

 <30< <40 50 <100 <100	40⊳ 30⊳ 20► 1	
480 < 440 < 50	40⊳ 30⊳ 20► 1	◎►
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SOCCER LINES - YELLOW

NOT TO SCALE



LACROSSE LINES - BOY/GIRL UNIFIED - RED

NOT TO SCALE



BASEBALL AND SOFTBALL - CAROLINA BLUE

NOT TO SCALE

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SCALE: 1"=20'-0"



- THE CONTRACTOR. 11. THE CONTRACTOR SHALL COORDINATE LOCATION AND INSTALLATION OF ALL UNDERGROUND UTILITIES AND APPURTENANCES TO MINIMIZE DISTURBANCE TO CURBING, PAVING, AND COMPACTED SUBGRADE.
- 12. UTILITY COORDINATION SHALL BE INCLUDED IN THE PROJECT SCHEDULE AND IT IS THE EXPLICIT RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT THE PROJECT SCHEDULE INCLUDES THE NECESSARY RELOCATION. THE CONTRACTOR WILL NOT BE PAID ADDITIONALLY FOR THIS COORDINATION. THE CONTRACTOR SHOULD SEEK ASSISTANCE FROM ALL UTILITY COMPANIES TO LOCATE AND PROTECT THEIR FACILITIES.
- 13. CONTRACTOR SHALL EXCAVATE ONLY AS MUCH TRENCH WHICH PIPE CAN BE INSTALLED AND TRENCH BACKFILLED BY THE END OF EACH WORK DAY.
- 14. ALL UNDERGROUND UTILITY TRENCHES SHALL BE BACKFILLED WITH SAFE CLEAN FILL.
- 15. ALL INLETS AND DRAINAGE STRUCTURES TO BE INSTALLED WITH TRAPS.
- 18. "D" PERMITS ARE REQUIRED FOR ANY EXISTING SERVICE CONNECTIONS TO BE ABANDONED,
- 19. THE PROPOSED STORM AND SEWER LATERALS CONNECTIONS MUST BE COORDINATED WITH
- ADJUSTED TO THE PROPOSED GRADE, UNLESS OTHERWISE INDICATED.
- COORDINATE LED LIGHT FIXTURE REPLACEMENT.
- MINIMUM RESIDUAL PRESSURE OF 20 POUNDS PER SQUARE INCH. 23. MAINTAIN AND PROTECT EXISTING INLETS & HYDRANTS. SHOULD THE EXISTING INLETS OR
- 24. CONTRACTOR TO PROVIDE TEMPORARY LIGHTING FOR ANY STREET LIGHTS THAT ARE
- 16. MAINTAIN AND PROTECT EXISTING INLETS. SHOULD EXISTING INLETS BE IN ANYWAY DAMAGED DURING CONSTRUCTION , THESE SHOULD BE REPAIRED TO THE SATISFACTION OF THE PWD INSPECTOR OR REPLACED PER PWD STANDARDS. CONTRACTOR MUST COMPLY WITH EROSION AND SEDIMENT CONTROL REQUIREMENTS
- AND 25 PA CODE CHAPTER 102. . SUFFICIENT EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR AS TO PREVENT STANDING WATER OR SEDIMENTATION OF STORMWATER SYSTEMS. GREEN STORMWATER INFRASTRUCTURE SYSTEMS DETERMINED BY PWD TO BE INADEQUATELY PROTECTED AND THEREBY COMPROMISED
- REPLACEMENT) AT NO ADDITIONAL COST TO PWD. 19. CONTRACTOR IS REQUIRED TO UNDERTAKE NECESSARY MEASURES TO PREVENT SEDIMENT FROM LEAVING THE WORK SITE, TO PREVENT EROSIVE CONDITIONS, AND TO SUPPRESS DUST ON THE SITE AND SURROUNDING AREAS. CONTRACTOR MUST COVER AND SURROUND STOCKPILES WITH EROSION CONTROL MEASURES TO ENSURE SEDIMENT DOES NOT MIGRATE INTO THE PUBLIC ROW OR ENTER THE PUBLIC SEWER. IF
- CONTRACTOR IS HAND DIGGING OR EXCAVATING, CONTRACTOR MUST SWEEP WORK SITE AT THE END OF EACH WORK DAY. THE CITY MAY REQUIRE THE CONTRACTOR / OWNER TO CLEAN CITY-OWNED INLETS AND SYSTEMS AFFECTED BY NONCOMPLIANT OR FAILED E&S CONTROLS. 20. CONTRACTOR MUST INSTALL INLET PROTECTION MEASURES AT ALL INLETS ADJACENT TO
- OR WITHIN THE WORK AREA. INLET PROTECTION MEASURES MUST BE INSPECTED DAILY TO ENSURE PROPER PLACEMENT, AND MAINTAINED, POSITIONED OR REPLACED AS NEEDED TO ENSURE PROPER FUNCTION AND TO PREVENT FLOODING. REFER TO PWD GUIDANCE FOR APPROPRIATE MATERIALS AND PROTECTION METHODS FOR OPEN-MOUTH INLETS, HIGHWAY GRATE INLETS, TRENCH DRAINS AND CURB-CUT INLETS.
- ANY MATERIALS ON THE STREET. 2. ORIFICE SHOULD NOT BE DRILLED PRIOR TO AUTHORIZATION BY PWD. PWD WILL REVIEW THE RESULTS OF THE DOUBLE RING INFILTROMETER TESTS CONDUCTED AFTER SMP
- EXCAVATION AND WILL CONFIRM ORIFICE DIMENSIONS. 23. EROSION CONTROL MATTING SHALL BE PLACED OVER ALL SOIL SURFACES NOT STABILIZED BY PLANTING.

EXISTING PROPERTY LINE (APPROXIMATE) ----- EXISTING RIGHT OF WAY LINE (APPROXIMATE) EXISTING BUILDING = EXISTING CURB EXISTING SIDEWALK - EXISTING EDGE OF MACADAM/GRAVEL — EXISTING TRAFFIC MARKING -----×------ EXISTING FENCE EXISTING TREE ----- EXISTING MAJOR CONTOUR ----- EXISTING MINOR CONTOUR EXISTING SIGN -0-EXISTING BOLLARD EXISTING UTILITY POLE EXISTING INLET ------ s ------ EXISTING SEWER ----- D ----- EXISTING STORM SEWER ——— w ——— EXISTING WATER LINE ------- EXISTING GAS LINE

EXISTING LEGEND

- *——_____ EXISTING UNDERGROUND TELEPHONE LINE*

------ EXISTING UNDERGROUND ELECTRIC ------ EXISTING OVERHEAD WIRES EXISTING UTILITY STRUCTURES

EXISTING TREES FOR					
PAVEMENT DISCONNECTION					
TREE	SDECIES	CALIPER DIAMETER			
#	SFEUIES	(IN)			
1	HONEY LOCUST	23.50			
2	BLACK GUM	9.70			
3	BLACK GUM	15.20			

	PROPOSED BUILDING
M	PROPOSED DOOR
4,	PROPOSED CONCRETE PAVEMENT
	PROPOSED ASPHALT PAVEMENT
\vee \vee \vee	PROPOSED LANDSCAPED AREA
	PROPOSED UNIT PAVERS
	PROPOSED POROUS PLAYGROUND SAFETY SURFACE
	PROPOSED SYNTHETIC TURF FIELD
<u>80080000</u>	PROPOSED ADA RAMP
	PROPOSED CURB
	PROPOSED DEPRESSED CURB
	PROPOSED WALL
	PROPOSED STOP BAR/PAVEMENT MARKING
O	PROPOSED FENCE
_	PROPOSED SIGN
5	PROPOSED MAJOR CONTOUR
6	PROPOSED MINOR CONTOUR
	PROPOSED STORM INLET
O	PROPOSED STORM MANHOLE
0	PROPOSED STORM CLEANOUT
	PROPOSED STORM SEWER
s	PROPOSED SANITARY SEWER
w	PROPOSED WATER LINE
——— F ———	PROPOSED FIRE LINE
UG	PROPOSED NATURAL GAS LINE
UT	PROPOSED CABLE/TELEPHONE LINE
UE	PROPOSED ELECTRIC LINE
	PROPOSED LIMIT OF DISTURBANCE
	PROPOSED NPDES PROJECT SITE BOUNDARY



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UTILITY NOTES:

TO PROPERLY CONSTRUCT THE WORK.

- ALL PIPE LENGTHS AND DISTANCES BETWEEN STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE ALONG A HORIZONTAL PLANE. ALL STORM DRAINAGE PIPE SHALL BE LAID ON SMOOTH CONTINUOUS GRADES WITH NO
- VISIBLE BENDS AT JOINTS. BEDDING REQUIREMENTS SPECIFIED IN THE CONSTRUCTION DOCUMENTS ARE TO BE CONSIDERED AS MINIMUMS FOR RELATIVELY DRY, STABLE EARTH CONDITIONS. ADDITIONAL BEDDING SHALL BE REQUIRED FOR ROCK TRENCHES AND WET AREAS. CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO PROVIDE SUCH ADDITIONAL BEDDING AS MAY BE REQUIRED
- COMPACTION OF THE BACKFILL OF ALL TRENCHES SHALL BE COMPACTED TO THE DENSITY OF 95% OF THEORETICAL MAXIMUM DRY DENSITY (ASTM D698). BACKFILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, OR OTHER FOREIGN DEBRIS AND SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES IN COMPACTED FILL THICKNESS.
- THE CONTRACTOR WILL INSURE THAT POSITIVE AND ADEQUATE DRAINAGE IS MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS. THIS MAY INCLUDE, BUT NOT BE LIMITED TO. REPLACEMENT OR RECONSTRUCTION OF EXISTING DRAINAGE STRUCTURES THAT HAVE BEEN DAMAGED OR REMOVED OR REGRADING AS REQUIRED BY THE ENGINEER, EXCEPT FOR THOSE DRAINAGE ITEMS SHOWN AT SPECIFIC LOCATIONS AND HAVING SPECIFIC PAY ITEMS IN THE DETAILED ESTIMATE. NO SEPARATE PAYMENT WILL BE MADE FOR ANY COSTS INCURRED TO COMPLY WITH THIS REQUIREMENT.
- EXISTING UTILITY LATERALS FOR THE PREVIOUS USE ARE NOT TO BE REUSED.
- CONTRACTOR MUST APPLY FOR ALL UTILITY CONNECTION APPLICATIONS. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY CONNECTION FEES.
- UTILITY CONNECTION AND UTILITY COMPANY DETAILS FOR RECONNECTION AND NEW SERVICE WERE NOT PROVIDED BY THE UTILITY COMPANIES. CONTRACTOR MUST OBTAIN ANY UTILITY DETAILS FOR RECONNECTION OF EXISTING SERVICES OR NEW SERVICE AND IS RESPONSIBLE FOR THE CONSTRUCTION OF EACH NEW SERVICE PER THE APPROPRIATE UTILITY COMPANY'S SPECIFICATIONS.
- 10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES AND TO TAKE WHATEVER STEPS NECESSARY TO PROVIDE FOR THEIR PROTECTION. THE ENGINEER HAS DILIGENTLY ATTEMPTED TO LOCATE AND INDICATE ALL EXISTING FACILITIES ON THESE PLANS: HOWEVER, THIS INFORMATION IS SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS OF UTILITIES SHOWN OR NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES FOR EXACT LOCATION OF THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. IT SHALL BE THE SOLE RESPONSIBILITY OF
- **GREEN STORMWATER INFRASTRUCTURE NOTES** THE CONTRACTOR PERFORMING THE GREEN STORMWATER INFRASTRUCTURE INSTALLATION MUST BE PREQUALIFIED BY THE PHILADELPHIA WATER DEPARTMENT (PWD) CONTACT MS. TRISHA GRACE OF THE PROJECTS MANAGEMENT UNIT AT (215) 685-6336. THE APPROVED WORK SHALL BE DONE IN THE PRESENCE OF A PWD INSECTOR. 3. THE CONTRACTOR PERFORMING THIS WORK IS TO NOTIFY THE PWD CONSTRUCTION DIVISION,1101 MARKET STREET, 2ND FLOOR, PHONE (215) 685-6345, AT LEASET 7 DAYS IN
- ADVANCE FOR ASSIGNMENT OF AN INSPECTOR TO THE JOB. 4. THE CONTRACTOR MUST PROVIDE OFFICE SPACE FOR USE BY THE PWD INSPECTOR DURING CONSTRUCTION. 5. APPROVAL OF THESE PLANS BY THE WATER DEPARTMENT IS STRICTLY LIMITED TO THE DESIGN OF GREEN STORMWATER INFRASTRUCTURE SHOWN WITHIN THE LIMITS OF THE CITY OF PHILADELPHIA PUBLIC RIGHT OF WAY. 6. CONTACT PWD-WATER TRANSPORTATION RECORDS, 1101 MARKET STREET, 2ND FLOOR,
- PHONE (215) 685-6271, FOR ADDITIONAL APPROVALS AND PERMITS REQUIRED FOR ALL SEWER CONNECTIONS TO EXISTING AND/OR PROPOSED PWD FACILITIES. FIELD-FABRICATED WYE BRANCHES AND BENDS ARE NOT PERMITTED 8. A LIST OF ALL MATERIALS AND SUPPLIERS MUST BE SUBMITTED TO THE PWD CONSTRUCTION BRANCH FOR APPROVAL. 9. THE CONTRACTOR OR ENGINEER IS RESPONSIBLE FOR OBTAINING ALL ADDITIONAL
- PERMITS AND APPROVALS FROM ALL AFFECTED CITY AGENCIES AND UTILITIES. 10. PRIOR TO OBTAINING A BUILDING PERMIT, THE CONTRACTOR IS REQUIRED TO OBTAIN PWD STORMWATER MANAGEMENT APPROVAL, AND SEWAGE FACILITIES PLANNING (ACT 537) APPROVAL
- 11. ANY CHANGE TO, OR DEVIATION FROM, THE FINAL APPROVED DESIGN PLANS DURING CONSTRUCTION MUST BE APPROVED BY THE ASSIGNED PWD-CONSTRICTION DIVISION ENGINEER AND BY THE PWD DESIGN PROJECT ENGINEER. 12. PWD RESERVES THE RIGHT TO REQUEST ADDITIONAL BORINGS DURING CONSTRUCTION SHOULD THE SOIL EXCAVATED IN THAT AREA APPEAR TO BE UNSUITABLE. 13. ANY TRENCH WHERE THE CUT IS DEEPER THAN 10 FEET WILL REQUIRE A DETAILED
- SHORING PLAN PREPARED BY A REGISTERED PROFESSIONAL ENGINEER TO BE SUBMITTED TO PWD FOR APPROVAL BEFORE WORK CAN BEGIN. 4. PLACE AND COMPACT BACKFILL IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR EXCAVATION, REFILLING, GRADING, LANDSCAPING AND REPAVING. 15. ALL SIDEWALK AND CURBING TO BE REPLACED IN KIND ALONG FULL LIMITS OF CONSTRUCTION TO NEXT EXISTING JOINT OR AS DIRECTED BY PWD.













N.T.S.



DETAIL- CONCRETE STRUCTURAL SLAB (SHED AND BLEACHER PADS)

DETAIL- HEAVY GUTY PAVING STATION N.T.S.



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- BOTH SIDES OF THE WYE, 12-INCH FROM THE LOCATION TO CUT THE SEWER PIPE. 11. USE A MINIMUM OF 3,500 PSI CONCRETE FOR THE CONCRETE CUT-OFF WALL.
- 12. ALLOW AT LEAST 24 HOURS FOR THE CONCRETE TO CURE BEFORE CUTTING THE SEWER PIPE.
- 13. CUT THE SEWER PIPE SO THAT THE WYE SECTION WILL FIT IN TIGHTLY. 14. PREVENT ANY DEBRIS FROM FLOWING INTO THE SEWER.

N.T.S.

- 15. CLEAN THE BOTTOM OF THE OPENED AREA FROM LOOSE AND SOFT SOIL IF NO CRADLE, AND PLACE STONE IN THE MIDDLE LEAVING 12 INCH BELOW THE JOINTS FOR CONCRETE COLLAR.
- 16. INSERT THE WYE SECTION IN PLACE IMMEDIATELY, SEAL THE JOINTS AND CONSTRUCT A 24-INCH CONCRETE COLLAR AROUND BOTH JOINTS.
- 17. USE A MINIMUM OF 3,500 PSI CONCRETE COLLAR, 12 INCH DEEP AND EXTENDING 24 INCH WIDE AROUND THE JOINT. 18. ALLOW AT LEAST 24 HOURS FOR THE CONCRETE TO CURE BEFORE BACKFILLING.
- 19. ANY OTHER PIPELINE EXPOSED AND UNDERMINED DURING THIS OPERATION MUST BE SUPPORTED IMMEDIATELY AND BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) AFTER THE COMPLETION OF THE CONNECTION. **DETAIL-** WYE CONNECTION

















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DETAIL- CHAIN LINK FENCE N.T.S.

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DETAIL- UNDERGROUND BASIN



HANDRAIL NOTES:

- 1. ALL HANDRAILS AND HARDWARE TO BE HOT DIPPED GALVANIZED, PRIMED AND PAINTED. COLOR TO BE DETERMINED BY OWNER, PER SPECIFICATIONS.









DETAIL- POOL DECK RAMP AND RAILING 1"=2'



DETAIL- PLAYGROUND RAMP AND RAILING

1"=1'.

HANDRAIL NOTES:

1. ALL HANDRAILS AND HARDWARE TO BE HOT DIPPED GALVANIZED, PRIMED AND PAINTED. COLOR TO BE DETERMINED BY OWNER, PER SPECIFICATIONS. 2. CONTRACTOR TO FIELD VERIFY DIMENSIONS AND ELEVATIONS OF FINISHED RAMPS PRIOR TO FABRICATION OF HANDRAILS. 3. CONTRACTOR TO SUBMIT COMPLETE SHOP DRAWINGS FOR LAYOUT, HANDRAILS AND COMPONENTS. 4. INSTALL OUTSIDE SIDE OF RAIL ONLY. 5. INCLUDE SKATEBOARD PREVENTION HARDWARE ON TOP RAIL.

32.0'

HANDRAIL 90° TURN BACK TOWARD POOL	3" STD. GALV. x 12" STEEL PIPE SLEEVE, TYP.; SECURE POST IN 3" SLEEVE WITH NON-SHRINKING GROUT. LOCATE POST 4" FROM EDGE OF SIDEWALK, TYP.	INTERMEDIATE RAILS EVERY 84" MIN. SPACED O.C. COPE AND WELD ALL JOINTS AND GRIND SMOOTH, TYP.	
- WALL TO BE REMOVED FOR RAMP ENTRANCE			
	A A A A A A A A A A A A A A A A A A A		

5.0'



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DETAIL- PLAYERS' BENCHES N.T.S.





DETAIL- TRANSITION FROM ASPHALT TO CONCRETE PAVING N.T.S.

