAME AND MEMBRANE FLASHING CLAMP.
PF-41B	DOWNSPOUT NOZZLE	SAME SIZE AS PIPE				WALL	ZURN MODEL ZANB-199-SS DOWNSPOUT NOZZLE, NICKEL BRONZE BODY, THREADED INLET, STAINLESS STEEL REMOVEABLE SCREEN.
PF-42	ELECTRONIC TRAP PRIMER (1-4 TRAPS)				1/2"	WALL	PRECISION PLUMBING PRODUCTS, INC. MODEL MPB-500-115V MINI-PRIME ELECTRONIC TRAP PRIMER WITH SUB-MINIATURE SOLENOID VALVE, AIR GAP AND ELECTRONIC CONTROLLER AND REMOTE TIMER, FACTORY ASSEMBLED IN A NEMA #1 METAL BOX.
PF-43	ELECTRONIC TRAP PRIMER (5-30 TRAPS)				3/4"	WALL	PRECISION PLUMBING PRODUCTS, INC. MODEL PT, PRIME-TIME ELECTRONIC TRAP PRIMER WITH SOLENOID VALVE, CIRCUIT BREAKER, SWITCH, TIMER AND ANIT-SIPHON ATMOSPHERIC VACUUM BREAKER, FACTORY ASSEMBLED IN A NEMA #1 METAL BOX. VERIFY EXACT MODEL AT EACH LOCATION.
PF-44	HOSE REEL					WALL/CEILING	REELCRAFT MODEL 5835 OLP SPRING DRIVEN AIR HOSE REEL WITH 35 FOOT 3/8" PVC HOSE, PROVIDE WITH ALL APPROPRIATE MOUNTING BRACKETS TO FASTEN TO STRUCTURE.
PF-45	BOTTOM ACCESS SOLIDS INTERCEPTOR P-TRAP	2"				UNDER SINK	ZURN MODEL Z1184 BOTTOM ACCESS SOLIDS INTERCEPTOR, 2" INLET AND OUTLET, REMOVABLE PVC SEDIMENT BUCKET WITH 3/32" PERFORATED FLOW DEFUSING/INTERCEPTING PVC SCREEN, BOTTOM ACCESS GASKETED SECURED COVER, STAINLESS STEEL DRAW LATCHES AND HARDWARE, ABS HANDLE AND DRAIN PORT PLUG.
PF-46	OIL INTERCEPTOR	4"				FLOOR	ZURN MODEL Z1188-ST-E-HD-K ACID RESISTANT COATED INTERIOR AND EXTERIOR FABRICATED STEEL OIL INTERCEPTOR, 300 GPM, 660 GALLON WATER STORAGE CAPACITY, BRONZE CLEANOUT PLUG, DOUBLE WALL TRAP SEAL, PRESSURE EQUALIZING/FLOW DIFFUSING BAFFLE AND SEDIMENT BUCKET, VENT CONNECTIONS, OIL DRAW-OFF, GASKETED NON-SKID COVER, HEAVY DUTY TRAFFIC COVER RATED AT 10,000 LBS. MAXIMUM SAFE LIVE LOAD. INCLUDE ANCHOR FLANGE AND INTEGRAL EXTENSION FOR RECESSED INSTALLATION.
PF-46A	OIL INTERCEPTOR	4"				FLOOR	ZURN MODEL Z1188-ST-E-HD-K ACID RESISTANT COATED INTERIOR AND EXTERIOR FABRICATED STEEL OIL INTERCEPTOR, 125 GPM, 150 GALLON WATER STORAGE CAPACITY, BRONZE CLEANOUT PLUG, DOUBLE WALL TRAP SEAL, PRESSURE EQUALIZING/FLOW DIFFUSING BAFFLE AND SEDIMENT BUCKET, VENT CONNECTIONS, OIL DRAW-OFF, GASKETED NON-SKID COVER, HEAVY DUTY TRAFFIC COVER RATED AT 10,000 LBS. MAXIMUM SAFE LIVE LOAD. INCLUDE ANCHOR FLANGE AND INTEGRAL EXTENSION FOR RECESSED INSTALLATION.
PF-46B	OIL INTERCEPTOR	4"				FLOOR	ZURN MODEL Z1188-ST-E-HD-K ACID RESISTANT COATED INTERIOR AND EXTERIOR FABRICATED STEEL OIL INTERCEPTOR, 75 GPM, 65 GALLON WATER STORAGE CAPACITY, BRONZE CLEANOUT PLUG, DOUBLE WALL TRAP SEAL, PRESSURE EQUALIZING/FLOW DIFFUSING BAFFLE AND SEDIMENT BUCKET, VENT CONNECTIONS, OIL DRAW-OFF, GASKETED NON-SKID COVER, HEAVY DUTY TRAFFIC COVER RATED AT 10,000 LBS. MAXIMUM SAFE LIVE LOAD. INCLUDE ANCHOR FLANGE AND INTEGRAL EXTENSION FOR RECESSED INSTALLATION
PF-47	GREASE INTERCEPTOR (50 GPM)					FLOOR	ZURN MODEL Z-1170-E-K ACID RESISTANT COATED INTERIOR AND EXTERIOR STEEL GREASE INTERCEPTOR, INTERNAL AIR RELIEF BY-PASS, BRONZE CLEANOUT PLUG, DOUBLE WALL TAP SEAL WITH REMOVABLE COMBINATION PRESSURE EQUALIZING/FLOW DIFFUSING BAFFLE, GASKETED NON-SKID COVER WTIH CENTER TIE-DOWN, RATED AT 50 GPM AND 100 LBS OF CAPACITY. PROVIDE WITH STEEL EXTENSION AS REQUIRED. PROVIDE WITH Z1108 FLOW CONTROL FITTING, PDI CERTIFIED, PLUMBING SUB-CONTRACTOR SHALL PIPE VENT FOR FLOW CONTROL FITTING INTO BUILDING VENTING SYSTEM.
PF-48	SOLID AND SEDIMENT INTERCEPTOR					FLOOR	ZURN MODEL Z1187-400-E-K ACID RESISTANT COATED INTERIOR AND EXTERIOR FABRICATED STEEL SAND AND SEDIMENT INTERCEPTOR, 54 CUBIC FEET CAPACITY BELOW INVERT OUTLET, COMPLETE WITH SCORIATED NON-SKID REMOVABLE COVERS. INCLUDE INTEGRAL EXTENSION FOR RECESSED INSTALLATION AND ANCHOR FLANGE 1 3/4" DOWN FROM TOP.
PF-49	ACID NEUTRILIZATION TANK	2"				FLOOR	ZURN NEUTRALIZATION TANK, MODEL Z9A-NT-5, HIGH DENSITY POLYETHLENE, GASKETED BOLT DOWN COVER, STAINLESS STEEL HARDWARE AND NEOPRENE GASKET MATERIAL.