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GENERAL INFORMATION:

SITE:				
4901 KINGSESSING AVE PHILADELPHIA, PA 19143 OPA#783249500		EXISTING LEGE	ND	PRO
CLIENT:			EXISTING PROPERTY LINE (APPROXIMATE) EXISTING RIGHT OF WAY LINE (APPROXIMATI	
CITY OF PHILADELPHIA PARKS AND RECREATION 1515 ARCH STREET, 10TH FLOOR PHILADELPHIA, PA 19102 ENGINEER:			EXISTING BUILDING EXISTING CURB EXISTING SIDEWALK EXISTING EDGE OF MACADAM/GRAVEL EXISTING TRAFFIC MARKING	
PENNONI ASSOICATES 1900 MARKET STREET, SUITE 300 PHILADELPHIA, PA 19103		×	EXISTING FENCE EXISTING TREE	
REFERENCES: BOUNDARY AND TOPOGRAPHIC INFO PLAN BY AMERICAN ENGINEERS GRC "KINGSESSING RECREATION CENTER SHEET NO. 1, DATED 03/12/2021.	RMATION TAKEN FROM A DUP, LLC ENTITLED R TOPOGRAPHIC SURVEY",		EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR EXISTING SIGN EXISTING BOLLARD EXISTING UTILITY POLE EXISTING LIGHT	
			EXISTING INLET EXISTING SEWER EXISTING STORM SEWER	

1. / / 2. I	AN INDUSTRIAL WASTE PERMIT WILL BE REQUIRED SHOULD PUMPING TO CITY-OWNED INFRASTRUCTURE BECOME NECESSARY DURING CONSTRUCTION. ALL PUMPING OF WATER FROM ANY WOR AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS. NLET PROTECTION SHOULD BE PROVIDED FOR ALL INLETS OWNED BY PWD THAT ARE LOCATED WITHIN ONE BLOCK OF THE PROJECT SITE.
3. F	PWD IS NOT RESPONSIBLE FOR ANY CLEANING OR REPAIRS NEEDED ON CITY-OWNED INFRASTRUCTURE DUE TO FAILURE OF ANY EROSION AND SEDIMENT CONTROL PRACTICES. CONTRACTO SHALL BE RESPONSIBLE FOR ANY CLEANING OR REPAIRS NEEDED.
4. I	NSPECTION AND MAINTENANCE OF ALL EROSION AND SEDIMENT BEST MANAGEMENT PRACTICES SHALL OCCUR ON A WEEKLY BASIS, BEFORE ANY ANTICIPATED PRECIPITATION EVENTS, AN AFTER ALL PRECIPITATION EVENTS.
5. 1 6. 1	THE MAXIMUM HEIGHT FOR STOCKPILES AREAS SHALL BE 20 FEET. THE MAXIMUM SIDE SLOPE FOR STOCKPILE AREAS SHALL NOT EXCEED 2:1. THE ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED ON-SITE. A STOCKPILE SHALL BE MAINTAINED ON-SITE FOR THIS PURPOSE. AT THE END OF EAC
7. F	CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE. IN NO CASE SHALL THE SEDIMENT BE WASHEL SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER. FILTER FABRIC FENCE AND/OR COMPOST FILTER SOCK SHOULD BE INSTALLED AT LEVEL GRADE. BOTH ENDS OF EACH FENCE/SOCK SECTION SHOULD BE EXTENDED AT LEAST 8 FEET UPSLOPE A 15 DEGREES TO THE MAIN BARRIER ALIGNMENT. SUPPORT STAKES SHALL BE SPACED AT A MAXIMUM OF 8 FEET. OBJECTS OF CONSIDERABLE MASS (E.G. CONCRETE BLOCKS, SAND BAGS, ETC SHALL BE USED IMMEDIATELY DOWNSLOPE OF COMPOST FILTER SOCKS PLACED ON PAVED SURFACES IN LIEU OF STAKES TO HOLD THE SOCK IN PLACE. OBJECTS TO BE PLACED AT INTERVAL
F (8. /	PER THE COMPOST FILTER SOCK MANUFACTURER'S SPECIFICATION OR PA DEP MAXIMUM SPACING OF 10' ON CENTER. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOV GROUND HEIGHT OF THE FILTER FENCE/FILTER SOCK. ANY FENCE/SOCK SECTION WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS
9. E	REACH 1/3 THE HEIGHT OF THE OUTLET. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLA MAPS AND/OR DETAIL SHEETS.
10. I	MMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMEN APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY PWD AND PA DEP.
11. U E // 12. // N	JNTIL THE SITE IS STABILIZED, ALL E&S BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL E&S BMPS PRIOR TO ANY ANTICIPATED STORM EVENT, AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED, WILL BE REQUIRED. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING, AS WELL AS CUTS AND FILLS, SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVE DRAWINGS MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. PWD SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. PW MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
13. A N 14. A	AT LEAST THREE(3) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL B NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED I WRITING BY PWD AND THE PA DEP PRIOR TO IMPLEMENTATION.
15. A 16. C	AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING, AN FOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE HAVE BEEN INSTALLED AND ARE FUNCTIONIN
/ 17. /	AS DESCRIBED IN THIS E&S PLAN. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARL' MARKED AND FENCED OFF REFORE CLEARING AND GRUBBING OPERATIONS BEGIN
18. <i>/</i>	A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MAD AVAILABLE TO PWD AT THE TIME OF INSPECTION.
20. A	ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE, FEDERAL, AND LOCAL REGULATIONS. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF THREE TO FIVE INCHES SIX TO 12 INCHES ON COMPACTED SOILS PRIOR TO PLACEMENT OF TOPSOIL. AREA TO BE VEGETATED SHALL HAVE A MINIMUM FOUR INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF TWO INCHES OF TOPSOIL.
21. / s 22. /	ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS STRUCTURES, AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED NINE INCHES IN THICKNESS.
23. F	FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION O SATISFACTORY FILLS.
24. F 25. F	ROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
26. S	SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVE METHOD.
27. /	ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
20. I N S N 29. F	MMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OF SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATION MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN ONE YEAR, MAY B STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN ONE YEAR SHALL BE STABILIZED IN ACCORDANC WITH THE PERMANENT STABILIZATION SPECIFICATIONS. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIS
и 30. Е Г	ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY PWD AN PA DEP.
31. / F	AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY E&S BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST-CONSTRUCTION STORMWATER MANAGEMEN PRACTICES. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE E&S BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
32. S	SEDIMENT BASINS AND/OR TRAPS SHALL BE KEPT FREE OF ALL CONSTRUCTION WASTE, WASH WATER, AND OTHER DEBRIS HAVING POTENTIAL TO CLOG THE BASIN/TRAP OUTLET STRUCTURE AND/OR POLLUTE THE SURFACE WATERS. DURING CONSTRUCTION, THE SELECTED CONTRACTOR IS EXPECTED TO FOLLOW THE PCSMP APPROVED BY PWD. NO CHANGE OR DEVIATION FROM THE APPROVED PCSMP IS PERMITTED WITHOU
34. /	PRIOR APPROVAL FROM PWD. ALL WORK ASSOCIATED WITH PWD WATER CONVEYANCE AND SEWER INFRASTRUCTURE SHALL BE DONE IN ACCORDANCE WITH THE CITY OF PHILADELPHIA WATER DEPARTMENT "WATER MAI STANDARD DETAILS AND CORROSION CONTROL SPECIFICATIONS", 1985 EDITION, AND "STANDARD DETAILS AND STANDARD SPECIFICATIONS FOR SEWERS", 1985 EDITION.
36. A	AND CONNECTIONS TO THE EXISTING AND/OR PROPOSED PWD FACILITIES. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE PADEP'S SOLID WASTE MANAGEMENT REGULATIONS AT 2 PA CODE 260.1 ET SEQ., 271.1, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
37. / E	A DUST CONTROL PERMIT WILL BE REQUIRED WHEN COMPLETELY DEMOLISHING A BUILDING OR STRUCTURE THAT IS MORE THAN THREE (3) STORIES, GREATER THAN FORTY (40) FEET TALL, O ENCOMPASSES MORE THAN TEN THOUSAND (10,000) SQUARE FEET; COMPLETELY OR PARTIALLY DEMOLISHING ANY BUILDING OR STRUCTURE BY IMPLOSION; OR ENGAGING IN EARTHWORKS DEFINED AS "CLEARING, GRUBBING, OR EARTH DISTURBANCE OF ANY LAND IN EXCESS OF 5,000 SQUARE FEET."
1. F	FUGITIVE DUST FROM CONSTRUCTION, DEMOLITION, AND EARTHWORKS ACTIVITIES MAY NOT BE VISIBLE AT THE POINT IT PASSES THE WORK SITE PROPERTY LINE.
2. l	JSE OF VACUUM OR SIMILAR SUCTION SYSTEMS TO CAPTURE DUST KICKED UP BY POWER TOOLS WHEN GRINDING / CUTTING
4. (SUPPRESS DUST FORMATION. GENERAL PROHIBITION AGAINST DRY ABRASIVE BLASTING OF EXTERIOR SURFACES OPEN TO THE OUTSIDE AIR WHEN TEMPERATURE IS ABOVE FREEZING.
5. 0 6. L 7. /	COVERING AND WETTING OF STOCKPILE EARTH, SAND, GRAVEL, AND OTHER SIMILAR CONSTRUCTION MATERIALS. JSE OF A MATERIAL CHUTE WHEN DROPPING MATERIAL OR DEBRIS MORE THAN 20 FT OUTSIDE OF THE EXTERIOR WALLS OF A BUILDING OR STRUCTURE. MATERIALS MUST BE WETTED WHE DROPPED, AND / OR EXIT OF CHUTE MUST BE SEALED AGAINST THE TOP OF THE RECEIVING CONTAINER / DUMPSTER. ALL TEMPORARY PERIMETER FENCING AROUND MUST HAVE A DUST CONTROL FABRIC; MUST MEASURE A MINIMUM OF 5FT IN HEIGHT FROM THE BOTTOM OF THE FENCING.
8. / 9. \	A 10 MILE PER HOUR SPEED LIMIT FOR ALL EQUIPMENT AND TRUCKS TRAVELING WITHIN THE WORK SITE.
10. \ TE	/EHICLE ACCESS POINTS MUST BE EQUIPPED WITH DUST SUPPRESSION MEASURES (I.E. WHEEL WASH SYSTEMS, RUMBLE GRATES, AND OR GRAVEL PADS).
1 .	NET PROTECTION SHALL BE APPLIED, AS DETAILED ON THE PLAN, TO EVERY INLET WHICH HAS BEEN CONSTRUCTED TO THE ROADWAY SUBBASE ELEVATION. INLET PROTECTION MUST B
2. 5 F	SILT FENCES/COMPOST FILTER SOCKS SHALL BE INSTALLED DOWNSLOPE OF ALL AREAS TO BE DISTURBED BEFORE ANY WORK BEGINS. SILT FENCE/COMPOST FILTER SOCKS AND ROCK FILTER SHALL BE INSTALLED AS NEAR AS POSSIBLE TO THE LOCATIONS SHOWN ON THE PLAN. FILTER FABRIC/COMPOST FILTER SOCKS SHOULD BE INSTALLED AT LEVEL GRADE. BOTH ENDS OF EAC ENCE SECTION SHOULD BE EXTENDED AT LEAST 8 FEET UPSLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. SUPPORT STAKES AND/OR OBJECTS OF CONSIDERABLE MASS SHALL B SPACED AT A MAXIMUM OF 8 FEET. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FILTER FENCE/FILTER SOCK.
3. s 4. /	STOCKPILED TOPSOIL MOUNDS SHALL BE STABILIZED BY APPLYING TEMPORARY SEED AND A PERIMETER SILT FENCE/FILTER SOCK SHALL BE INSTALLED AROUND EACH MOUND. TEMPORAR SEEDING SHALL BE PER PENNDOT FORM 408, SECTION 804(B). ALL STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS NEAR AS POSSIBLE TO THE LOCATION SHOWN ON THE PLAN. THE ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL B
5. F	CONSTANTLY MAINTAINED ON SITE. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAY SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE. REQUENT INSPECTION SHALL BE MADE ON THE FILTER FABRIC FENCE/COMPOST FILTER SOCK. DAMAGED FENCES/SOCK SHALL BE IMMEDIATELY REPLACED. SEDIMENT MUST BE REMOVED WHER ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHTS OF FENCE/SOCK. SILT FENCE/COMPOST FILTER SOCK WHICH HAS BEEN TOPPED OR UNDERMINED IS TO BE REPLACED WITH A ROC
PRO	FILTER OUTLET. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.
1. [2. F	DISTURBED EARTH TO BE IMMEDIATELY STABILIZED WITH SEEDING THROUGH THE USE OF HYDROSEEDING TECHNIQUES AND HAY OR STRAW MULCHING TO CONTAIN CONTAMINATED SOILS. PLASTIC LINER TO BE INSTALLED BELOW TEMPORARY TOPSOIL STOCKPILES. TOPSOIL STOCKPILE TO BE STABILIZED WITH SEEDING AND TO BE COVERED BY A TEMPORARY DAILY COVE
I 3. E	EXPOSED SOILS TO BE SPRINKLED WITH WATER ON A DAILY BASIS UNTIL MOIST TO PREVENT DUST GENERATION AND TRANSPORT.
4. l F	JTILIZE APPROVED PA DEP EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL FROM LEAVING THE SITE. METHODS INCLUDE, BUT ARE NOT LIMITED TO WHEEL WASH, SIL ENCE, INLET FILTER PROTECTION, ROCK CONSTRUCTION ENTRANCE, ETC.
	YU SIANDARD SEQUENCE OF CONSIRUCTION NUTES:
2. A S	T LEAST THREE (3) DAYS PRIOR TO RAIN GARDEN AND SUBSURFACE DETENTION BASIN INSTALLATION, THE INSPECTIONS COORDINATOR OF PWD (OFFICE: 215-685-6387) MUST BE CALLED TO CHEDULE AN INSPECTION (FOR EACH SMP).
3. A SI 4. U	LL STONE THAT MAKES UP THE (SUBSURFACE DETENTION BASIN) MUST REMAIN FREE OF SEDIMENT. IF SEDIMENT ENTERS THE STONE, THE CONTRACTOR MAY BE REQUIRED TO REMOVE THE EDIMENT AND REPLACE IT WITH CLEAN-WASHED STONE. PON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT INSPECTIONS OORDINATOR OF PWD (OFFICE: 215-685-6387) FOR A FINAL INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.
5. A	S SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE, THEY MUST BE STABILIZED. CESSATION OF ACTIVITY FOR FOUR (4) DAYS OR LONGER REQUIRES EMPORARY STABILIZATION.
э. ТІ 7. W	HE NEDES NUTICE OF TERMINATION (N.O.T.) MUST BE SUBMITTED TO PA DEP UPON COMPLETION OF CONSTRUCTION (WHEN APPLICABLE).

SEQUENCE OF CONSTRUCTION: ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE AND SHALL BE COMPLETED IN COMPLIANCE WITH PHILADELPHIA WATER DEPARTMENT AND CHAPTER 102 REGULATIONS AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LAND OWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND A REPRESENTATIVE FROM THE PHILADELPHIA WATER DEPARTMENT TO SCHEDULE A PRE-CONSTRUCTION MEETING. ALSO, AT LEAST 3 WORKING DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM, INC. AT 1-800-242-1776 FOR BURIED UTILITY LOCATIONS. BEFORE IMPLEMENTING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE PHILADELPHIA WATER DEPARTMENT AND PA DEPT. OF ENVIRONMENTAL PROTECTION (PADEP). THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 et seq. AND 287.1 et seq THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE PHILADELPHIA WATER DEPARTMENT AND PADEP AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL PROPOSED SOIL/ROCK SPOIL AND BORROW AREAS ON OR OFFSITE. 1. CONSTRUCTION WILL BEGIN UPON RECEIPT OF ALL REQUIRED PERMITS FROM CITY OF PHILADELPHIA AND PADEP. 2. PRIOR TO PROCEEDING WITH CONSTRUCTION, CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES. MAINTAIN AND PROTECT ALL EXISTING UTILITIES TO REMAIN AT ALL TIMES. 3. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE, THEY MUST BE STABILIZED. CESSATION OF ACTIVITY FOR FOUR (4) DAYS OR LONGER REQUIRES TEMPORARY STABILIZATION. 4. WATER PUMPED FROM WORK AREAS SHOULD BE TREATED FOR SEDIMENT REMOVAL PRIOR TO DISCHARGING TO A "SURFACE WATER". 5. DISTURBANCE OF THE PROJECT SITE MUST BE KEPT TO THE ABSOLUTE MINIMUM. 6. ALL SOIL MOVEMENT SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND APPLICABLE MUNICIPAL, STATE, AND FEDERAL REGULATIONS. 7. EXISTING PEDESTRIAN TRAFFIC SHALL BE MAINTAINED OR PROPERLY DIRECTED AROUND THE SITE THROUGHOUT THE DURATION OF THE PROJECT. 8. DELINEATE LIMITS OF DISTURBANCE AS OUTLINED ON THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS WITH ORANGE CONSTRUCTION FENCING. LINEAR UTILITY TRENCHES, AS OUTLINED ON THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS, DO NOT NEED TO BE DELINEATED WITH FENCE. UTILITY TRENCHES SHALL BE BACKFILLED AT THE END OF EACH DAY AND TEMPORARILY STABILIZED. CONTRACTOR SHALL NOT PERFORM ANY OTHER WORK OUTSIDE OF THE APPROVED LIMITS OF DISTURBANCE 9. INSTALL INLET PROTECTION. 10. INSTALL ROCK CONSTRUCTION ENTRANCE AT THE SITE ENTRANCE AS SHOWN ON THE APPROVED PLAN. EXISTING SUBGRADE TO BE REMOVED WITHIN THE FOOTPRINT OF THE ROCK CONSTRUCTION ENTRANCE FOR CONSTRUCTION PER THE APPROVED DETAIL. CONTRACTOR SHALL EXCAVATE ONLY ENOUGH AREA FOR WHICH ROCK CONSTRUCTION ENTRANCE CAN BE INSTALLED BY THE END OF EACH WORK DAY. CONSTRUCTION VEHICLES SHALL ENTER AND EXIT THE SITE THROUGH THE ENTRANCE. ROCK CONSTRUCTION ENTRANCE TO BE RESTORED AND SEDIMENT IS TO BE REMOVED ON A DAILY BASIS. 11. INSTALL COMPOST FILTER SOCK DOWN GRADE AND ON CONTOUR OF DISTURBED AREAS PER THE APPROVED PLAN. DISTURBED AREAS SHALL BE IMMEDIATELY STABILIZED AND GRADED TO SLOPE TOWARDS THE SITE AND COMPOST FILTER SOCK. 12. STAKE OUT AND INSTALL ORANGE CONSTRUCTION FENCE AROUND THE LIMITS OF ANY PROPOSED, OR EXISTING TO BE PROTECTED, INFILTRATION AREA (TREE TRENCHES AND RAIN GARDENS). CONTRACTOR TO MINIMIZE THE COMPACTION OF SOIL WITHIN THE INFILTRATION AREA. HEAVY MACHINERY IS PROHIBITED TO ENTER WITHIN THE LIMITS OF THE PROPOSED INFILTRATION AREA. 13. THE STAGING AREA SHALL BE ESTABLISHED ON THE SITE AND SHALL NOT IMPEDE RUNOFF FROM REACHING THE EXISTING INLETS. STAGING AREAS NOT CREATED ON EXISTING PAVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED DETAIL. 14. CONCRETE WASHOUT TO BE INSTALLED ADJACENT TO THE ROCK CONSTRUCTION ENTRANCE PER THE APPROVED PLANS. 15. CONTRACTOR SHALL TEMPORARILY STABILIZE THE SITE AT THE END OF EACH WORK DAY (WHENEVER POSSIBLE) AND AT THE START OF A RAINFALL EVENT. CESSATION OF EARTH DISTURBANCE ACTIVITIES FOR AT LEAST 4 DAYS REQUIRES TEMPORARY STABILIZATION. 16. CONTRACTOR TO HAVE PUMPED WATER FILTER BAG ONSITE AND AVAILABLE FOR DEWATERING OF EXCAVATED AREAS WHEN REQUIRED. FILTER BAG TO DISCHARGE OVER UNDISTURBED VEGETATED AREAS IN ACCORDANCE WITH THE APPROVED PLANS. 17. CONTRACTOR TO BEGIN DEMOLITION OF THE REMAINING EXISTING SITE FEATURES. REMOVE VEGETATION AND CONSTRUCTION OF THE FILL. DISTURBED AREAS SHALL BE STABILIZED WHENEVER POSSIBLE AND AS REQUIRED 18. PRIOR TO SMP INSTALLATION, THE INSPECTIONS COORDINATOR OF PWD (OFFICE: 215-685-6387) MUST BE CALLED TO SCHEDULE AN INSPECTION. 19. *INSTALL SUBSURFACE BASIN (SEE SUBSURFACE BASIN SEQUENCE OF CONSTRUCTION) AND OUTLET CONTROL STRUCTURE 20. *INSTALL MEDIA FILTER WATER QUALITY DEVICE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. 21. FOLLOWING THE CONSTRUCTION OF THE SMP, THE SITE IMPROVEMENTS INCLUDING THE SYNTHETIC TURF FIELD, CONCRETE PATHWAYS, PLAYGROUND SURFACING AND LANDSCAPING SHALL BE CONSTRUCTED, ENSURING ALL SMPS AND E&S BMPS ARE PROTECTED AND MAINTAINTED THROUGHOUT THE CONSTRUCTION PROCESS. 22. REMOVE ROCK CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT WHEN CONCRETE WORK IS COMPLETE AND CONSTRUCTION EQUIPMENT NO LONGER NEEDS ACCESS. 23. ONCE THE SITE AREA HAS ACHIEVED A MINIMUM OF 70% UNIFORM PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION, REMOVE TEMPORARY EROSION AND SEDIMENTATION BMP'S INCLUDING ROCK CONSTRUCTION ENTRANCES AND INLET PROTECTION. ANY AREA DISTURBED DURING THE REMOVAL OF A TEMPORARY BMP SHALL BE IMMEDIATELY STABILIZED WITH SEEDING AND STRAW MULCH. 24. ENSURE THAT ALL POST-CONSTRUCTION STORMWATER MANAGEMENT BMP'S ARE IN PLACE AND FUNCTIONING ACCORDING TO THE APPROVED PCSM PLANS, DETAILS, AND NARRATIVE. CONTACT THE PHILADELPHIA WATER DEPARTMENT FOR A FINAL INSPECTION AND SUBMIT RECORD DRAWINGS TO COMPLETE THE PROJECT. 25. REMOVAL AND DISPOSAL OF BITUMINOUS MATERIAL SHALL BE IN COMPLETED IN ACCORDANCE WITH DETAILS AND REGULATIONS OF THE MUNICIPALITY. PADEP, AND PENNDOT, AS APPLICABLE AND IS SUBJECT TO INSPECTION AND APPROVAL AS APPROPRIATE 26. CONTRACTOR TO COLLECT AND REMOVE ALL TRASH/DEBRIS ON SITE. *CRITICAL STAGE - DURING THE BMP INSTALLATION, A LICENSED PROFESSIONAL ENGINEER, REGISTERED ARCHITECT/LANDSCAPE ARCHITECT, PROFESSIONAL LAND SURVEYOR, GEOLOGIST, OR LICENSED CONTRACTOR MUST DOCUMENT THE INFORMATION AND MEASUREMENTS REQUIRED ON THE BMP CONSTRUCTION CERTIFICATION FORMS WITHIN THE CERTIFICATION PACKAGE. SEQUENCE OF CONSTRUCTION: SUBSURFACE BASIN **SEQUENCE OF CONSTRUCTION: MEDIA FILTER** 1. AT LEAST 3 DAYS PRIOR TO THE CONSTRUCTION OF THE DETENTION BASIN, THE CONTRACTOR 1 AT LEAST 3 DAYS PRIOR TO THE INSTALLATION OF THE MEDIA FILTER. THE CONTRACTOR SHALL CONTACT PWD INSPECTIONS COORDINATOR (OFFICE 215-685-6387). SHALL CONTACT PWD INSPECTIONS COORDINATOR (OFFICE 215-685-6387). 2. CONTRACTOR TO NOTIFY DESIGN ENGINEER 3 DAYS PRIOR TO CONSTRUCTION OF BASIN. 2. CONTRACTOR TO NOTIFY DESIGN ENGINEER 3 DAYS PRIOR TO INSTALLATION OF MEDIA FILTER. 3. EXCAVATE FOOTPRINT TO SPECIFIED ELEVATION. 3. EXCAVATE FOOTPRINT TO SPECIFIED ELEVATION. 4. INSTALL STORMWATER BASIN, INCLUDING LOW FLOW DEVICE, AS SPECIFIED BY MANUFACTURER IN THE AREA SPECIFIED ON PLANS 4. INSTALL MEDIA FILTER WATER QUALITY DEVICE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. 5. INSTALL MEDIA FILTER WATER QUALITY DEVICE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS 5. CONNECT PIPES TO MEDIA FILTER WATER QUALITY DEVICE IN LOCATIONS SPECIFIED ON 6. CONNECT PIPES TO STORMWATER BASIN IN LOCATIONS SPECIFIED ON PLANS. 6. BACKFILL TO GRADE. 7. BACKFILL TO GRADE. **EROSION AND SEDIMENTATION CONTROL NOTES:** 1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION. 2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER. APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING. 3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES. 4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION. 5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL. 6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN. 7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN. 8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED, IF NECESSARY, AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 20 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER. 9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION. THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT 10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THIS SITE. 11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED. 12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING. 13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS. 14. VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM LOTS. VEHICLES AND EQUIPMENT MAY ONLY ENTER AND EXIT THE CONSTRUCTION SITE VIA A STABILIZED ROCK CONSTRUCTION ENTRANCES ON HAINES STREET. 15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. THE OPERATOR WILL MAINTAIN AND MAKE AVAILABLE TO NORTHAMPTON COUNTY CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED. REPLACEMENT BMPS. OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED. 16. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION 17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER. 18. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, ELOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES. 19. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS - PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL. 20. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION. SLIPPAGE. SETTLEMENT. SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS. STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. 21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS, UNLESS DIRECTED OTHERWISE BY ENGINEER. 22. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS. 23. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS. 24. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES. 25. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

 ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
 IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR OTHER PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.

PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR MOTHER MOVEMENTS.
 EROSION AND SEDIMENT BMPS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPS. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION

30. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.

DISTRICT OR THE DEPARTMENT

31. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.

UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
 FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

ADDITIONAL EROSION AND SEDIMENTATION CONTROL NOTES:

 CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
 EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.

3. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.

 THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
 STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN

EROSION AND SEDIMENTATION MAINTENANCE:

1. DURING THE LIFE OF THE PROJECT, ALL EROSION AND SEDIMENTATION CONTROL DEVICES MUST BE PROPERLY MAINTAINED. MAINTENANCE SHALL INCLUDE THE INSPECTION OF EROSION CONTROL FACILITIES AFTER EACH MEASURABLE RUNOFF EVENT (>0.25 INCH) AND ON A WEEKLY BASIS, UNLESS MORE FREQUENT INSPECTION IS REQUIRED. IMMEDIATELY PERFORM CLEANOUT, REPAIR AND REPLACEMENT OF THE FACILITIES AS NEEDED. (REGRADE, RESEED AND MULCH WASHED OUT AREAS AS NEEDED.)

 UNTIL THE SITE IS STABILIZED ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO PWD/DEP UPON REQUEST.
 WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE NOTIFY THE PHILADELPHIA WATER DEPARTMENT OF THE FAILURE AND SHALL INCLUDE THE FOLLOWING INFORMATION:

3.1. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.

3.2. ALL STEPS TAKEN TO, REDUCE, ELIMINATE AND PREVENT THE RECURRENCE OF THE NON-COMPLIANCE.3.3. THE TIME FRAME TO CORRECT THE NONCOMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE

 ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED.
 SEEDED AREAS THAT HAVE WASHED AWAY SHALL BE FILLED AND GRADED, AS NECESSARY, AND THEN RESEEDED. A STRAW COVER SHALL BE APPLIED TO RETAIN THE SEED ALONG WITH AN ANCHORING METHOD DESCRIBED ON THE ATTACHED MULCH ANCHORING GUIDE, UNTIL IT HAS A CHANCE TO ROOT PROPERLY.

6. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

7. SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.

8. INLET FILTER BAGS SHALL BE CLEANED OUT OR REPLACED WHEN BAG IS HALF FULL.

SEDIMENT SHALL BE REMOVED FROM COMPOST FILTER SOCKS WHEN REACHING ONE HALF THE HEIGHT OF THE SOCK, IF USED.
 THE CONTRACTOR SHALL INSPECT ALL ROCK CONSTRUCTION ENTRANCES ON A DAILY BASIS AND SHALL ENSURE THAT SEDIMENT IS NOT BEING TRACKED ONTO PUBLIC STREETS. SEDIMENT THAT IS TRACKED ONTO PUBLIC STREETS SHALL BE COLLECTED AND RETURNED TO THE SITE OR OTHERWISE PROPERLY REMOVED BY A STREET SWEEPER.
 EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS, IF USED.

 FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN MAXIMUM 6 INCH LAYERED LIFTS AT 95% DENSITY.
 AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.

 BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY EFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE PA DEP. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
 ALL PUMPING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, AND FILTRATION SYSTEM, SUCH AS A TIGG FILTRATION SYSTEM - CANSORB CP-2000 AND DISCHARGED OVER NON-DISTURBED AREAS.

DEWATERING OR PUMPING OF GROUNDWATER MUST DISCHARGE TO CITY OWNED INFRASTRUCTURE, IF REQUIRED, CONTRACTOR SHALL OBTAIN AN INDUSTRIAL DISCHARGE PERMIT THROUGH THE INDUSTRIAL WASTE UNIT. DISCHARGE MUST BE CONNECTED DIRECTLY TO A COMBINED OR SANITARY SEWER LATERAL.
 PWD SHALL NOT BE RESPONSIBLE FOR ANY CLEANUP OR REPAIRS NEEDED ON CITY-OWNED INFRASTRUCTURE OR REPAIRS DUE TO FAILURE OF APPROVED EROSION CONTROL MEASURES OF CITY

OWNED INFRASTRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CLEANUP AND REPAIRS DUE TO FAILURE OF APPROVED EROSION CONTROL MEASURES. 18. IF CONTAMINATED SOILS ARE ENCOUNTERED DURING CONSTRUCTION, CONTACT OWNER.

ENTRANCES.

RECYCLING AND DISPOSAL NOTE:

THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 et seq. AND 287.1 et seq.

CONSTRUCTION WASTES INCLUDE, BUT NOT LIMITED TO: - INLET PROTECTION - PUMPED WATER FILTER BAGS

TEMPORARY SEEDING SITE PREPARATION :

TEMPORARY STABILIZATION OF ALL EXPOSED EARTH SURFACES WHERE CONSTRUCTION ACTIVITY HAS CEASE, INCLUDING TOPSOIL STOCKPILES SHALL BE STABILIZED IMMEDIATELY BY THE FOLLOWING METHODS AND MATERIALS.

APPLY ONE (1) TON OF AGRICULTURAL GRADE LIMESTONE PER ACRE PLUS FERTILIZER (10-10) AT THE RATE OF 1000 LBS PER ACRE AND WORK INTO SOIL WHEREVER POSSIBLE.

APPLY 100% ANNUAL RYEGRASS SEED AT A RATE OF 4 TO 5 LBS PER 1000 SQUARE FEET.
 AFTER SEEDING MULCH WITH HAY OR STRAW AT A RATE OF THREE (3) TONS PER ACRE.

PERMANENT SEEDING SITE PREPARATION:

PERMANENT STABILIZATION OF THE ALL EXPOSED EARTH SURFACES AFTER THE COMPLETION OF THE SITE GRADING AND IMPROVEMENTS SHALL BE ACCOMPLISHED BY THE FOLLOWING METHODS AND MATERIALS:

 AFTER INSTALLATION OF THE NEEDED SURFACE WATER CONTROL MEASURES, PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
 OBTAIN SOILS TESTING FROM AN INDEPENDENT LABORATORY TO DETERMINE NECESSARY

SOILS MODIFICATIONS.
IN THE ABSENCE OF SOILS TESTING, APPLY AGRICULTURAL GRADE LIMESTONE AT THE MINIMUM RATE OF SIX TONS LIMESTONE PER ACRE (276 LBS. PER 1,000 SQUARE FEET).
IN THE ABSENCE OF SOILS TESTING, WORK IN FERTILIZER AT THE RATE OF 1000 LBS. OF

10-20-20 OR EQUIVALENT PER ACRE. SMOOTH AND FIRM SEEDED AREAS WITH CULTIPACKER, OR OTHER SIMILAR EQUIPMENT, PRIOR TO SEEDING.

APPLY SEED. COVER GRASS SEEDS WITH 1/4 INCH OF TOPSOIL WITH SUITABLE EQUIPMENT.

 APPLY STRAW MULCH AT A RATE OF 3.0 TON PER ACRE IMMEDIATELY AFTER SEEDING.
 USE SOD WHERE THERE IS A HEAVY CONCENTRATION OF WATER AND IT IS IMPORTANT TO GET A QUICK VEGETATIVE COVER IN ORDER TO PREVENT GULLYING. USE SOD AT THE DIRECTION OF THE MUNICIPAL ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

10. HYDROSEEDING SHALL BE AN ACCEPTABLE ALTERNATIVE TO THE ABOVE SEEDING WHEN PERFORMED IN ACCORDANCE WITH PENNDOT PUB. 408 SECTIONS 804 AND 805 AND APPROVED BY THE SITE ENGINEER.

PERMANENT SEEDING NOTES:

1. SPREAD AND FINE GRADE 12" TOPSOIL ON ALL AREAS TO BE PERMANENTLY SEEDED.

2. BEFORE SEEDING, APPLY APPROPRIATE SOIL MODIFICATIONS.

3. INSTALL EROSION/SEED BLANKET WHERE NEEDED.

4. WATER AND MAINTAIN ALL LAWN AREAS.

 RESEED BARE OR THIN AREAS AS DIRECTED BY THE ENGINEER.
 IF GROUND COVER IS NOT OTHERWISE SPECIFIED ON THE APPROVED LANDSCAPING PLANS, USE SEED MIXTURE 2, AS SHOWN IN TABLE 11.4.

7. APPLY STRAW MULCH AT 3.0 TON/ACRE IMMEDIATELY AFTER SEEDING.

8. APPLY STRAW AND MULCH DURING NON-GROWING SEASONS (NOVEMBER - MARCH)



CALL BEFORE YOU DIG BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA

CALL 1-800-242-1776 PA. ACT 287 OF 1974 REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL OR BLAST PENNSYLVANIA ONE PAGE STREAT GE 2 - IFB SERIAL NUMBER(S): 20212383950 NOT FOR CONSTRUCTION 06/02/2023

UNFORSEEN EROSIVE CONDITIONS NOTES:

- 1. SHOULD UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMENT DISPLACEMENT. STOCKPILES OF WOOD CHIPS, HAY BALES, CRUSHED STONE AND OTHER MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.
- 2. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, D.E.P., SUB-PART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
- CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT EXISTING TREES AND SHRUBS WHICH ARE TO REMAIN IN PLACE. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGES, INCLUDING REPLACING TREES OR SHRUBS IN KIND IF NECESSARY
- IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING REGULARLY TRACKED ONTO PUBLIC STREETS, THE CONTRACTOR SHALL BE PREPARED, UPON WRITTEN NOTICE GIVEN BY THE CITY OF PHILADELPHIA, TO PROVIDE TIRE WASHING FACILITIES AT ALL ROCK CONSTRUCTION

CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE:

STANDARD NOTE TO COMPLY WITH NPDES CHECKLIST ITEM #2.B.XV (#3.B.XV FOR AN INDIVIDUAL NPDES PERMIT)

IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE CONTRACTOR.

CLEAN FILL IS DEFINED AS: UNCONTAMINATED. NON-WATER SOLUBLE. NON-DECOMPOSABLE. INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE). CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL". ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIEY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS. ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE

HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THESE REGULATIONS ARE AVAILABLE ON-LINE AT <u>WWW.PACODE.COM <hr scylectrology</u>. CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE NOTES:

WITH THE EXCEPTION OF SITES ENROLLED IN DEP'S LAND RECYCLING AND ENVIRONMENTAL REMEDIATION STANDARDS (ACT 2) PROGRAM, ALL FILL MATERIAL EXCAVATED AND USED ON-SITE, IMPORTED TO THE SITE, AND EXPORTED FROM THE SITE, MUST MEET THE DEFINITION OF CLEAN FILL, AS DEFINED IN THIS PERMIT. REGULATED FILL MAY ONLY BE USED ON ACT 2 SITES, IN ACCORDANCE WITH STANDARDS ESTABLISHED BY THAT PROGRAM.

THE PERMITTEE SHALL CONDUCT ENVIRONMENTAL DUE DILIGENCE TO VERIFY THAT FILL EXCAVATED ON-SITE THAT IS USED TO ESTABLISH FINAL GRADE, FILL IMPORTED TO THE PROJECT SITE, AND FILL EXPORTED FROM THE PROJECT SITE IS CONSIDERED CLEAN FILL. IF DUE DILIGENCE RESULTS IN EVIDENCE OF A RELEASE, AS DEFINED IN DEP'S MANAGEMENT OF FILL POLICY (285-2182-773), THAT HAS AFFECTED THE FILL MATERIAL, THE PERMITTEE SHALL TEST THE MATERIAL TO DETERMINE WHETHER THE MATERIAL QUALIFIES AS CLEAN FILL, AND FORM FP-001 (CERTIFICATION OF CLEAN FILL) MUST BE COMPLETED, RETAINED BY THE PERMITTEE OR THE PROPERTY OWNER ON-SITE, AND BE MADE AVAILABLE TO DEP/PWD UPON REQUEST.

IN THE EVENT THAT FILL EXCAVATED ON-SITE THAT IS USED TO ESTABLISH FINAL GRADE, FILL IMPORTED TO THE PROJECT SITE, OR FILL EXPORTED FROM THE PROJECT SITE IS FOUND TO BE REGULATED FILL DURING THE TERM OF PERMIT COVERAGE, WHERE THE UTILIZATION OF THE REGULATED FILL WILL REQUIRE A PERMIT FROM DEP'S WASTE MANAGEMENT PROGRAM, EARTH DISTURBANCE ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT THE PERMITTEE OBTAINS ALL

NECESSARY PERMITS OR APPROVALS FROM DEP, INCLUDING NEW NPDES PERMIT COVERAGE.

IF THE PERMITTEE BECOMES AWARE DURING EARTH DISTURBANCE ACTIVITIES THAT SOILS IN THE AREA OF EARTH DISTURBANCE CONTAIN CONCENTRATIONS OF REGULATED SUBSTANCES EXCEEDING THE RESIDENTIAL MEDIUM-SPECIFIC CONCENTRATIONS FOR SOIL IN 25 PA. CODE CHAPTER 250, THE PERMITTEE SHALL NOTIFY DEP IN ACCORDANCE WITH PART A III.D OF THIS PERMIT AND CEASE EARTH DISTURBANCE ACTIVITIES IN AREAS OF KNOWN SOIL CONTAMINATION UNTIL AUTHORIZED TO RESUME BY DEP/PWD.

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SYSTEM

NOTES:

IMMEDIATELY.

COMPACTION

PUNCTURE	ASTM D-4833	110 LB				
MULLEN BURST	ASTM D-3786	350 PSI				
UV RESISTANCE	ASTM D-4355	70%				
AOS % RETAINED	ASTM D-4751	80 SIEVE				
A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.						

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER. WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT

RESUME UNTIL THE PROBLEM IS CORRECTED. **DETAIL-** PUMPED WATER FILTER BAG



NOTES:

N.T.S.

FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.

FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES. SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE. ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (STANDARD CONSTRUCTION DETAIL # 4-6).

FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.





N.T.S

- FIBERGLASS 'T' POST, 6'-6" LONG, SPACED AT 8' O.C. (MAX.)

- FASTEN FENCE TO POST AS RECOMMENDED BY MANUFACTURER - HIGH VISIBILITY ORANGE POLYETHYLENE SAFETY FENCE, 46" HIGH (MIN.) - PRE-DRILL EXISTING SURFACE, IF REQUIRED, FOR POST INSTALLATION

----- EXISTING GRADE



NOTES: A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS

INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE. COMPOST SOCKS SHALL BE STAKED IN THE MANNER RECOMMENDED BY THE MANUFACTURER AROUND THE PERIMETER OF THE GEOMEMBRANE SO AS TO FORM A RING WITH THE ENDS OF THE DOCK LOCATED AT THE UPSLOPE CORNER.

CARE SHALL BE TAKEN TO ENSURE CONTINUOUS CONTACT OF THE SOCK WITH THE GEOMEMBRANE AT ALL LOCATIONS. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER FILTER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

MAINTENANCE: ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY, DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY. ACCUMULATED MATERIALS SHALL BE REMOVED WHEN THEY REACH 50% CAPACITY. GEOMEMBRANE SHALL BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

> PACKAGE 2 - IFB 06/02/2023

NOT FOR CONSTRUCTION NPDES PERMIT #PAC510302 PWD TRACKING #FY22-KING-6800-01





EXISTING PERVIOUS AREA

GENERAL INFORMATION:

SITE: 4901 KINGSESSING AVE PHILADELPHIA, PA 19143 OPA#783249500 CLIENT: CITY OF PHILADELPHIA PARKS AND RECREATION 1515 ARCH STREET, 10TH FLOOR PHILADELPHIA, PA 19102 **ENGINEER:** PENNONI ASSOICATES 1900 MARKET STREET, SUITE 300 PHILADELPHIA, PA 19103

SHEET NO. 1, DATED 03/12/2021.