1 ALL FIXTURES SHALL BE COMPLETE WITH APPROPRIATE SUPPLIES WITH STOPS, P-TRAPS AND ACCESSORIES.
2 ALL TRIM TO BE OF VANDAL-PROOF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO AERATORS, HANDLES, SHOWER, HEADS, ETC.
3 PROVIDE OFFSET DRAIN AND WASTE, HW & CW INSULATION FOR BARRIER FREE INSTALLATION.
4 FIXTURES SHALL BE PROVIDED WITH APPROPRIATE FLOOR MOUNTED WALL CARRIERS.
** CONFIRM ALL FIXTURE MOUNTING HEIGHTS WITH ARCHITECTURAL DRAWINGS.

PLUMBING DOMESTIC WATER HEATER SCHEDULE

SYMBOL	EQUIPMENT TAG	LOCATION	TANK SIZE - GAL	BOILER WATER FLOW RATE @ 180 DEG. - GPM	RECOVERY @ 40-140 DEG. RISE - GPH	ELECTRICAL AMPS	ELECTRICAL VOLT	ELECTRICAL PHASE	ELECTRICAL HZ	REMARKS
DWH	1	MECHANICAL ROOM 1486	300	15	900	4	120	1	60	1, 2, 3.
DWH	2	MECHANICAL ROOM 1486	300	15	900	4	120	1	60	1, 2, 3.