REFERENCES:

1. BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A PLAN BY AMERICAN ENGINEERS GROUP, LLC ENTITLED "KINGSESSING RECREATION CENTER TOPOGRAPHIC SURVEY",

PRE-CONSTRUCTION DRAINAGE AREA (ON-SITE)					
	AREA (SF)	AREA (AC)	CN		
PRE-IMPERVIOUS (80% OF TRUE IMPERVIOUS)	20,618	0.47	98		
PRE-MEADOW (20% OF TRUE IMPERVIOUS MODELED AS MEADOW)	5,154	0.12	58		
GRASS (MODELED AS MEADOW)	138,203	3.17	58		
TOTAL	163,975	3.76			

EXISTING	
	LLOLIND

----- EXISTING RIGHT OF WAY LINE (APPROXIMATE) EXISTING IMPERVIOUS AREA EXISTING BUILDING = EXISTING CURB EXISTING SIDEWALK - EXISTING EDGE OF MACADAM/GRAVEL ----- EXISTING TRAFFIC MARKING EXISTING FENCE 彩 EXISTING TREE ----- EXISTING MAJOR CONTOUR ----- EXISTING MINOR CONTOUR EXISTING SIGN 0 EXISTING BOLLARD D EXISTING UTILITY POLE ☆ ⇔—── EXISTING LIGHT EXISTING INLET ------ s ------ EXISTING SEWER ——— D ——— EXISTING STORM SEWER ——— W ——— EXISTING WATER LINE ------- EXISTING UNDERGROUND TELEPHONE LINE ------ EXISTING UNDERGROUND ELECTRIC ------ EXISTING OVERHEAD WIRES EXISTING UTILITY STRUCTURES E W 1 S D



CALL BEFORE YOU DIG BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA CALL 1-800-242-1776 PA. ACT 287 OF 1974 REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL OR BLAST PENNSYLVANIA ONE-CALL SYSTEM, INC. SERIAL NUMBER(S): 20212583952

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GENERAL INFORMATION:

4901 KINGSESSING AVE PHILADELPHIA, PA 19143 OPA#783249500	PROPOSED DRAINAGE AREA - UB-1			PROPOSED DRAI	NAGE AREA - ST	ORMWATER TRA	ADING BYPASS	
CLIENT:		AREA (SF)	AREA (AC)	CN				
CITY OF PHILADELPHIA PARKS AND RECREATION						AREA (SF)	AREA (AC)	CN
1515 ARCH STREET, 10TH FLOOR PHILADELPHIA, PA 19102	PERVIOUS	37,643	0.86	61	DCIA	1 131	0.03	08
ENGINEER:	SYNTHETIC TURF DCIA	93,039	2.14	98		1,101	0.03	90
					TOTAL	1,131	0.03	
PENNONI ASSOICATES 1900 MARKET STREET, SUITE 300 PHILADELPHIA, PA 19103	DCIA	12,355	0.28	98				
	TOTAL	143,037	3.28					
REFERENCES:								

PLAN BY AMERICAN ENGINEERS GROUP, LLC ENTITLED

PROPOSED DRAINAGE AREA - PLAYGROUND BYPASS					
	AREA (SF)	AREA (AC)	CN		
PERVIOUS	8,517	0.20	61	PERVI	
POROUS PLAYGROUND SURFACE (DIC)	6,614	0.15	70	тот	
DCIA	219	0.01	98		
PAVEMENT DIC	2,435	0.06	98		
TOTAL	17,785	0.41			

REA - LANDSCAPE BYPASS					
	AREA (AC)	CN			
	0.05	61			
	0.05				

EXISTING LEGER	ND
	EXISTING PROPERTY LINE (APPROXIMATE) EXISTING RIGHT OF WAY LINE (APPROXIMATE)
	EXISTING BUILDING
	EXISTING CURB
A	EXISTING SIDEWALK
	EXISTING EDGE OF MACADAM/GRAVEL
	EXISTING TRAFFIC MARKING
× ×	EXISTING FENCE
and the second s	EXISTING TREE
	EXISTING MAJOR CONTOUR
4	EXISTING MINOR CONTOUR
-0-	EXISTING SIGN
•	EXISTING BOLLARD
ð	EXISTING UTILITY POLE
$\dot{\bigtriangledown} \diamond \neg \Theta$	EXISTING LIGHT
	EXISTING INLET
s	EXISTING SEWER
<i>D</i>	EXISTING STORM SEWER
<i>W</i>	EXISTING WATER LINE
<i>UT</i>	EXISTING UNDERGROUND TELEPHONE LINE
<i>UG</i>	EXISTING GAS LINE
UE	EXISTING UNDERGROUND ELECTRIC
OE	EXISTING OVERHEAD WIRES
. 候 🖓	EXISTING UTILITY STRUCTURES

PWD TRACKING #FY22-KING-6800-01





GENERAL INFORMATION:

SITE: 4901 KINGSESSING AVE PHILADELPHIA, PA 19143 OPA#783249500 CLIENT: CITY OF PHILADELPHIA PARKS AND RECREATION 1515 ARCH STREET, 10TH FLOOR PHILADELPHIA, PA 19102 ENGINEER: PENNONI ASSOICATES 1900 MARKET STREET, SUITE 300

REFERENCES:

PLAN BY AMERICAN ENGINEERS GROUP, LLC ENTITLED

DRAINAGE AREA	IMPERVIOUS AREA SF (AC.)	PERVIOUS AREA SF (AC.)	то ⁻
l-1	6,445 (0.15)	5,786 (0.13)	12
I-2	2,473 (0.06)	847 (0.02)	3,
I-3	2,794 (0.06)	20,451 (0.47)	23
MH-1 TO MH-2	59,872 (1.37)	7,933 (0.18)	67
MH-2 TO UB-1	13,544 (0.31)	809 (0.02)	14
MH-3 TO CO-6	20,266 (0.47)	1,817 (0.04)	22
PLAYGROUND BYPASS	2,535 (0.06)	15,250 (0.35)	17
STORMWATER TRADING BYPASS	1,131 (0.03)	0 (0.00)	1,
LANDSCAPE BYPASS	0 (0.00)	2,022 (0.05)	2
TOTAL	109,179 (2.51)	54,796 (1.26)	16

06/02/2023

PWD TRACKING #FY22-KING-6800-01









C 3	EXTENTS OF KINGSESSING LIBRARY IMPROVEMENTS
	PLANT BED; SEE L-106 FOR MORE INFORMATION
— x— x—	EXISTING FENCE TO REMAIN
	PAVEMENT CENTERLINE
-Q-	EXISTING LIGHT TO REMAIN
0	

© POINT OF BEGINNING (P.O.B.)

SITE LAYOUT NOTES:

- 1. SITE SURVEY DATA WAS PROVIDED BY AMERICAN ENGINEERS GROUP, LLC TO SALT DESIGN STUDIO ON MAY 10, 2021.
- ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REGULATIONS.
- 3. VERIFY DIMENSIONS AND ACCEPT CONDITIONS BEFORE PROCEEDING
- 4. THESE CONSTRUCTION DOCUMENTS MAKE NO REPRESENTATIONS AS TO THE MEANS AND METHODS OF CONSTRUCTION.

WITH ANY WORK. REPORT DISCREPANCIES TO LANDSCAPE ARCHITECT.

- 5. DO NOT SCALE DRAWINGS; CONSULT LANDSCAPE ARCHITECT FOR ANSWERS TO ALL DIMENSIONAL QUESTIONS.
- 6. CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING TO LOCATE AND MARK EXISTING UTILITIES.
- 7. COORDINATE ALL UTILITY WORK WITH THE LOCATIONS AND FINAL GRADES OF ALL OTHER WORK AS SHOWN ON THE ENGINEER'S DRAWINGS. WHERE CONFLICTS OCCUR, NOTIFY THE ENGINEER AND LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF UTILITIES TO MAKE ADJUSTMENTS AS REQUIRED. IF NEW UTILITIES HAVE BEEN INSTALLED IN CONFLICT WITH CURBS, WALLS, PAVING, OR OTHER STRUCTURES AT DEPTHS TOO SHALLOW FOR PROPER COVER BENEATH NEW GRADES OR INCORRECT FINISHED GRADE, THEY SHALL BE ADJUSTED OR REMOVED AND REPLACED AS NECESSARY AT CONTRACTOR'S EXPENSE.
- 8. CONTRACTOR TO OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL OF LAYOUT OF ALL SITE IMPROVEMENTS PRIOR TO INSTALLATION.
- 9. DIMENSIONS ARE PROVIDED TO EDGE OF PAVEMENT, FRONT OF CURB, FACES OF WALLS, OR OBJECT CENTERLINE, UNLESS NOTED OTHERWISE.
- 10. ELEMENTS SHALL BE PARALLEL OR PERPENDICULAR, UNLESS NOTED OTHERWISE.
- 11. PROVIDE SLOPES ON PAVEMENT SURFACES AS INDICATED ON GRADING AND DRAINAGE PLAN TO ALLOW FOR POSITIVE DRAINAGE. 11.1. NO PONDING SHALL BE PERMITTED ON FINISHED GRADE OF SITE PAVEMENTS. AREAS WHERE PONDING OCCURS SHALL BE REGRADED AND REPAIRED AT CONTRACTOR'S EXPENSE.
- 12. SEE SHEET L-103-R.2 FOR LAYOUT OF SITE FURNISHINGS AND EQUIPMENT.
- 13. SEE SHEET L-104-R.2 FOR LAYOUT OF SITE LIGHTING.





CD	EXTEN	ITS OF KINGSESSING RY IMPROVEMENTS
	1 L-501-R.2	ASPHALT PAVEMENT
	1 L-105-R.2	COLORED PAVEMENT COATING ON ASPHALT PAVEMENT; SEE SPECS
++++++++++++++++++++++++++++++++++++	2 L-501-R.2	CONCRETE PAVEMENT
	4 L-501-R.2	POURED-IN-PLACE SAFETY SURFACING COLOR 1; SEE SPECS
	4 L-501-R.2	POURED-IN-PLACE SAFETY SURFACING COLOR 2; SEE SPECS
	PLANT B	ED; SEE L-106-R.2 FOR MORE INFORMATION
- x x	EXISTIN	G FENCE TO REMAIN

SITE MATERIALS NOTES:

- 1. SITE SURVEY DATA WAS PROVIDED BY AMERICAN ENGINEERS GROUP, LLC TO SALT DESIGN STUDIO ON MAY 10, 2021.
- 2. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REGULATIONS.
- 3. THESE CONTRACT DOCUMENTS MAKE NO REPRESENTATIONS AS TO THE MEANS AND METHODS OF CONSTRUCTION.
- 4. EXPANSION JOINTS TO OCCUR AT 10'-0" O.C. MAX. AND WHERE CONCRETE CURBING AND PAVEMENT MEETS ALL EXISTING WALLS, PAVEMENTS, CURBS, AND OTHER SITE ELEMENTS.
- 5. COORDINATE INSTALLATION OF FURNISHINGS AND EQUIPMENT FOUNDATIONS PRIOR TO INSTALLING SITE PAVEMENTS.







EXISTING LIGHT TO REMAIN

SITE FURNISHINGS & EQUIPMENT NOTES:

- 1. SITE SURVEY DATA WAS PROVIDED BY AMERICAN ENGINEERS GROUP, LLC TO SALT DESIGN STUDIO ON MAY 10, 2021.
- ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REGULATIONS.
- 3. THESE CONTRACT DOCUMENTS MAKE NO REPRESENTATIONS AS TO THE MEANS AND METHODS OF CONSTRUCTION.
- 4. CONTRACTOR TO OBTAIN THE LANDSCAPE ARCHITECT'S
- APPROVAL OF LAYOUT OF ALL SITE FURNISHINGS AND EQUIPMENT PRIOR TO INSTALLATION. 5. DIMENSIONS ARE PROVIDED TO EDGE OF PAVEMENT, FACES OF
- WALLS, EDGE OF SITE FURNISHING OR FENCE, OR CENTERLINE OF PLAY EQUIPMENT, UNLESS NOTED OTHERWISE.
- 6. ELEMENTS SHALL BE PARALLEL OR PERPENDICULAR, UNLESS NOTED OTHERWISE.
- 7. SEE FURNISHINGS & EQUIPMENT SCHEDULES BELOW FOR QUANTITIES, PRODUCT, AND MANUFACTURER INFORMATION.
- 8. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT FOUNDATIONS TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL IN COORDINATION WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION. SHOP DRAWINGS ALSO INCLUDE PLANS SHOWING LAYOUT OF <u>ALL</u> EQUIPMENT FOUNDATIONS WITHIN SAFETY SURFACE AREA FOR PLAY AREA.
- 9. FOUNDATIONS FOR ALL FURNISHINGS AND EQUIPMENT SHALL BE LOCATED ON SITE AND REVIEWED IN FIELD WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. NO POURED-IN-PLACE SAFETY SURFACE SHALL BE INSTALLED UNTIL FOUNDATIONS FOR FURNISHINGS AND EQUIPMENT ARE INSTALLED.

SITE FURNISHINGS SCHEDULE - BASE SCOPE:

Q

KEY	ITEM	QTY	PRODUCT NAME & MODEL NUMBER	MANUFACTURER	OPTIONS, FINISHES & COLORS	INSTALLATION
вв	BACKED BENCH	16	BENCH 165, MODEL NO. 165-60D	DU MOR	6' CAST BENCH, DOUGLAS FIR SEAT; WITH CENTER AND END ARMRESTS; POWDERCOAT COLOR: BLACK	SURFACE MOUNT
BR	BIKE RACK	3	BIKE RACK 83, MODEL NO. 83-00/S-2	DU MOR	POWER COATED BIKE RACK; SURFACE MOUNT; POWERCOAT COLOR: BLACK	SURFACE MOUNT
тз	FIXED PEDESTAL TABLE, 3 SEATS (ADA)	2	TABLE 76, MODEL NO. 76-43PL	DU MOR	4' SQUARE TABLE, 3 SEATS, 4 X 4 PLASTIC; PLASTIC COLOR: CEDAR; POWERCOAT COLOR: BLACK	SURFACE MOUNT
T4	FIXED PEDESTAL TABLE, 4 SEATS	3	TABLE 76, MODEL NO. 76-44PL	DU MOR	4' SQUARE TABLE, 4 SEATS, 4X4 PLASTIC; RECYCLED PLASTIC COLOR: CEDAR; POWERCOAT COLOR: BLACK	SURFACE MOUNT
РТ	PICNIC TABLE	1	TABLE 72, MODEL NO. 72-80PL	DU MOR	8' LENGTH GALVANIZED PICNIC TABLE; RECYCLED PLASTIC COLOR: CEDAR	SURFACE MOUNT
TR	TRASH RECEPTACLE	2	RECEPTACLE 157, MODEL NO. 157-32SH-BT	DU MOR	32-GALLON STEEL RECEPTACLE WITH SHIELD AND BONNET COVER WITH 10" OPENING; POWERCOAT COLOR: BLACK	SURFACE MOUNT
RR	RECYCLING RECEPTACLE	2	RECEPTACLE 157, MODEL NO. 157-32SH-BT- RC	DU MOR	32-GALLON STEEL RECEPTACLE WITH SHIELD, RECYCLE LID WITH 4" OPENING, AND BONNET COVER WITH 10" OPENING; POWERCOAT COLOR: RECYCLE BLUE	SURFACE MOUNT
RB	REMOVABLE BOLLARD	5	BOLLARD 400, MODEL NO. 400-42/S-1SL	DU MOR	42" HEIGHT; S-1SL GROUND SLEEVE WITH CAP; POWDERCOAT COLOR: BLACK	EMBEDDED IN CONCRETE WITH GROUND SLEEVE

PLAY EQUIPMENT SCHEDULE - BASE SCOPE:

KEY	ПЕМ	QTY	PRODUCT NAME	PRODUCT NO.	MANUFACTURER	OPTIONS & COLORS	MAX. FALL HT.	INCLUSIVE
A	10-SEAT SWING FRAME	1	SWING FRAME, 10 SEAT, 8-FT. HEIGHT	KSW9210	KOMPAN	ANTIWRAP SUSPENSIONS; LEGS, CONNECTION & CROSSBEAM STEEL COLOR: ORANGE RAL2010	4'-8*	N/A
8	SWING SEAT: BABY SWINGS	2	SWING SEAT BABY	SW990023	KOMPAN	STAINLESS STEEL CHAINS; ANTI-WRAP MOUNT; SWING COLOR: BLACK	N/A	✓
c	SWING SEAT: ADA 2-5	1	SWING SEAT ADA 2-5	567850	KOMPAN	STAINLESS STEEL CHAINS; ANTI-WRAP MOUNT; SWING COLOR: YELLOW	N/A	✓
D	SWING SEAT: STANDARD BELT	2	SWING SEAT, STAINLESS, 8 FT	SW990011	KOMPAN	STAINLESS STEEL CHAINS; ANTI-WRAP MOUNT; SWING COLOR: BLACK	N/A	✓
٤	SWING SEAT: ADA 5-12	1	SWING SEAT ADA 5-12	567855	KO MPAN	STAINLESS STEEL CHAINS; ANTI-WRAP MOUNT; SWING COLOR: YELLOW	N/A	✓
٤	LITTLE KIOS OBSTACLE COURSE	1	DOUBLE ROPE TRAIL	COR20830	KOMPAN	COLOR: ULTRAMARINE BLUE	6'-7*	✓
G	SPINNER BOWL	2	SPINNER BOWL	ELE400024	KOMPAN	COLOR: ORANGE RAL2010	2'-0*	✓
н	GOBLET DRUM	2	RHAPSODY ^S GOBLET DRUM JUNIOR	228215	LANDSCAPE STRUCTURES	COLORS: PROSHIELD FINISH - LIMON, RECYCLED PER MALENE - SKY	N/A	✓
ı	KETTLE DRUM	2	RHAPSODY ^s XETTLE DRUM JUNIOR	228217	LANDSCAPE STRUCTURES	COLORS: PROSHIELD FINISH - LIMON, RECYCLED PER MALENE - SKY	N/A	✓
J		2	RHAPSODY ^S XUNDU DRUM JUNIOR	228218	UANDSCAPE STRUCTURES	COLORS: PROSHIELD FINISH - UMON, RECYCLED PER MALENE - SKY	N/A	~
ĸ	BIG KIDS OBSTACLE COURSE	1	GIANT REED	COR104402	KOMPAN	STEEL COLOR: ORANGE RAL2010; ROPE COLOR: ULTRAMARINE BLUE RAL5002; MEMBRANE COLOR(S): TBD	9'-0*	✓
ι	SPICA SPINNER	2	SPICA 1	GXY8014	KOMPAN	COLORS: STANDARD	3'-3'	~

SITE SIGNAGE SCHEDULE - BASE SCOPE:

SIGN NO.	PPR CODE	SIGN TYPE	SITE LOCATION	NOTES
IDENTIFICA	ATION (ID) & II	NFORMATION (INFO) SIGNS	•	
1	PID.4	PARK ID & INFO	KINGSESSING AVENUE SITE ENTRANCE	
2	PID.4	PARK ID & INFÓ	SITE ENTRANCE AT CORNER OF S. 51ST STREET & KINGSESSING AVENUE	IDENTIFIES PARK NAME, PPR BRAND, RULES/PERMITS,
3	PID.4	PARK ID & INFO	SITE ENTRANCE AT CORNER OF S. 51ST STREET & CHESTER AVENUE	HOURS/CONTACT, SECURITY, & REGULATORY INFO
3	PID.4	PARK ID & INFO	CHESTER AVENUE SITE ENTRANCE	
4	PLY.1	PLAYGROUND ID & INFO	BIG KIDS PLAY AREA	
5	PLY.1	PLAYGROUND ID & INFO	SWINGS AREA	IDENTIFIES PLAYGROUND, RULES OF USE, & EMERGENCY INFO
6	PLY.1	PLAYGROUND ID & INFO	LITTLE KIDS PLAY AREA	
7	RUL.1	COURT ID & INFO	TENNIS COURTS	
8	RUL.1	COURT ID & INFO	BASKETBALL COURTS	
9	RUL.1	FIELD ID & INFO	BASEBALL FIELD	IDENTIFIES COURT & COURT RULES, FIELD & FIELD RULES
10	RUL.1	FIELD ID & INFO	SOCCER FIELD	
11	RUL.1	COURT ID & INFO	WALLBALL COURT	
1 2	PID.1	POOL AREA I D & INFO	POOL ENTRANCE	IDENTIFIES POOL INFO
13	RUL.4	POOL AREA ID & INFO	POOL ENTRANCE	IDENTIFIES POOL AREA RULES
14	PWF.1	PARK WAYFINDING	PICNIC LAWN	PROVIDES PEDESTRIAN WAYFINDING
15	RUL.6	SINGLE MESSAGE RULE	PICNIC LAWN	NO ANIMALS
16	RUL.6	SINGLE MESSAGE RULE	PICNIC LAWN	NO ANIMALS
17	RUL.6	SINGLE MESSAGE RULE	KINGSESSING AVENUE SITE ENTRANCE	NO ANIMALS
18	RUL.6	SINGLE MESSAGE RULE	SITE ENTRANCE AT CORNER OF 51ST STREET & CHESTER AVENURE	NO ANIMALS
19	RUL.6	SINGLE MESSAGE RULE	SITE ENTRANCE AT CORNER OF 51ST STREET & KINGSESSING AVENURE	NO ANIMALS
20	RUL.6	SINGLE MESSAGE RULE	CHESTER AVENUE SITE ENTRANCE	NO ANIMALS
21	RUL.6	SINGLE MESSAGE RULE	MULTI-SPORTS FIELD	NO ANIMALS
22	RUL.6	SINGLE MESSAGE RULE	PLAYGROUND	NO ANIMALS





ITEM	SYMBOL	QTY	LABEL	PRODUCT NAME & MODEL NUMBER	MANUFACTURER	ARRANGEMENT	LUMINAIRE / FIXTURE OPTIONS	POST OPTIONS
PEDESTRIAN SCALE POLE MOUNTED AREA LIGHT	∞	11	PL1	DISCERA 4 GEN5, MODEL NO. DSC4L	SELUX	L1 SINGLE LONG ARM	CUTOFF OPTICS: NO LIGHT ABOVE 90 DEGREES; COLOR TEMPERATURE: 4000K; MINIMUM COLOR RENDERING INDEX: 70; MINIMUM LUMENS PER WATT: 80 LUMENS/WATT; WITH OPTIONAL DIMMING	12'-0" LENS HEIGHT; A35 ROUND STRAIGHT ALUMINUM POLE; BC5 STANDARD BASE COVER (A35)



SITE LIGHTING NOTES:

- 1. SITE SURVEY DATA WAS PROVIDED BY AMERICAN ENGINEERS GROUP, LLC TO SALT DESIGN STUDIO ON MAY 10, 2021.
- 2. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REGULATIONS.
- 3. THIS PLAN IS FOR LAYOUT PURPOSES ONLY. SEE MEP DRAWINGS FOR LOCATION OF ELECTRICAL LINE AND ASSOCIATED UTILITIES.
- 4. UTILITIES AND BELOW GRADE STRUCTURES TO BE LOCATED PRIOR TO COMMENCEMENT OF LIGHT FIXTURE INSTALLATION.
- 5. DIMENSIONS FOR LIGHT FIXTURES ARE TO CENTER OF LIGHT POLE CONCRETE PIER, UNLESS NOTED OTHERWISE.
- 6. ALL CONCRETE PIERS SHALL BE SPACED EQUALLY FROM CORNERS OR EDGES OF PAVEMENT, UNLESS NOTED OTHERWISE.



0.0 0.0 0.0 0.0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0.0 0.0 0.0 0.0 0.0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0.0 0.0 0.0 0.0 0,0 0,0 0,0 0,0 0,0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0.0 0.0 0.0 0,0 0.0 0.0 0.0 0,0 0,0 0,0 0,0 0.0 0.0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0,2 0,7 0,0 0.0 0.0 0.0 0.0 0.0 0.0 0, 0, 8, 8, 0, 0, 2, 2, 6 0.0 0.0 0.0 0.0 0.0 0.7 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 5,5 × 1,2 0,2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 2.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0,0 0,0 0,0 0,0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 SITE PHOTOMETRY PLAN - BASE SCOPE STAMP AREA



SCALE: 1" = 30'-0"

Schedul	e							
Symbol	Label	QTY	Manufacturer	Catalog	Number Lamps	Lamp Output	LLF	Input Power
0	PL1	4	Selux Corporation	DSC4Lx-R3W-5G350-30- XX-XX-UNV	1	3409	0.95	32
0	PL2	4	Selux Corporation	DSC4Lx-R1-XX-5G350- 30-XX-XX-UNV	1	3357	0.95	32
	PL3	3	Selux Corporation	DSC4Lx-R5R-XX-5G350- 30-XX-XX-UNV	1	3624	0.95	32

otion Symbol Avg Max Min Max/Min Avg/I + 0.2 fc 5.8 fc 0.0 fc N/A N/A

1. Fixtures Mounted at 12' 2. Calculations Taken at Grade

3. Calculations are estimations based on the information provided and may vary with actual conditions











EXISTING LAWN TO REMAIN; SEE NOTE #14 BELOW

 $\begin{pmatrix} 4 \\ L-502-R.2 \end{pmatrix}$ TURF LAWN; SEE SPECS

EXISTING TREE TO REMAIN; SEE TREE PROTECTION FENCING DETAIL ON L-502

PLANTING NOTES:

- 1. SITE SURVEY DATA WAS PROVIDED BY AMERICAN ENGINEERS GROUP, LLC TO SALT DESIGN STUDIO ON MAY 10, 2021.
- 2. ALL CONSTRUCTION SHALL CONFORM TO CITY, STATE, AND FEDERAL REGULATIONS.
- 3. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND SUBTERRANEAN ELEMENTS PRIOR TO COMMENCING WORK. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT FOR RELOCATION INSTRUCTIONS IF A PLANT IS LOCATED WITHIN 3'-0" OF AN UNDERGROUND UTILITY.
- 4. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO BEGINNING OR CONTINUING WORK.
- THERE WILL BE NO PLANT SUBSTITUTIONS, DELETIONS, OR ADDITIONS WITHOUT THE APPROVAL OF LANDSCAPE ARCHITECT.
- 6. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF SUBSOIL CONDITIONS SHOW EVIDENCE OF UNEXPECTED WATER RETENTION IN TREE OR SHRUB PITS.
- 7. CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES TO PREVENT SOIL LOSS AS INDICATED ON CIVIL ENGINEERING DRAWINGS.
- 8. ALL IMPORTED PLANTING SOIL MUST BE TESTED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SEE SPECIFICATIONS.
- 9. SEE PLANT SCHEDULE FOR PLANT SIZES, QUANTITIES, SPECIES AND CONDITION.

AND SHRUB PLANTINGS, SEE 8/L-5002-R.2 FOR DETAIL.

- 10. TREE AND SHRUB LOCATIONS SHALL BE STAKED OR FLAGGED IN FIELD FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO STARTING PLANT INSTALLATION.
- 11. ALL TREES SHALL HAVE AT LEAST 24" APPROVED PLANTING SOIL AROUND ROOTBALL. ALL SHRUBS SHALL HAVE AT LEAST 18" APPROVED PLANTING SOIL AROUND ROOTBALL.
- 12. CONTRACTOR SHALL INSTALL IRRIGATION BAGS FOR ALL NEW TREES IMMEDIATELY UPON COMPLETION OF INSTALLATION. SEE SPECIFICATIONS.
- 13. MULCH, COMPOST AND/OR LEAF LITTER IS TO BE INSTALLED AS INDICATED ON DETAILS AND IN SPECIFICATIONS. 14. TEMPORARY DRIP IRRIGATION TO BE INSTALLED AND MAINTAINED FOR ONE FULL YEAR FROM PROJECT CLOSEOUT. SUBMIT SHOP DRAWINGS OF TEMPORARY DRIP IRRIGATION LAYOUT AND INFORMATION SUBMITTALS
- FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. 15. TEMPORARY PLANT PROTECTION FENCING TO BE INSTALLED IMMEDIATELY UPON COMPLETION OF PLANT INSTALLATION. PROTECTION FENCING TO BE LOCATED ALONG ALL PLANT BED EDGES TO PROTECT PERENNIAL
- 14. ANY EXISTING TURF LAWN THAT IS DISTURBED BY EARTHWORK OR OTHER CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED PER SPECIFICATIONS.

PLANT SCHEDULE:

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
CANOPY	TREES					L. L
СК	12	Cladrastis kentuckea	Yellowwood	3"-3.5" CAL.	B&B or CONTAINER	AS SHOWN
FG	2	Fagus grandifolia	American Beech	3"-3.5" CAL.	B&B	AS SHOWN
LT	3	Liriodendron tulipifera	Tulip Poplar	3"-3.5" CAL.	B&B	AS SHOWN
TA	1	Tillia americana 'Redmond'	American Basswood	3"-3.5" CAL.	B&B	AS SHOWN
	18	TOTAL CANOPY TREES				
JNDERST	FORY TRI	EES				
СС	8	Cercis canadensis	Eastern Redbud	8'-10' HT.	B&B OR CONTAINER	AS SHOWN
CF	7	Cornus florida 'Appalachian Spring'	Flowering Dogwood	8'-10' HT.	B&B OR CONTAINER	AS SHOWN
υ.						

lv	12	Itea virginica 'Merlot'	Dwarf Virginia Sweetspire	#3	CONTAINER	AS SHOWN
Fo	20	Fothergilla gardenii 'Blue Mist'	Dwarf Fothergilla	#3	CONTAINER	AS SHOWN
Lf	14	Leucothoe fontanesiana 'Zeblid' Scarletta	Drooping Laurel	#3	CONTAINER	AS SHOWN
	46	TOTAL SHRUBS				







SITE LAYOUT & MATERIALS NOTES:

- 1. SITE SURVEY DATA WAS PROVIDED BY AMERICAN ENGINEERS GROUP, LLC TO SALT DESIGN STUDIO ON MAY 10, 2021.
- 2. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REGULATIONS.
- VERIFY DIMENSIONS AND ACCEPT CONDITIONS BEFORE PROCEEDING WITH ANY WORK. REPORT DISCREPANCIES TO LANDSCAPE ARCHITECT.
- THESE CONTRACT DOCUMENTS MAKE NO REPRESENTATIONS AS TO THE MEANS AND METHODS OF CONSTRUCTION.
- DO NOT SCALE DRAWINGS; CONSULT LANDSCAPE ARCHITECT FOR ANSWERS TO ALL DIMENSIONAL QUESTIONS.
- CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING TO LOCATE AND MARK EXISTING UTILITIES.
- 7. COORDINATE ALL UTILITY WORK WITH THE LOCATIONS AND FINAL GRADES OF ALL OTHER WORK AS SHOWN ON THE ENGINEER'S DRAWINGS. WHERE CONFLICTS OCCUR, NOTIFY THE ENGINEER AND LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF UTILITIES TO MAKE ADJUSTMENTS AS REQUIRED. IF NEW UTILITIES HAVE BEEN INSTALLED IN CONFLICT WITH CURBS, WALLS, PAVING, OR OTHER STRUCTURES AT DEPTHS TOO SHALLOW FOR PROPER COVER BENEATH NEW GRADES OR INCORRECT FINISHED GRADE, THEY SHALL BE ADJUSTED OR REMOVED AND REPLACED AS NECESSARY AT CONTRACTOR'S EXPENSE.
- CONTRACTOR TO OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL OF LAYOUT OF ALL SITE IMPROVEMENTS <u>PRIOR TO INSTALLATION</u>.
 DIMENSIONS ARE PROVIDED TO EDGE OF PAVEMENT, FRONT OF
- CURB, FACES OF WALLS, OR OBJECT CENTERLINE, UNLESS NOTED OTHERWISE.
- 10. ELEMENTS SHALL BE PARALLEL OR PERPENDICULAR, UNLESS NOTED OTHERWISE.
- PROVIDE SLOPES ON PAVEMENT SURFACES AS INDICATED ON GRADING AND DRAINAGE PLAN TO ALLOW FOR POSITIVE DRAINAGE.
 NO PONDING SHALL BE PERMITTED ON FINISHED GRADE OF SITE PAVEMENTS. AREAS WHERE PONDING OCCURS SHALL BE REGRADED AND REPAIRED AT CONTRACTOR'S EXPENSE.
- 14. SEE L-101 FOR SITE LAYOUT PLAN.15. SEE SHEET L-103-R.2 FOR LAYOUT OF SITE FURNISHINGS AND
- EQUIPMENT.
- 16. SEE SHEET L-104-R.2 FOR LAYOUT OF SITE LIGHTING.
- 17. EXPANSION JOINTS TO OCCUR AT 10'-0" O.C. MAX. AND WHERE CONCRETE CURBING AND PAVEMENT MEETS ALL EXISTING WALLS, PAVEMENTS, CURBS, AND OTHER SITE ELEMENTS.
- 18. COORDINATE INSTALLATION OF FURNISHINGS AND EQUIPMENT FOUNDATIONS PRIOR TO INSTALLING SITE PAVEMENTS.





PLANT BED; SEE L-106-R.2 FOR MORE INFORMATION
CENTER OF SITE ELEMENT
HIGH POINT (HP)

LAYOUT AND GRADING NOTES:

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- 3. VERIFY DIMENSIONS AND ACCEPT CONDITIONS BEFORE PROCEEDING WITH ANY WORK. REPORT DISCREPANCIES TO LANDSCAPE ARCHITECT.
- 4. THESE CONSTRUCTION DOCUMENTS MAKE NO REPRESENTATIONS AS TO THE MEANS AND METHODS OF CONSTRUCTION.
- 5. DO NOT SCALE DRAWINGS; CONSULT LANDSCAPE ARCHITECT FOR ANSWERS TO ALL DIMENSIONAL QUESTIONS.
- 6. CONTRACTOR TO OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL OF LAYOUT OF PAVEMENT PAINT AND SAFETY SURFACE PATTERNS PRIOR TO INSTALLATION.
- 7. DIMENSIONS ARE PROVIDED TO EDGES OF PLAY MOUNDS, EDGES OF PAVEMENT, FRONT OF CURBS, OR FACES OF WALLS, UNLESS NOTED OTHERWISE.
- 8. PROVIDE SLOPES ON PAVEMENT SURFACES AS INDICATED ON GRADING AND DRAINAGE PLAN TO ALLOW FOR POSITIVE DRAINAGE.
- 9. SEE SHEET L-101-R.2 FOR LAYOUT OF SITE PAVEMENTS.
- 10. SEE DETAIL 5 / L-501-R.2 FOR TYPICAL PLAY MOUND INSTALLATION DETAIL.





SCALE: 3" = 1'-0"

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RE AS S	PECIFIED	•			
R SELEC GFCI OU HAT IS THE PO	TED OPTION PROVIDE A SI TLET IN A NEC APPROVED INTEGRATED INTO THE POI LE. ALIGN OUTLET WITH I	EPA WE LE / HAN	RATELY CIRCUITED EATHER PROOF AND WIRING IS IDHOLE OPPOSITE.		
UNTING I	HEIGHT FOR PARKING/ROA	DW	AY AREAS		
ts per i	MANUFACTURER				
DLYMER- N/ ELEC - POLYM	CONCRETE JUNCTION TRIC LOGO	BUA			
W/ VA LOGO	NDAL RESISTANT NUTS/B LOCATED ADJACENT TO P	OLT	S AND ELECTRICAL BASE		
- MIN. 6 SCREEI UNDER - GROUN - #4 AW - CONDU WHICHE - CONDU	 MIN. 6" OF COMPACTED CLEAN BACKFILL, STONE SCREENINGS, OR SAND (C33) AROUND PERIMETER AND UNDER JUNCTION BOX GROUND CLAMP OR CADWELL CONNECTION #4 AWG BARE COPPER COND. CONDUITS AND WIRING (18" BELOW-MIN.OR PER CODE, WHICHEVER IS GREATER) CONDUIT ENTRY INTO POLE 				
- 34" X BASE F BASE F	TO COPPER GROUND ROD TOR POLES UP TO 14' HT. FOR POLES OVER 14' HT.				
	FOUNDATION DEF	PTF	H SCHEDULE		
	MOUNTING HEIGHT	MIN	. FOOTING DEPTH		
ALL MUM.	8 TO 14 FEET		4'-6" MIN.		
GN. RICAL	14 10 23 FEET		5-0 MIN.		
TYPE					
BOX INTO					
SOIL NEER					
יח			SCALE: NTS		
ASE	DETAIL		DATE: DEC 2019		
			1		













SITE ADD ALTERNATE S3: TENNIS COURT MATERIALS & STRIPING LAYOUT PLAN

GENERAL NOTE:

SITE ADD ALTERNATE S3 IS RENOVATION OF EXISTING TENNIS COURTS. REFERENCE CIVIL DRAWING CS021-R.2 FOR EXISTING CONDITIONS PLAN.

STAMP AREA

LEGEND:



SITE LAYOUT & MATERIALS NOTES:

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- 2. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REGULATIONS. 3. VERIFY DIMENSIONS AND ACCEPT CONDITIONS BEFORE PROCEEDING WITH ANY WORK. REPORT
- DISCREPANCIES TO LANDSCAPE ARCHITECT.
- 4. THESE CONSTRUCTION DOCUMENTS MAKE NO REPRESENTATIONS AS TO THE MEANS AND METHODS OF CONSTRUCTION.
- 5. DO NOT SCALE DRAWINGS; CONSULT LANDSCAPE ARCHITECT FOR ANSWERS TO ALL DIMENSIONAL QUESTIONS.
- 6. CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING TO LOCATE AND MARK EXISTING UTILITIES.
- 7. COORDINATE ALL UTILITY WORK WITH THE LOCATIONS AND FINAL GRADES OF ALL OTHER WORK AS SHOWN ON THE ENGINEER'S DRAWINGS. WHERE CONFLICTS OCCUR, NOTIFY THE ENGINEER AND LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF UTILITIES TO MAKE ADJUSTMENTS AS REQUIRED. IF NEW UTILITIES HAVE BEEN INSTALLED IN CONFLICT WITH CURBS, WALLS, PAVING, OR OTHER STRUCTURES AT DEPTHS TOO SHALLOW FOR PROPER COVER BENEATH NEW GRADES OR INCORRECT FINISHED GRADE, THEY SHALL BE ADJUSTED OR REMOVED AND REPLACED AS NECESSARY AT CONTRACTOR'S EXPENSE.
- 8. CONTRACTOR TO OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL OF LAYOUT OF ALL SITE IMPROVEMENTS PRIOR TO INSTALLATION.
- 9. DIMENSIONS ARE PROVIDED TO EDGE OF PAVEMENT, FRONT OF CURB, FACES OF WALLS, OR OBJECT CENTERLINE, UNLESS NOTED OTHERWISE. 10. ELEMENTS SHALL BE PARALLEL OR PERPENDICULAR, UNLESS NOTED OTHERWISE.
- 11. PROVIDE SLOPES ON PAVEMENT SURFACES AS INDICATED ON GRADING AND DRAINAGE PLAN TO ALLOW FOR POSITIVE DRAINAGE. 11.1. NO PONDING SHALL BE PERMITTED ON FINISHED GRADE OF SITE PAVEMENTS. AREAS WHERE PONDING
- OCCURS SHALL BE REGRADED AND REPAIRED AT CONTRACTOR'S EXPENSE. 12. COORDINATE INSTALLATION OF FURNISHINGS AND EQUIPMENT FOUNDATIONS PRIOR TO INSTALLING SITE PAVEMENTS.