1. SELECTION BASED ON PVI WATER HEATERS - EZ PLATE BOILER WATER HEAT EXCHANGER, WATER HEATER MODEL #900 L 300A-TRPF.
2. ELECTRICAL REQUIREMENTS:
   - CIRCULATOR PUMP: 120V, 1 PH, 60 HZ., 4 AMPS.
   - CONTROL VOLTAGE: 120V, 1 PH, 60 HZ., 2AMPS.
3. WATER HEATER SHALL BE EQUIPPED WITH: BRONZE CIRCULATING PUMP, IMMERSION TEMPERATURE LIMITING DEVICE, TERMINALS FOR REMOTE ON-OFF CONTROL, MANUAL RESET TEMPERATURE LIMITING DEVICE, ELECTRONIC LOW WATER CUT OFF, TANK PRESSURE GAUGE, BOILER WATER CONTROL VALVE.

PLUMBING SYSTEM EXPANSION TANK SCHEDULE

SYMBOL	EQUIPMENT TAG	LOCATION	TYPE	VOL (TANK/ACCEPT)	APPROX. DIMENSIONS	CONNECTION SIZE	REMARKS
EXP	1	MECHANICAL ROOM 1486	STAND	14/8.96	6 1/4" DIA x 19 5/16"H	3/4"	1, 2, 3.
EXP	2	MECHANICAL ROOM 1486	STAND	14/8.96	6 1/4" DIA x 19 5/16"H	3/4"	1, 2, 3.

1. RATED FOR POTABLE WATER.
2. PRE-PRESSURIZED DIAPHRAGM TYPE - SET PRESSURE TO EQUAL DOMESTIC WATER STATIC PRESSURE.
3. SELECTION BASED ON AMTROL MODEL ST-30V-C.

PLUMBING THERMOSTATIC MIXING VALVE SCHEDULE

SYMBOL	EQUIPMENT TAG	LOCATION	GPM	PRESSURE DROP (PSI)	REMARKS
TMV	1	MECHANICAL ROOM B057	26.3	10	1, 4.
TMV	2	WELDING STORAGE C138D	53	5	2, 4.
TMV	3	HORTICULTURE D150	5.0	5	3, 4.

1. SELECTION BASED ON SYMMONS MODEL 5-400-102-PRZ-W HI-LO THERMOSTATIC MIXING VALVE.
2. SELECTION BASED ON GUARDIAN MODEL G3902LF TEMPERING VALVE.
3. SELECTION BASED ON SYMMONS MODEL 7-230-CK-M-T-W THERMOSTATIC POINT OF USE MIXING VALVE.
4. PROVIDE WITH SPARE THERMAL CARTRIDGE.

PLUMBING PUMP SCHEDULE

SYMBOL	EQUIPMENT TAG	SERVES	LOCATION	TYPE	GPM	TOTAL HEAD (FT of W.C.)	MOTOR DATA HP	MOTOR DATA VOLT	MOTOR DATA PHASE	MOTOR DATA RPM	REMARKS
PP	1	BUILDING	MECHANICAL ROOM B057	IN-LINE	42	18	1/2	208	3	1725	1, 2, 3. TACO MODEL 132
PP	2	BUILDING	MECHANICAL ROOM B057	IN-LINE	6	7	1/8	115	1	3250	1, 2, 3. TACO MODEL 0010-IFC

1. SELECTION BASED ON TACO.
2. REFER TO SPECIFICATION SECTION 22 45 00.
3. PUMPS CONTROLLED BY BUILDING MANAGEMENT SYSTEM.

PLUMBING AIR COMPRESSOR SCHEDULE

SYMBOL	EQUIPMENT TAG	LOCATION	RECEIVER SIZE - GAL	PUMP MAX PRESSURE (PSIG)	PUMP FLOW AT MAX PRESSURE (CFM)	ELECTRICAL HP	ELECTRICAL VOLT	ELECTRICAL PH	ELECTRICAL HZ	REMARKS
PAC	1	TOOL STORAGE C133B	120 - SEPERATE TANK	150	168	40	460	3	60	1, 2, 7.
PAC	2	SHARED COMPRESSOR C134D	120	175	35	10	200	3	60	EXISTING TO BE REUSED, 3.
PAC	3	STORAGE C121 B	80	200	21.4	5	230	1	60	EXISTING TO BE REUSED, 4.
PAC	4	FIRE STORAGE E146	60	175	14.3	5	200	3	60	5, 6.