SITE ADD ALTERNATE S4 - SITE FURNISHINGS SCHEDULE:						
KEY	ITEM	QTY	PRODUCT NAME & MODEL NUMBER	MANUFACTURER	OPTIONS, FINISHES & COLORS	INSTALLATION
BB	BACKED BENCH	3	BENCH 165, MODEL NO. 165-60D	DU MOR	6' CAST BENCH, DOUGLAS FIR SEAT; WITH CENTER AND END ARMRESTS; POWDERCOAT COLOR: TBD	SURFACE MOUNT
TR	TRASH RECEPTACLE	1	RECEPTACLE 157, MODEL NO. 157-32SH-BT	DU MOR	32-GALLON STEEL RECEPTACLE WITH SHIELD AND BONNET COVER WITH 10" OPENING; POWERCOAT COLOR: TBD	SURFACE MOUNT
RR	RECYCLING RECEPTACLE	1	RECEPTACLE 157, MODEL NO. 157-32SH-BT-RC	DU MOR	32-GALLON STEEL RECEPTACLE WITH SHIELD, RECYCLE LID WITH 4" OPENING, AND BONNET COVER WITH 10" OPENING; POWERCOAT COLOR: RECYCLE BLUE	SURFACE MOUNT



GENERAL NOTE:

• SITE ADD ALTERNATE S4 IS ADDITION OF BENCH PADS, BENCHES, AND SHADE TREES.

STAMP AREA

SITE ADD ALTERNATE S4 - PLANT SCHEDULE:

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
CANOPY	TREES					
LT	5	Liriodendron tulipifera	Tulip Poplar	2"-2.5" CAL.	B&B	AS SHOWN
	5	TOTAL CANOPY TREES		-		



SITE ADD ALTERNATE S4: DIAGONAL PATH AMENITIES FURNISHINGS & PLANTING PLAN 2

LEGEND:

CONCRETE PAVEMENT L-501-R.2

- BACKLESS BENCH TRASH & RECYCLING RECEPTACLES
- PLANT BED; SEE L-106-R.2

FOR MORE INFORMATION



SITE LAYOUT & MATERIALS NOTES:

DIMENSIONAL QUESTIONS.

- 1. SITE SURVEY DATA WAS PROVIDED BY AMERICAN ENGINEERS GROUP, LLC. TO SALT DESIGN STUDIO ON MAY 10, 2021.
- 2. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REGULATIONS.
- 3. VERIFY DIMENSIONS AND ACCEPT CONDITIONS BEFORE PROCEEDING WITH ANY WORK. REPORT DISCREPANCIES TO LANDSCAPE ARCHITECT.
- 4. THESE CONSTRUCTION DOCUMENTS MAKE NO REPRESENTATIONS AS TO THE MEANS AND METHODS OF CONSTRUCTION.
- 5. DO NOT SCALE DRAWINGS; CONSULT LANDSCAPE ARCHITECT FOR ANSWERS TO ALL
- 6. CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING TO LOCATE AND MARK EXISTING UTILITIES.
- . COORDINATE ALL UTILITY WORK WITH THE LOCATIONS AND FINAL GRADES OF ALL OTHER WORK AS SHOWN ON THE ENGINEER'S DRAWINGS. WHERE CONFLICTS OCCUR, NOTIFY THE ENGINEER AND LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF UTILITIES TO MAKE ADJUSTMENTS AS REQUIRED. IF NEW UTILITIES HAVE BEEN INSTALLED IN CONFLICT WITH CURBS, WALLS, PAVING, OR OTHER STRUCTURES AT DEPTHS TOO SHALLOW FOR PROPER COVER BENEATH NEW GRADES OR INCORRECT FINISHED GRADE, THEY SHALL BE ADJUSTED OR REMOVED AND REPLACED AS NECESSARY AT CONTRACTOR'S EXPENSE.
- 8. CONTRACTOR TO OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL OF LAYOUT OF ALL SITE IMPROVEMENTS PRIOR TO INSTALLATION.
- 9. DIMENSIONS ARE PROVIDED TO EDGE OF PAVEMENT, FRONT OF CURB, FACES OF
- WALLS, OR OBJECT CENTERLINE, UNLESS NOTED OTHERWISE. 10. ELEMENTS SHALL BE PARALLEL OR PERPENDICULAR, UNLESS NOTED OTHERWISE.
- 11. PROVIDE SLOPES ON PAVEMENT SURFACES AS INDICATED ON GRADING AND DRAINAGE PLAN TO ALLOW FOR POSITIVE DRAINAGE. 11.1. NO PONDING SHALL BE PERMITTED ON FINISHED GRADE OF SITE PAVEMENTS. AREAS WHERE PONDING OCCURS SHALL BE REGRADED AND REPAIRED AT
- 12. COORDINATE INSTALLATION OF FURNISHINGS AND EQUIPMENT FOUNDATIONS PRIOR TO INSTALLING SITE PAVEMENTS.

GENERAL PLANTING NOTES:

CONTRACTOR'S EXPENSE.

- 1. SITE SURVEY DATA WAS PROVIDED BY AMERICAN ENGINEERS GROUP, LLC. TO SALT DESIGN STUDIO ON MAY 10, 2021.
- 2. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REGULATIONS.
- 3. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND SUBTERRANEAN ELEMENTS PRIOR TO COMMENCING WORK. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT FOR RELOCATION INSTRUCTIONS IF A PLANT IS LOCATED WITHIN 3'-0" OF AN UNDERGROUND UTILITY.
- 4. CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN WITH TREE PROTECTION FENCING AND MEASURES AS INDICATED ON ENGINEER'S PLANS.
- 5. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO BEGINNING OR CONTINUING WORK.
- 6. ALL EXISTING GRASS AND ROOTS OF REMOVED VEGETATION SHALL BE COMPLETELY
- REMOVED FROM SITE PRIOR TO INSTALLATION OF NEW PLANTS. 7. THERE WILL BE NO PLANT SUBSTITUTIONS, DELETIONS, OR ADDITIONS WITHOUT THE
- APPROVAL OF LANDSCAPE ARCHITECT. 8. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF SUBSOIL CONDITIONS SHOW
- EVIDENCE OF UNEXPECTED WATER RETENTION IN TREE OR SHRUB PITS.
- 9. CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES TO PREVENT SOIL LOSS AS INDICATED ON ENGINEER'S PLANS.
- 10. ALL IMPORTED PLANTING SOIL MUST BE TESTED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SEE SPECIFICATIONS.
- 11. SEE PLANT SCHEDULE FOR PLANT SIZES, QUANTITIES, SPECIES AND CONDITION.
- 12. CONTRACTOR SHALL STAKE ALL PLANTING AREAS, AND TREE AND SHRUB LOCATIONS IN FIELD FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO STARTING PLANT INSTALLATION.
- 13. ALL TREES AND SHRUBS SHALL HAVE AT LEAST 24" APPROVED PLANTING SOIL AROUND ROOTBALL.
- 14. CONTRACTOR SHALL INSTALL IRRIGATION BAGS FOR ALL NEW CANOPY AND UNDERSTORY TREES IMMEDIATELY UPON COMPLETION OF INSTALLATION. SEE SPECIFICATIONS.
- 15. MULCH, COMPOST AND/OR LEAF LITTER IS TO BE INSTALLED AS INDICATED ON DETAILS AND IN SPECIFICATIONS.

SITE FURNISHINGS NOTES:

SCALE: 1" = 10'-0"

- 1. CONTRACTOR TO OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL OF LAYOUT OF ALL SITE FURNISHINGS AND EQUIPMENT PRIOR TO INSTALLATION.
- 2. DIMENSIONS ARE PROVIDED TO EDGE OF PAVEMENT, FACES OF WALLS, EDGE OF SITE FURNISHING OR FENCE, OR CENTERLINE OF PLAY EQUIPMENT, UNLESS NOTED OTHERWISE.
- 3. ELEMENTS SHALL BE PARALLEL OR PERPENDICULAR, UNLESS NOTED OTHERWISE.
- 4. SEE SITE FURNISHINGS SCHEDULE FOR QUANTITIES, PRODUCT, AND MANUFACTURER INFORMATION.
- 5. FOUNDATIONS FOR ALL FURNISHINGS SHALL BE LOCATED ON SITE AND REVIEWED IN FIELD WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.



<u>GEI</u> 1.	ALL WORK SHALL CONFORM TO THE "2018 INTERNATIONAL BUILDING CODE" AND TO ALL OTHER
2.	APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. ALL CODES AND STANDARDS REFERENCED IN THESE NOTES, INCLUDING SPECIFICATIONS REFERNCED
	WITHIN, AND ALL FEDERAL, STATE, AND LOCAL REGULATIONS APPLY TO THE DESIGN, CONSTRUCTION, DEMOLITION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PORJECT. USE THE LATEST ADOPTED EDITIONS OF THE CODES AND STANDARDS
3.	IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, SPECIFICATIONS, AND DETAILS, THE MOST
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, AND PROVIDED AT NO ADDITIONAL
5.	PROPER AND COMPLETE INSTALLATION SHALL BE INCLUDED IN THE WORK. JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE
6.	CONTRACTOR. THE CONTRACTOR SHALL PROVIDE FOR DEWATERING AS REQUIRED DURING EXCAVATION AND
7.	CONSTRUCTION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL COORDINATE OPENINGS, SLEEVES, CONCRETE HOUSEKEEPING PADS, INSERTS, AND DEPRESSIONS SHOWN ON THE ARCHITECTURAL, STRUCTURAL, MECHANICAL,
8.	ELECTRICAL, AND PLUMBING DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE WEIGHT OF SUPERIMPOSED DEAD
•	LOADS RESULTING FROM MEP EQUIPMENT INSTALLED IN THE FIELD DOES NOT EXCEED THE ALLOWABLE MEP LOADS DESIGNATED ON THE LOAD MAPS AND PLANS. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER IF THE WEIGHT OF MEP EQUIPMENT EXCEEDS THAT SHOWN ON THE LOAD MAPS AND PLANS AND PROVIDE REINEORCING AS NECESSARY AT HIS OWN EXPENSE
9.	SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF MASONRY AND DRYWALL NON-LOAD BEARING PARTITIONS. PROVIDE SLIP CONNECTIONS THAT ALLOW VERTICAL MOVEMENT AT THE HEADS OF ALL SUCH PARTITIONS. CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE TOP OF THE WALLS
10.	ALL COSTS OF INVESTIGATION, REDESIGN AND/OR RE-INSTALLATION DUE TO CONTRACTOR IMPROPER INSTALLATION OF STRUCTURAL ELEMENTS OR OTHER ITEMS NOT IN CONFORMANCE WITH THE
11.	THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS, ARCHITECTURAL AND MECHANICAL DRAWINGS. IF THERE IS A DISCREPANCY BETWEEN DRAWINGS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT PRIOR TO PERFORMING THE
12.	WORK. THE CONTRACTOR SHALL VERIFY ALL EXISTING BUILDING INFORMATION SHOWN (DIMENSIONS, ELEVATIONS, ETC.) AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO
13.	FABRICATION OF ANY STRUCTURAL COMPONENT. THE CONTRACTOR SHALL VERIFY AND/OR ESTABLISH ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. FAILURE TO NOTIFY ARCHITECT/ENGINEER OF UNSATISFACTORY CONDITIONS CONSTITUTES
14.	ACCEPTANCE OF UNSATISFACTORY CONDITIONS. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS
15	AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND MODIFICATION IS APPROVED BY THE ARCHITECT.
10.	PROVIDE SHORING AND PROTECTION REQUIRED TO ENSURE THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE ALLOW/ARD E CONSTRUCTION LOADS AND
10.	TO PROVIDE DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGINGS, BRACING, SHEETING, AND SHORING, ETC.
17.	ANY LATERAL OR VERTICAL MOVEMENTS OF EXISTING BUILDINGS, STREETS, AND ANY EXISTING UTILITY LINES.
ıδ.	IN NO CASE SHALL HEAVY EQUIPMENT BE PERMITTED CLOSER THAN 8'-0" FROM ANY FOUNDATION WALL. IF IT IS NECESSARY TO OPERATE SUCH EQUIPMENT CLOSER THAN 8'-0" TO THE WALL, THE CONTRACTOR SHALL BE THE SOLE RESPONSIBLE PARTY AND, AT HIS OWN EXPENSE, SHALL PROVIDE ADEQUATE SUPPORTS OR BRACE THE WALL TO WITHSTAND THE ADDITIONAL LOADS SUPERIMPOSED FROM SUCH EQUIPMENT.
19. 20.	NO BLASTING SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL. SHOP DRAWINGS FOR ALL STRUCTURAL MATERIALS TO BE SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO THE START OF FABRICATION OR COMMENCEMENT OF WORK. REVIEW PERIOD SHALL BE A MINIMUM OF TWO (2) WEEKS
21.	REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
22.	SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT THE CONTRACTOR HAS VERIFIED ALL CONSTRUCTION CRITERIA, MATERIALS, AND SIMILAR DATA AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.
23.	THE SHOP DRAWINGS SHALL INCLUDE DIMENSIONED FLOOR AND ROOF EDGES, OPENINGS AND SLEEVES AT ALL FLOORS REQUIRED FOR ALL TRADES.
24.	THE DRAWINGS HAVE BEEN PRODUCED ENTIRELY ON PENNONI CADD SYSTEM. ANY OTHER LETTERING, LINES OR SYMBOLS, OTHER THAN PROFESSIONAL STAMPS AND SIGNATURES, HAVE BEEN MADE WITHOUT THE AUTHORIZATION OF PENNONI ARE INVALID.
25.	THE STRUCTURAL DRAWINGS SHALL GOVERN THE WORK FOR ALL STRUCTURAL FEATURES, UNLESS NOTED OTHERWISE. THE ARCHITECTURAL DRAWINGS SHALL GOVERN THE WORK FOR ALL DIMENSIONS.
26.	INSPECTION IS REQUIRED OF ALL CONSTRUCTION DELINEATED ON THE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS. THE OWNER (CONTRACTOR) SHALL EMPLOY A TESTING/INSPECTION AGENCY WHICH SHALL PROVIDE PERSONNEL WITH THE FOLLOWING MINIMUM OF ALLEICATIONS:
	A. CERTIFIED BY INSTITUTE OF CERTIFIED ENGINEERING TECHNICIANS, OR OTHER RECOGNIZED COMPARABLE ORGANIZATION, AND,
	 FOR INSPECTION, SAMPLING, LESTING CONCRETE AND MASONRY: ACI CERTIFIED CONCRETE FIELD-TESTING TECHNICIAN, GRADE I; AND CONSTRUCTION INSPECTOR, LEVEL II.
27.	• STRUCTURAL STEEL INSPECTION: AWS CERTIFIED WELDING INSPECTOR. SUBMIT PERIODIC REPORTS WITHIN ONE BUSINESS DAY AFTER RECEIPT BY THE CONTRACTOR TO ARCHITECT/ENGINEER AND THE CONSTRUCTION CODE OFFICIAL DURING CONSTRUCTION. SUBMIT FINAL INSPECTION REPORT SUMMARY FOR EACH DIVISION OF WORK, CERTIFIED BY A LICENSED
	PROFESSIONAL ENGINEER, THAT INSPECTIONS WERE PERFORMED AND THAT WORK WAS PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS.
28.	THE OWNER SHALL ENGAGE A TESTING AGENCY TO PROVIDE TESTING SERVICES AS INDICATED IN EACH SECTION OF THESE GENERAL NOTES.
29.	ALL MATERIALS SHALL BE STORED TO PROTECT THEM FROM EXPOSURE TO THE ELEMENTS.
<u>EAF</u> 1.	RTHWORK ENGINEERED (CONTROLLED COMPACTED) FILL WITHIN THE BUILDING AREA SHALL BE CONSTRUCTED PRIOR TO FOOTING EXCAVATION. SEE SPECIFICATIONS FOR REQUIREMENTS OF CONTROLLED COMPACTED FILL.
2.	EXCAVATION SHALL BE PERFORMED SO AS NOT TO DISTURB EXISTING ADJACENT BUILDINGS, STREETS, AND UTILITY LINES. VERIFY LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK. HAND EXCAVATE AROUND UTILITIES AS REQUIRED.
3.	SEE THE SPECIFICATIONS FOR EXCAVATION, BACKFILL AND PREPARATION OF THE FOUNDATION AND SLAB-ON-GRADE SUBGRADE, INCLUDING COMPACTION REQUIREMENTS.
4.	SATISFACTORY FILL MATERIALS ARE THOSE COMPLYING WITH ASTM D2487, GROUPS GW, GP, GM, SM, SW, AND SP. ON SITE BORROW MATERIAL SHALL BE TESTED TO DETERMINE SUITABILITY FOR USE AS

COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DENSITY OF MODIFIED PROCTOR (ASTM D1557): UNDER BUILDING FOUNDATIONS - 98%

- UNDER BUILDING SLABS, STEPS, PAVEMENTS 95%
- REMOVE EXISTING VEGETATION, TOPSOIL, AND UNSATISFACTORY SOIL MATERIALS. PROOF ROLL SUBGRADE TO OBTAIN UNIFORMLY DENSIFIED SUBSTRATA PRIOR TO PLACING FILL MATERIAL EVENLY IN 8" THICK (MAXIMUM) LAYERS AND COMPACTING TO REQUIRED DENSITY.
- THE OWNER SHALL RETAIN THE SERVICES OF A PROFESSIONAL GEOTECHNICAL ENGINEER, SUBJECT TO THE APPROVAL OF THE ARCHITECT, TO PERFORM SOIL TESTING AND INSPECTION. THE ENGINEER SHALL INSPECT THE SUBGRADE TO VERIFY BEARING LEVELS AND ENSURE THAT THE SAFE BEARING CAPACITY MEETS OR EXCEEDS THE DESIGN VALUE INDICATED BELOW. REPORTS SHALL BE SUBMITTED TO THE ARCHITECT OUTLINING THE WORK PERFORMED AND TEST RESULTS.
- BACKFILL SHALL BE BROUGHT UP SIMULTANEOUSLY ON EACH SIDE OF WALLS AND GRADE BEAMS, WITH A GRADE DIFFERENCE NOT TO EXCEED 2'-0" AT ANY TIME.

STAMP AREA

	REQUIREMENTS FOR STRUCTURAL CONCRETE
2. 3. 4. 5. 6. 7.	THE CRSI MANUAL OF STANDARD PRACTICE. CONCRETE SHALL HAVE A MINIMUM COMPRES 4% TO 6% IN ALL EXPOSED CONCRETE WORK. REINFORCING STEEL: ASTM A615 GRADE 60. EPOXY COATED REINFORCING STEEL: ASTM A WELDED WIRE REINFORCEMENT: (WWR) AST LEVELING GROUT SHALL BE NON-SHRINK, NON ACCORDANCE WITH CE-CRD-C621 OR ASTM C OF 5,000 PSI. REINFORCING STEEL CLEAR COVER SHALL BE
	REINFORCING STEEL IN CONCRETE CAST AGAINST SOIL
	REINFORCING STEEL IN CONCRETE EXPOSED TO SOIL OR WEATHER #5 BARS AND SMALLER
	#6 BARS AND LARGER
	SLAB AND WALL REINFORCING NOT EXPOSED TO SOIL OR WEATHER
	BEAM STIRRUPS, COLUMN TIES, AND HORIZONTAL REINFORCING IN SHEAR WALLS
	NOTE: TOLERANCE FOR CONCRETE CONSTRUCTION IN ACCORDANCE WITH ACI 117
8.	 SUBMIT TO ARCHITECT/ENGINEER REINFORCIN DESIGNS FOR REVIEW PRIOR TO PLACING ANY A. REINFORCING STEEL PLACING DRAWIN REQUIREMENTS OF ACI 314-92, "DETAIL PLACING DRAWINGS SHALL SHOW ALL THE REINFORCING STEEL. B. THE SPACING OF ALL REINFORCING ST DETAILER AND MUST BE INDICATED ON USED TO CLEARLY INDICATE THE LOCA BE INSTALLED. C. A LIST OF ALL APPLICABLE REINFORCING ST ON ALL REINFORCING STEEL PLACING I
	2. 3. 4. 5. 6. 7. 8.

5.0 **DEMOLITION NOTES**

- REMOVAL AS DESCRIBED HEREIN SHALL BE ACCOMPLISHED WITHOUT STORING ON THE FLOOR EXCESSIVE QUANTITIES OF ANY MATERIALS, RUBBISH, DIRT, DEBRIS, OR WASTE OF ANY SORT RESULTING FROM THE REMOVAL OPERATIONS ON THE FLOOR.
- ALL DEBRIS SHALL BE REMOVED FROM THE CONSTRUCTION SITE DAILY. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO MAINTAIN FREE PROTECTED ACCESS OF ALL
- TENANTS, SERVICE PERSONNEL AND THE PUBLIC THROUGH THE AREAS INVOLVED. THE CONTRACTOR SHALL REMOVE ALL PIPE SLEEVES PROJECTING THROUGH SLAB; PATCH ALL PENETRATIONS, HOLES, ETC
- ALL PIPES AND CONDUITS IN WALLS THAT ARE TO BE DEMOLISHED ARE TO BE REMOVED AND/ OR RELOCATED AS REQUIRED.
- CONTRACTOR SHALL REVIEW WITH ARCHITECTS/ ENGINEER ANY AND ALL ITEMS OF DEMOLITION NOT IMPLIED OR SPECIFIED ON DRAWINGS OR SPECIFICATIONS AND TO INCLUDE SUCH COSTS IN BID UNLESS OTHERWISE ADVISED
- PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND SERVICES AND PERFORM ALL OPERATIONS REQUIRED FOR COMPLETE INTERIOR DEMOLITION AND RELATED WORK AS DESCRIBED AND SPECIFIED HEREIN, AND AS MAY BE REASONABLY IMPLIED AS NECESSARY TO COMPLETE WORK IN ALL RESPECTS. JOBSITE INSPECTION MUST BE CONDUCTED TO EXAMINE EXISTING CONDITIONS. TO DETERMINE NATURE AND SCOPE OF WORK OR ANY DIFFICULTIES THAT MIGHT ARISE AT TIME OF WORK. IN ADDITION, EXAMINE ALL WORK THAT IS INTENDED TO REMAIN AS PART OF THE COMPLETED PROJECT AND REPORT ALL UNSATISFACTORY CONDITIONS TO ARCHITECT/ ENGINEER PRIOR TO COMMENCEMENT OF WORK. EXERCISE EXTREME CARE DURING DEMOLITION SO AS NOT TO DAMAGE CONSTRUCTION AND OTHER STRUCTURES THAT ARE INTENDED TO REMAIN. ANYTHING DAMAGED AT WORK IS TO BE REPAIRED AND/ OR REPLACED TO MATCH EXISTING CONSTRUCTION AT CONTRACTORS **EXPENSE**
- REFER TO DRAWINGS FOR EXISTING ITEMS/ SYSTEMS TO REMAIN. CONTRACTOR TO PROVIDE DUST BARRIER FOR PROTECTION OF EXISTING AREAS TO REMAIN AS
- REQUIRED WHEN DEMOLITION TAKES PLACE, SHOULD ANY WORK AFFECT THE INTEGRITY OF THE STRUCTURE, WORK MUST STOP IMMEDIATELY, AND ARCHITECT/ ENGINEER NOTIFIED. UNDER NO CIRCUMSTANCES SHALL REINFORCING OF ANY KIND BE DAMAGED, CUT OR BROKEN. THE GENERAL CONTRACTOR SHALL PROVIDE SUFFICIENT FRAMING FOR ALL WALL OPENINGS FOR DUCTWORK, RETURN AIR OPENINGS, ACCESS PANELS AND GRILLE OPENINGS ABOVE AND BELOW HUNG CEILINGS. THESE ARE TO BE COORDINATED WITH H.V.A.C. ENGINEERING DRAWINGS AND THE GENERAL CONTRACTOR'S SHOP DRAWINGS AND THE GENERAL CONTRACTOR'S MECHANICAL
- CONTRACTOR'S SHOP DRAWINGS. ALL SPACES SHALL BE PROPERLY SEALED FOR SOUNDPROOFING AND VIBRATION.
- PRIOR TO DEMOLITION OF LOAD BEARING MEMBERS, SUPPORTED MEMBERS SHALL BE SHORED.

SURVEY REQUIREMENTS

- BY BIDDING ON THIS PROJECT, THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR THE SURVEY REQUIREMENTS AS SHOWN ON THE CONTRACT DOCUMENTS.
- A BID SUBMISSION THAT DOES NOT INCLUDE THE REQUIRED SURVEY REQUIREMENTS WILL RESULT IN THE REJECTION OF ANY AND ALL CONSTRUCTION PHASE SUBMISSIONS, RFI'S AND SHOP DRAWINGS.
- ALL SURVEY WORK MUST BE PERFORMED PRIOR TO THE DEVELOPMENT OF THE SHOP DRAWINGS. MODIFICATIONS TO THE CONTRACT DRAWINGS MAY BE REQUIRED, IF THE EXISTING STRUCTURE IS NOT IN CONFORMANCE WITH THE EXISTING DRAWINGS.
- REFER TO INDIVIDUAL SHEETS' "SURVEY NOTES" FOR ADDITIONAL REQUIREMENTS. CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING TO DISCUSS REQUIREMENTS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
- EXISTING DRAWINGS FOR THE ORIGINAL BUILDING ARE NOT AVAILABLE. ALL EXISTING CONDITION MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO DEVELOPING AND SUBMITTING SHOP DRAWINGS. REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ARCHITECT AND STRUCTURAL ENGINEER.

DELEGATED DESIGN / DEFERRED SUBMITTALS

- ALL DESIGN REQUIREMENTS, LOADING, PERFORMANCE CRITERIA, SUBMISSION STANDARDS AND ANY OTHER APPLICABLE INFORMATION IS LOCATED IN THE GENERAL NOTES, DESIGN DATA, PLANS, SECTIONS, DETAILS AND SPECIFICATIONS (CONSTRUCTION DOCUMENTS) FOR THE DELEGATED DESIGN OF THE COMPONENTS NOTED. BY BIDDING ON THIS PROJECT, THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR THE DESIGN OF THE COMPONENTS DELEGATED BY THESE CONTRACT DOCUMENTS AND ACCEPTS THAT THERE IS ADEQUATE
- INFORMATION SHOWN ON THE CONTRACT DOCUMENTS TO PERFORM THE DELEGATED DESIGN. A BID SUBMISSION THAT DOES NOT INCLUDE THE REQUIRED DELEGATED DESIGN WILL RESULT IN THE REJECTION OF ANY AND ALL CONSTRUCTION PHASE SUBMISSIONS, RFI'S AND SHOP DRAWINGS. THE ARCHITECTURAL AND STRUCTURAL DRAWINGS MAY SHOW DETAILS FOR DELEGATED DESIGN
- COMPONENTS, INCLUDING MINIMUM OR MAXIMUM ASSEMBLY REQUIREMENTS (I.E. DEPTH, GAGE, LENGTH, SPAN OR SPACING), OR SUGGESTED ATTACHMENT METHODS. THESE DETAILS AND INFORMATION ARE INTENDED TO BE SCHEMATIC IN NATURE, AND ARE NOT INTENDED TO BE USED FOR BID QUANTITIES. THE CONTRACTOR SHALL MAKE ALLOWANCES IN THEIR BID TO ACCOMMODATE THE COST OF THE ACTUAL ASSEMBLIES AFTER DELEGATED DESIGN IS COMPLETE. THE DESIGN OF DELEGATED COMPONENTS IS THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER, WHO
- MUST BE REGISTERED IN THE PROJECT'S JURISDICTION. ALL SUBMITTALS SHALL BEAR THIS ENGINEER'S SEAL AND SIGNATURE. THE ENGINEER MUST BE QUALIFIED TO DESIGN THE DESIGNATED ASSEMBLY AND MUST BE ABLE TO DEMONSTRATE PRIOR EXPERIENCE WITH THE DESIGN OF THE ASSEMBLY. REVIEW SHALL BE FOR GENERAL CONFORMANCE WITH THE PROJECT REQUIREMENTS AS INDICATED ON THE DRAWINGS AND IN THE GENERAL NOTES. THE CONTRACTOR SHALL SUBMIT, FOR REVIEW, DRAWINGS AND CALCULATIONS FOR ALL PERFORMANCE
- ASSEMBLIES IDENTIFIED BELOW. DELEGATED DESIGNS SHALL ALSO BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION AS DEFERRED SUBMITTALS AS PART OF THE PERMIT APPROVAL PROCESS. DELEGATED DESIGNS/DEFERRED SUBMITTALS:
- THE MEP CONTRACTOR SHALL PROVIDE PRE-FABRICATED METAL OR WOOD ROOF CURBS, INCLUDING Α. ANCHORAGE, BELOW ROOF TOP EQUIPMENT, WHERE EQUIPMENT SITS ON STEEL DUNNAGE, ALL ATTACHMENTS BETWEEN THE EQUIPMENT AND THE DUNNAGE SHALL BE PROVIDED BY THE MEP CONTRACTOR. ATTACHMENTS SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF THE EQUIPMENT IN ADDITION TO ALL APPLICABLE LATERAL FORCES. REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION
- METAL STAIRS AND METAL RAILINGS: DESIGNS SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL В. OADS REQUIRED BY APPLICABLE BUILDING CODES. WHERE HEADERS OR OTHER TYPES OF STRUCTURAL MEMBERS HAVE BEEN DESIGNATED BY THE STRUCTURAL ENGINEER OF RECORD TO SUPPORT THE STAIRS, THE CONNECTIONS FROM THE STAIRS SHALL BE DESIGNED SO THAT NO ECCENTRIC OR TORSIONAL FORCES ARE INDUCED IN THESE STRUCTURAL MEMBERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING HARDWARE AS REQUIRED BY
- THE STAIR DESIGN. BRACING, SHEETING, SHORING, ETC.: REQUIRED TO INSURE THE STRUCTURAL INTEGRITY OF THE С. EXISTING BUILDINGS OR NEW CONSTRUCTION, SIDEWALKS, UTILITIES, ETC., SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER ENGAGED BY THE CONTRACTOR. CONTRACTOR TO PROVIDE TEMPORARY SUPPORT OF EXPOSED UTILITIES WITHIN EXCAVATED AREAS. DETAILED SIGNED AND SEALED SHOP DRAWINGS SHALL BE PREPARED INDICATING ALL WORK TO BE PERFORMED. SUBMIT THE SHOP DRAWINGS IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS.
- <u>COLD FORM METAL FRAMING:</u> SEE "COLD FORM METAL FRAMING" SECTION. <u>DEMOLITION SITE SAFETY:</u> THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR RETAINING THE SERVICES OF A LICENSED PROFESSIONAL STRUCTURAL ENGINEER TO RENEW THE CONTRACTOR'S SITE SAFETY DEMOLITION PLAN. THE ENGINEER WILL ALSO ACT AS THE DPRC-SI IN CHARGE OF DEMOLITION SPECIAL INSTRUCTIONS.
- STRUT DESIGN FOR CATWALK: DESIGN SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL LOADS REQUIRED BY APPLICABLE BUILDING CODES. THE CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED SO THAT NO ECCENTRIC OR TORSIONAL FORCES ARE INDUCED INTO THE EXISTING STRUCTURAL MEMBERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING HARDWARE AS REQUIRED BY THE STRUT DESIGN.

#6 B/	ARS AND LARGER
SLAE EXP	3 AND WALL REINFORCING NOT OSED TO SOIL OR WEATHER
BEA HOR WAL	M STIRRUPS, COLUMN TIES, AND IZONTAL REINFORCING IN SHEAR LS
NOT	<u>E:</u>
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4. 1	REINFORCING STEEL PLACING [
	REQUIREMENTS OF ACI 314-92,
	PLACING DRAWINGS SHALL SHO
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SHOP	DRAWINGS OR SPECIFICALLY AU
	RACTOR SHALL VERIFY DIMENSIO
PIPES	OR CONDUITS PLACED IN SLABS
SLAB	THICKNESS AND SHALL NOT BE SI
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	S OF COLUMIN FACE OR FACE OF
RIOF	TO PLACING CONCRETE, THE CO
ENGIN	EER, A CONCRETE POUR SCHED
	S AND WATERSTOPS.
	REVIEW CONCRETE MIX DESIGNS
REQU	IREMENTS INDICATED IN THE GEN
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	ACT WITH ALUMINUM FORMS, MIX
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	URES TO AVOID DRILLING OR CUT
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	ONCRETE SLABS SHALL BE FINISI
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ND F	IURIZUNTAL KEYS, UNLESS OTHE
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	IG AGENT APPLIED AS SOON AS F
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SHALL	BE IN ACCORDANCE WITH ACI-30

19

28.

RAIN, SNOW, EXCESSIVE HEAT, AND FREEZING TEMPERATURES. 29.

SIGNED AND DETAILED IN ACCORDANCE WITH THE BUILDING CODE RUCTURAL CONCRETE (ACI-318), AND CONSTRUCTED IN ACCORDANCE WITH ANDARD PRACTICE. A MINIMUM COMPRESSIVE 28-DAY STRENGTH OF 4,000 PSI. AIR ENTRAINMENT D CONCRETE WORK. MAXIMUM WATER/CEMENT RATIO OF 0.45.

CING STEEL: ASTM A775 CEMENT: (WWR) ASTM A-185.

BE NON-SHRINK, NON-METALLIC TYPE, FACTORY PRE-MIXED GROUT IN CRD-C621 OR ASTM C109, WITH A MINIMUM COMPRESSIVE 28-DAY STRENGTH AR COVER SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

	3"
	1 1/2" 2"
	3/4"
2	1 1/2"

RUCTION SHALL BE

FORCING STEEL SHOP DRAWINGS FOR APPROVAL AND MIX ING ANY CONCRETE. DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE "DETAILS AND DETAILING OF CONCRETE REINFORCING". THE OW ALL INFORMATION NECESSARY TO FABRICATE AND PLACE CING STEEL MUST BE COMPUTED BY THE REINFORCING STEEL TED ON THE PLACING DRAWINGS. EXTENT ARROWS MUST BE HE LOCATIONS WHERE GROUPS OF REINFORCING BARS ARE TO FORCING STEEL PLACEMENT TOLERANCES SHALL BE INDICATED ACING DRAWINGS. PLACING DRAWINGS THAT DO NOT SHOW DED TO PLACE THE REINFORCING STEEL WILL BE REJECTED. RELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, RS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH WO (2) FULL WIRE SPACES AT SPLICES AND WIRE TOGETHER. ND CHAIRS AT ALL LOCATIONS WHERE THE CONCRETE SURFACE CHAIRS IS EXPOSED. ART UNTIL THE PLACEMENT OF REINFORCING HAS BEEN RE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE. ERE DOWELS ARE TO BE INSTALLED INTO EXISTING CONCRETE N FOR ENGINEER REVIEW. H ANY CONCRETE ELEMENT UNLESS SHOWN ON THE APPROVED ITHORIZED IN WRITING BY THE STRUCTURAL ENGINEER. THE ONS AND LOCATIONS OF ALL SLOTS, PIPE SLEEVES, ETC. AS BEFORE CONCRETE IS PLACED. SHALL NOT HAVE AN OUTSIDE DIAMETER LARGER THAN 1/3 THE PACED CLOSER THAN 3 DIAMETERS ON CENTER. ALUMINUM

ONCRETE. NO CONDUITS SHALL BE PLACED IN SLABS WITHIN 12 BEARING WALL. NO CONDUITS MAY BE PLACED IN EXTERIOR ONTRACTOR SHALL SUBMIT FOR REVIEW BY THE STRUCTURAL ULE SHOWING LOCATION OF ALL PROPOSED CONSTRUCTION E CONTRACTOR SHALL SUBMIT TO THE STRUCTURAL ENGINEER PREPARED IN ACCORDANCE WITH THE SPECIFICATIONS AND

NERAL NOTES. ROUGH ALUMINUM PIPES AND SHALL NOT BE PLACED IN KING DRUMS, BUGGIES, CHUTES, CONVEYORS OR OTHER

CAST-IN-PLACE WHENEVER FEASIBLE. DRILLED OR POWDER ED WHEN PROVEN TO THE SATISFACTION OF THE STRUCTURAL NOT SPALL THE CONCRETE AND HAVE THE SAME CAPACITY AS OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE TTING OF ANY EXISTING REINFORCING AND DESTRUCTION OF CLEAN PRIOR TO PLACING BOLTS OR ADHESIVE ANCHORS. ORNERS UNLESS NOTED OTHERWISE ON ARCHITECTURAL HED FLAT AND LEVEL WITHIN TOLERANCE. TO THE ELEVATION VFORCED CONCRETE SHALL BE LOCATED WITHIN THE MIDDLE JCTION JOINT LOCATIONS SHALL BE SHOWN ON REINFORCING CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS RWISE SHOWN. ALL REINFORCING IS TO BE CONTINUOUS PECIALLY DURING THE FIRST 24 HOURS, SHALL BE CAREFULLY HALL BE MOIST CURED OR PROTECTED USING A MEMBRANE FORMS ARE REMOVED. IF MEMBRANE CURING AGENT IS USED, BE IN ACCORDANCE WITH ACI-306. HOT WEATHER CONCRETING THROUGHOUT CONSTRUCTION, THE CONCRETE WORK SHALL BE ADEQUATELY PROTECTED AGAINST DAMAGE DUE TO EXCESSIVE LOADING, CONSTRUCTION EQUIPMENT, MATERIALS OR METHODS, ICE, PREPARE CONCRETE TEST CYLINDERS FROM EACH DAY'S POUR. CYLINDERS SHALL BE PROPERLY

CURED AND STORED. SAMPLE FRESH CONCRETE IN ACCORDANCE WITH ASTM C172. RETAIN LABORATORY TO PROVIDE TESTING SERVICE. SLUMP PER ASTM 143 AIR CONTENT PER ASTM C231 OR C173, CYLINDER TESTS PER ASTM C31 AND C39. ONE SET OF SIX (6) CYLINDERS FOR EACH 50 CUBIC YARDS FOR EACH MIX USED. REPORTS OF ALL TESTS TO BE SUBMITTED TO THE ARCHITECT.

LATERAL LOAD DESIGN 2018 PHILADELPHIA BUILDING CODE / ASCE 7-16 WIND SYMBOL DESCRIPTION VALUE BASIC WIND SPEED (3 SEC. GUST) V 130 mph OCCUPANCY CATEGORY 111 WIND EXPOSURE CATEGORY В --INTERNAL PRESSURE COEFFICIENT GC_{pi} ±0.18 SEE TABLE FOR C&C COMPONENTS AND CLADDING SERVICE LEVEL PRESSURES SEISMIC SYMBOL DESCRIPTION VALUE 1.25 IMPORTANCE FACTOR le OCCUPANCY CATEGORY 111 MAPPED SPECTRAL RESPONSE SHORT 0.20g PERIOD ACCELERATION MAPPED SPECTRAL RESPONSE 0.06g 1-SECOND ACCELERATION LONG-PERIOD TRANSITION PERIOD 6s SITE CLASSIFICATION D ---DESIGN SPECTRAL RESPONSE SHORT 0.213g SDS PERIOD ACCELERATION DESIGN SPECTRAL RESPONSE 0.096g 1-SECOND ACCELERATION SEISMIC DESIGN CATEGORY S_{DC} В

FLOOR DESIGN LOADS

DESCRIPTION	VALUE
FIRST FLOOR INFILL (BELOW STAIR) DEAD LOAD	15 PSF
FIRST FLOOR INFILL (BELOW STAIR) LIVE LOAD	80 PSF
LINTEL BELOW FIRST/SECOND FLR FRAMING - DEAD LOAD	15 PSF
LINTEL BELOW FIRST/SECOND FLR FRAMING - LIVE LOAD	100 PSF
LINTEL BELOW ATTIC FRAMING - DEAD LOAD	10 PSF
LINTEL BELOW ATTIC FRAMING - LIVE LOAD	20 PSF





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STAMP AREA





MASONRY ANCHORS

CONCRETE ANCHORS

MINIMUM EMBEDMENT DEPTH.