1. SELECTION BASED ON INGERSOLL RAND MODEL UP6-40-150.460-3 ROTARY SCREW AIR COMPRESSOR.
2. PROVIDE INGERSOLL RAND MODEL D300IN HIGH-EFFICIENCY REFRIGERATED DRYER.
3. PROVIDE INGERSOLL RAND MODEL D59EC HIGH-EFFICIENCY CYCLING DRYER.
4. PROVIDE INGERSOLL RAND MODEL D41EC HIGH-EFFICIENCY CYCLING DRYER.
5. SELECTION BASED ON INGERSOLL RAND MODEL 2340L5-V TWO STAGE CAST IRON AIR COMPRESSOR.
6. PROVIDE INGERSOLL RAND MODEL D31EC HIGH-EFFICIENCY CYCLING DRYER.
7. PROVIDE WITH INGERSOLL RAND 120 GALLON, VERTICAL, ASME RATED, AIR TANK .

PLUMBING SUMP PUMP SCHEDULE

SYMBOL	EQUIPMENT TAG	BASIN SIZE	LOCATION	TYPE	CAPACITY GPM	TOTAL HEAD FT of WC	MOTOR DATA HP	MOTOR DATA VOLT	MOTOR DATA PHASE	MOTOR DATA RPM	REMARKS
SP	1	ELEV.	ELEV. 2145	SUMP PUMP	50	15	1/2	120	1	3500	1, 2, 3.
SP	2	ELEV.	ELEV. 2152	SUMP PUMP	50	15	1/2	120	1	3500	1, 2, 3.

1. REFER TO PLUMBING EQUIPMENT SPECIFICATION SECTION 22 45 00.
2. SELECTION BASED ON STANCOR MODEL SE-50, ELEVATOR PIT SUMP PUMP WITH OIL-MINDER CONTROL SYSTEM. SYSTEM TO BINCLUDE SUMP PUMP WITH 2" ø DISCHARGE, LEVEL CONTROL FLOAT SWITCH, OIL DETECTION PROBE, CHECK VALVE, CONTROL POWER AND ALARM CABLE, CONTROL AND ALARM PANEL WITH OIL DETECTION LOCKOUT AND POWER CORD.
3. SUMP PUMPS TO BE CONTROLLED BY BUILDING MANAGEMENT SYSTEM.

PLUMBING WATER HAMMER ARRESTER SCHEDULE

SYMBOL	PDI UNITS	FIXTURE UNITS	REMARKS
WH-1	A	1-11	1, ZURN MODEL Z-1700-100
WH-2	B	12-32	1, ZURN MODEL Z-1700-200
WH-3	C	33-60	1, ZURN MODEL Z-1700-300
WH-4	D	61-113	1, ZURN MODEL Z-1700-400

1. SELECTION BASED ON ZURN.

PLUMBING DOMESTIC WATER PIPE SIZING SCHEDLUE

1/2" CONNECTIONS	PIPE SIZE	WATER CLOSET FLUSH VALVES	PIPE SIZE	URINAL FLUSH VALVES	PIPE SIZE	REMARKS
1 - 2	1/2"	1	1 1/2"	1	1 1/4"	1, 2, 3.
3 - 4	3/4"	2 - 5	2"	2 - 8	1 1/2"	1, 2, 3.
5 - 6	1"	OVER 6	2 1/2" (+)	OVER 8	2" (+)	1, 2, 3.
OVER 6	VARIES	-	-	-	-	1, 2, 3.

1. BRANCH SUPPLY PIPE SIZE TO TOILET ROOMS AND FIXTURE GROUPS SHALL BE AS INDICATED ON PLANS.
2. CONNECT BRANCH SUPPLY TO DOMESTIC COLD WATER AND HOT WATER PIPING TO EACH PLUMBING FIXTURE IN ACCORDANCE WITH THIS PIPE SIZE SCHEDULE.
3. PROVIDE WATER HAMMER ARRESTERS IN THE BRANCH PIPING TO EACH TOILET ROOM OR FIXTURE GROUP AS SCHEDULED.

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Sanford School Department and State of Maine Department of Education

SANFORD HIGH SCHOOL and TECHNICAL CENTER

SANFORD, ME 04073

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	2016-02-26

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT: PLUMBING SCHEDULES

DRAWN BY:	A. SAK
PROJECT NO:	12-067-00
DATE:	02/11/2016
REVISED:	
SCALE:	NO SCALE

P5.01

Project Phase
BID DOCUMENTS

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Sanford High School and Technical Center February 25, 2016

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Sanford High School and Technical Center February 25, 2016

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