11.0

1. DRILL & EPOXY ANCHORS IN ACCORDANCE WITH THE MPII. A. UTILIZE HILTI HIT-HY 200 IN CRACKED AND UNCRACKED CONCRETE CONSTRUCTION, UNLESS NOTED OTHERWISE ON PLANS AND DETAILS. HILTI **RE-500 V3 IS AN ACCEPTABLE SUBSTITUTION.** B. UTILIZE HILTI HIT-HY 270 IN MASONRY AND MULTI-WYTHE CONSTRUCTION. PROVIDE APPROPRIATELY SIZED SCREEN TUBES IN HOLLOW AND MULTI-WYTHE

MASONRY CONSTRUCTION ONLY. 2. REFER TO PLANS AND DETAILS FOR QUANTITY, ANCHOR TYPE, DIAMETER, AND

3. REFER TO THE MPILIFOR INFORMATION NOT PROVIDED. INCLUDING BUT NOT LIMITED TO, MINIMUM EDGE DISTANCE, MINIMUM ANCHOR SPACING, CLEANING PROCEEDURES. AND INSTALLATION TORQUE REQUIREMENTS BASED ON THE SELECTED ANCHOR TYPE, DIAMETER, APPLICABLE EPOXY SERIES AND CONSTRUCTION TYPE.

MECHANICAL ANCHORS				
SUBSTRATE	ANCHOR TYPE	APPROVED SPECIFIED ANCHOR		
	SCREW ANCHOR	HILTI KWIK HUS EZ AND EZ-I PER ICC ESR-3027		
CRACKED &		HILTI KWIK BOLT-TZ PER ICC ESR-1917		
UNCRACKED CONCRETE	EXPANSION ANCHOR	HILTI KWIK BOLT 3 PER ICC ESR-2302 (UNCRACKED CONCRETE ONLY)		
		HILTI HDA UNDERCUT ANCHORS PER ICC ESR-1546		
		HILTI HSL-3 PER ICC ESR-1545		
SOLID GROUTED MASONRY	EXPANSION HILTI KWIK BOLT 3 ANCHOR PER ICC ESR-1385			
	CHORS			
SUBSTRATE APPROVED SPECIFIED ADHESIVE & ANCHOR				
CRACKED &	HILTI HIT-HY 200 SAFE SET SYSTEM WITH HAS-E ROD, HIT-Z ROD, OR REBAR PER ICC ESR-3187			
UNCRACKED CONCRETE	HILTI HIT-HY 500 V3 SAFE SET SYSTEM WITH HAS-E ROD, HIT-Z ROD, OR REBAR PER ICC ESR-3814			
MASONRY	HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM WITH HAS-E ROD OR REBAR PER ICC ESR-4143			

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0.		
	INSER	T FROM THE MIXING NOZZI F
9	THE C	ONTRACTOR SHALL LITILIZE APPROPRIATELY SIZED
0.	MULTI.	WYTHE BRICK AND MASONRY APPLICATIONS
10		POXY ANCHORS THAT ARE TO BE INSTALLED HORIZ
10.	(OVER	HEAD) ARE TO BE INSTALLED LITILIZING THE HILT I
		POXY MANUFACTURER OR MODEL USING AN EXTE
	ACCEF	PTABLE METHOD AND SHALL BE REJECTED BY THE
11		ICHOR RODS WASHERS AND NUTS SHALL HAVE TH
		S NOTED OTHERWISE
	A	INTERIOR USE NON-CORROSIVE CONDITION - ZIN
	R.	EXPOSED TO WEATHER OR IN CONTACT WITH PT
	υ.	ELEMENTS - MECHANICALLY DEPOSITED ZINC COA
		GALVANIZED (HDG) PER ASTM A153
	С	NEAR SALT WATER OR EXTERIOR CORROSIVE EN
12		HESIVE ANCHORS INSTALLED HORIZONTALLY OR L
12.	SUPPO)RT SUSTAINED TENSION LOADS SHALL BE PERFOR
	CFRTI	FICATION SHALL INCLUDE WRITTEN AND PERFORMA
	ACI/CE	SI ADHESIVE ANCHOR INSTALLER CERTIFICATION F
	THE C	ONTRACTOR SHALL SUBMIT CERTIFICATES FOR RE
	THE A	CCEPTABILITY OF CERTIFICATION OTHER THAN ACI/
	CERTI	FICATION SHALL BE THE RESPONSIBILITY OF THE FO
13.	THE A	NCHOR MANUFACTURER SHALL MAKE A REPRESEN
	INSTAI	LATION TRAINING FOR ALL OF THEIR ANCHORING F
	DRAW	INGS. TRAINING SHALL BE AT THE CONTRACTOR'S
	TO TH	E CONTRACTOR OR OWNER. THE ANCHOR MANUE
	PRESE	NT DURING THE INITIAL INSTALLATION OF EACH TY
	THE C	ONTRACTOR'S INSTALLATION PROCEDURES.
14.	THE O	WNER'S TESTING AGENCY SHALL OBSERVE THE INI
	AND D	URING CONSTRUCTION AT INTERVALS IN ACCORDA
	ADHES	SIVE ANCHORS INSTALLED HORIZONTALLY OR VERT
	SUSTA	INED TENSION LOADS SHALL BE CONTINUOUSLY O
	SPECI	AL INSPECTOR SHALL PROVIDE WRITTEN REPORTS
	INDICA	TE THAT THE MATERIALS USED AND THE INSTALLA
	THE A	PROVED CONSTRUCTION DOCUMENTS AND THE M
	DESCF	RIPTIONS OF THE MATERIALS AND PROCEDURES US
	FOLLO	WING:
	A.	ANCHOR INSTALLATION ENVIRONMENT (DRY OR S
		TEMPERATURE RANGE)
	В.	DESCRIPTION OF THE DRILLING METHOD
	C.	DESCRIPTION OF THE HOLE CLEANING PROCEDUR

REINFORCING BAR)

STRUCTURAL STEEL 13.0

BOLTS, AND AISC CODE OF STANDARD PRACT ALL WELDING SHALL BE PERFORMED BY CERT WELDING CODE ANSI/AWS D1.1", AMERICAN W MATERIALS:	ICE. IFIED WELDERS AND SHALL CONFORM TO "STRUCTURA ELDING SOCIETY.
SHAPE	SPECIFICATION
WIDE FLANGE SHAPES:	ASTM A992 OR A572, GRADE 50.
STRUCTURAL SHAPES AND PLATES:	ASTM A36, A572 OR A992.
STEEL PIPE:	ASTM A53, GRADE B.
STEEL TUBING (SQUARE, RECT. OR ROUND):	ASTM A500, GRADE C.
GALVANIZED STRUCTURAL STEEL: STRUCTURAL SHAPES AND RODS BOLTS, FASTENERS AND HARDWARE	ASTM A123. ASTM A153.
STAINLESS STEEL (FY = 40 KSI): STRUCTURAL BARS, ROUNDS AND HOT ROLLED SHAPES HIGH STRENGTH BOLTING MATERIAL HIGH STRENGTH NUTS	ASTM A276. ASTM A193. ASTM A194.
ANCHOR RODS	ASTM F1554, GRADE 36, UNLESS NOTED OTHERWISE.
BOLTED CONNECTION	ASTM A325 HIGH STRENGTH BOLTS 3/4" MINIMUM DIAMETER, UNLESS NOTED OTHERWISE.
WELDING ELECTRODES (MINIMUM WELD SIZE SHALL BE 3/16" UNLESS NOTED OTHERWISE)	E70XX (FOR MANUAL ARC WELDING)

CONNECTIONS:

- DIAMETER. UNLESS NOTED OTHERWISE, ALL BOLTS SHALL BE INSTALLED SNUG TIGHT UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS OR AISC ALL CONNECTIONS SHALL BE SYMMETRICAL ABOUT THE AXIS OF THE MEMBER CONNECTED. PROVIDE ONLY ONE GRADE OF BOLT FOR EACH BOLT DIAMETER TO BE USED IN THE
- CONNECTIONS. DO NOT MIX GRADE OF BOLTS. ALL CONNECTIONS SHALL BE "FRAMED BEAM CONNECTIONS" DESIGNED IN ACCORDANCE WITH THE AISC MANUAL FOR THE REACTIONS SHOWN ON PLAN, BUT NOT LESS THAN 12 KIPS. PROVIDE CONNECTIONS FULL DEPTH OF SUPPORTING BEAM, UNLESS OTHERWISE APPROVED. MINIMUM TWO (2) BOLTS PER CONNECTION. PROVIDE SIGNED AND SEALED CALCULATIONS FOR ALL CONNECTION DESIGNS NOT INDICATED ON THE DRAWINGS. THE FABRICATOR IS RESPONSIBLE FOR THE SELECTION, DESIGN, AND DETAILING OF ALL CONNECTIONS NOT FULLY DETAILED IN THE CONTRACT DOCUMENTS. TYPICAL CONNECTION DETAILS HAVE BEEN INDICATED ON THE DRAWINGS FOR DESIGN INTENT
- ONLY. THE FABRICATOR SHALL HAVE A REGISTERED PROFESSIONAL ENGINEER LICENSED IN PROJECT'S JURISDICTION PREPARE AND/OR REVIEW THE CONNECTION DESIGNS PRIOR TO SUBMITTING THE SHOP DRAWINGS TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL THE INITIAL SHOP DRAWINGS SUBMITTAL SHALL INCLUDE PROPOSED CONNECTION DETAILS AND JOB STANDARDS. CALCULATIONS SHALL SHOW DESIGN CAPACITIES FOR ALL CONNECTIONS. SHOP DRAWINGS SHALL DIRECTLY REFERENCE CONNECTION DETAILS ON SUBMITTAL
- CUTS, HOLES, COPING, ETC. REQUIRED FOR OTHER TRADES OR FIELD CONDITIONS SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTTING OR BURNING OF MAIN STRUCTURAL MEMBERS IN THE FIELD WILL NOT BE PERMITTED. SUBMIT SHOP DRAWINGS FOR FABRICATION AND ERECTION OF STRUCTURAL STEEL. CLEARLY INDICATE COORDINATED DIMENSIONS OF MECHANICAL UNIT AND ROOF PENETRATION SIZES. SHOP AND ERECTION DRAWINGS MUST SHOW ALL SHOP/FLOOR AND FIELD WELDS. INITIAL SHOP DRAWING SUBMITTAL SHALL INCLUDE PROPOSED CONNECTION DETAILS AND JOB STANDARDS. PROVIDE SIGNED
- AND SEALED CALCULATIONS FOR ALL CONNECTION DESIGNS NOT INDICATED ON THE DRAWINGS. CALCULATIONS SHALL SHOW DESIGN CAPACITIES FOR ALL CONNECTIONS. STEEL MEMBERS SHOWN ON PLAN SHALL BE EQUALLY SPACED UNLESS NOTED OTHERWISE. CAMBER INDICATED ON THESE DRAWINGS IS THE REQUIRED CAMBER AFTER FINAL ERECTION AND
- INCLUDES ALL MILL TOLERANCES. THE GENERAL CONTRACTOR AND STEEL ERECTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE.
- USING FIELD BOLTED CONNECTIONS TO THE EXISTING STEEL. ALL STEEL SHALL BE PAINTED WITH SHOP STANDARD PRIMER UNLESS NOTED OTHERWISE. STEEL ANGLES AND PLATES ALONG WITH BOLTS AND WASHERS, IN DIRECT CONTACT WITH EXTERIOR FINISH MASONRY, AND ALL EXTERIOR EXPOSED STRUCTURAL STEEL, SHALL BE HOT-DIPPED
- GAL VANIZED ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED PER ASTM A123. SPANDRELS AND COLUMNS ADJACENT TO MASONRY SHALL HAVE ADJUSTABLE MASONRY TIES. EXISTING FRAMING REQUIRING WELDING SHALL BE THOROUGHLY CLEANED TO ENSURE PROPER WELDING. PROVIDE TEMPORARY SHORING WHEN WELDING TO EXISTING STEEL.
- FIELD WELDED SURFACES WITHIN FOUR (4) INCHES OF WELD SHALL BE CLEANED AND GROUND SMOOTH. AFTER WELDING COAT THE EXPOSED AREA WITH APPROPRIATE PRIMER/PAINTS AS SPECIFIED 17. FIELD WELDED EXPOSED GALVANIZED SURFACES WITHIN FOUR (4) INCHES OF WELD SHALL BE CLEANED AND GROUND SMOOTH. AFTER WELDING COAT THE EXPOSED AREA WITH GALVANIZING
- WITH FEDERAL SPECIFICATIONS DOD-P-21035A OR SSPC-PAINT-20, COLD GALVANIZING COMPOUND BY ZRC PRODUCTS CO. OR EQUAL. VISUALLY INSPECT ALL FILLET WELDS. 10% OF ALL FIELD FILLET WELDS IN PRIMARY CONNECTIONS AND MULTI-PASS WELDS SHALL BE TESTED BY THE MAGNETIC PARTICLE METHOD, COMPLYING WITH E109, PERFORMED ON THE ROOT PASS AND ON THE FINISHED WELD.
- 100% OF WELDS IN BEAM AND COLUMN MOMENT CONNECTIONS SHALL HAVE ULTRASONIC INSPECTION, COMPLYING WITH ASTM E164. FIELD TEST BOLTED CONNECTIONS AND SHEAR STUDS IN ACCORDANCE WITH AISC.
- DELETE PAINT ON ALL STEEL TO RECEIVE SPRAYED-ON FIREPROOFING OR CONCRETE ENCASEMENT ALL STEEL SHALL BE THOROUGHLY CLEANED BY POWER TOOL CLEANING PRIOR TO PAINTING. ALL ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL BE CLEANED WITH COMMERCIAL BLAST **CLEANING**
- CORROSIVE EFFECTS.

IG NOZZLE AS SUPPLIED BY THE , MODIFY (CUT) OR REMOVE THE MIXING D MESH SCREEN TUBES IN HOLLOW AND ZONTALLY OR UPWARDLY INCLINED PISTON-PLUG" ACCESSORY, REGARDLESS OF ENSION TUBE AND RETAINING CAP IS NOT AN INSPECTOR. THE FOLLOWING CORROSION PROTECTIONS, IC COATED PER ASTM B633 LUMBER OR CORROSIVE INDUCING ATING PER ASTM B695 OR HOT-DIP **IVIRONMENTS - STAINLESS STEEL AISI 316** UPWARDLY INCLINED (OVERHEAD) TO RMED BY CERTIFIED PERSONNEL. IANCE TESTS IN ACCORDANCE WITH THE PROGRAM, OR AN APPROVED EQUIVALENT. ECORD PRIOR TO INSTALLATION OF ANCHORS. I/CRSI ADHESIVE ANCHOR INSTALLER NTATIVE AVAILABLE TO PROVIDE ONSITE PRODUCTS SPECIFIED ON THE STRUCTURAL S REQUEST AND AT NO ADDITIONAL CHARGE

17.0

18.0

ACTURE'S REPRESENTATIVE SHALL BE YPE OF ANCHOR TO REVIEW AND APPROVE IITIAL INSTALLATION OF EACH ANCHOR TYPE ANCE WITH THE IBC CH 17 AND ACI 318. TICALLY INCLINED (OVERHEAD) TO SUPPORT

DBSERVED BY THE SPECIAL INSPECTOR. THE TO THE EOR AND BUILDING OFFICIAL THAT ATION PROCEDURES USED CONFORM WITH MPII. THE REPORTS SHALL INCLUDE SED, INCLUDING BUT NOT LIMITED TO THE SATURATED CONCRETE; CONCRETE

IRE FOR THE SELECTED ANCHOR TYPE DESCRIPTION OF THE SELECTED ANCHOR TYPE AND SIZE RANGE (THREADED ROD OR

FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE "STEEL CONSTRUCTION MANUAL", AMERICAN INSTITUTE OF STEEL CONSTRUCTION INCLUDING SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490

ALL BOLTED CONNECTIONS SHALL BE WITH ASTM A325 HIGH STRENGTH BOLTS 3/4" MINIMUM

WELDING TO THE EXISTING STEEL WILL NOT BE ALLOWED AND THE CONTRACTOR SHALL ANTICIPATE

REPAIR PAINT. GALVANIZING REPAIR PAINT SHALL BE A HIGH ZINC DUST CONTENT PAINT COMPLYING

100% OF FULL PENETRATION WELDS SHALL HAVE ULTRASONIC INSPECTION, COMPLYING WITH ASTM

24. ALL DISSIMILAR METALS SHALL BE TREATED OR PROPERLY SEPARATED TO PREVENT GALVANIC AND/OR

COLL) FORM METAL FRAMING
1.	LIGHT GAGE METAL FRAMING SHALL BE DESIGNED AND DETAILED ACCORDING WITH "SPECIFICATION
	FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS - 2007 EDITION" AMERICAN IRON
	AND STEEL INSTITUTE
2	ALL STUD AND/OR JOIST FRAMING MEMBERS SHALL BE OF THE TYPE SIZE AND GAGE AS REQUIRED BY
	DESIGN SIZE AND GAGE SHALL NOT BELESS THAN SHOWN ON DRAWINGS
3	LIGHT GAGE METAL FRAMING PROPERTIES ARE BASED ON PRODUCTS MANUFACTURED BY (MARINO
•	WARE, A DIVISION OF WARE INDUSTRIES, INC.) MEMBERS BY OTHER MANUFACTURER'S MAY BE
	SUPPLIED PROVIDED LOAD CARRYING CAPACITY BASED ON MANUFACTURER'S STANDARD LOAD
	TABLES, AND DEFLECTION CHARACTERISTICS EQUAL OR EXCEED THOSE OF MATERIALS SPECIFIED AND
	IF APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
4.	ALL GALVANIZED STUDS, JOISTS, TRACK, BRIDGING, AND ACCESSORIES, 12, 14, AND 16 GAGE, SHALL BE
	FORMED FROM STEEL THAT CORRESPONDS TO THE REQUIREMENTS OF ASTM A653, GRADE 50, WITH A
	MINIMUM YIELD OF 50.000 PSI.
5.	ALL GALVANIZED STUDS, JOIST, AND TRACK, BRIDGING AND ACCESSORIES, 18 AND 20 GAGE, SHALL BE
	FORMED FROM STEEL THAT CORRESPONDS TO THE REQUIREMENTS OF ASTM A653, GRADE 33, WITH A
	MINIMUM YIELD OF 33,000 PSI.
6.	ALL STUDS, JOIST, AND ACCESSORIES, SHALL BE FORMED FROM STEEL HAVING A G60 GALVANIZED
	COATING IN CONFORMANCE WITH ASTM C955.
7.	PRIOR TO PREFABRICATION OF FRAMING, THE CONTRACTOR SHALL SUBMIT SIGNED AND SEALED
	FABRICATION AND ERECTION DRAWINGS TO THE ARCHITECT FOR REVIEW. INCLUDE WITH THE
	DRAWINGS CROSS SECTIONS, PLANS AND/OR ELEVATIONS DEPICTING COMPONENTS TYPES AND
	LOCATIONS FOR EACH UNIQUE FRAMING APPLICATION, CONNECTION DETAILS DEPICTING FASTENER
	TYPE, AND QUANTITY. SUBMIT SIGNED AND SEALED CALCULATIONS PREPARED BY AN ENGINEER
	REGISTERED IN THE PROJECT'S JURISDICTION.
8.	FRAMING COMPONENTS MAY BE PREASSEMBLED INTO PANELS PRIOR TO ERECTING. PREFABRICATED
	PANELS SHALL BE SQUARE WITH COMPONENTS ATTACHED IN A MANNER AS TO PREVENT RACKING AND
	TO MINIMIZE DISTORTION WHILE LIFTING AND TRANSPORTING.
9.	CUTTING OF STEEL FRAMING SHALL BE BY SAW, SHEAR OR PLASMA CUTTING EQUIPMENT ONLY.
10.	TEMPORARY BRACING SHALL BE PROVIDED UNTIL ERECTION IS COMPLETE AND ALL ATTACHED
	ADJACENT FRAMING IS COMPLETE.
11.	INSULATION SHALL BE PLACED IN COMPONENTS INACCESSIBLE TO THE INSULATION CONTRACTOR
	AFTER THEIR INSTALLATION.
12.	SPLICES IN AXIALLY LOADED STUDS ARE NOT PERMITTED.
13.	WHERE SPLICING OF TRACK IS NECESSARY BETWEEN STUD SPACING, A PIECE OF STUD SHALL BE
	PLACED BETWEEN ADJACENT TRACKS AND FASTENED BY WELDS OR SCREWS TO EACH SIDE OF THE
	IRACK, EACH END.
14.	STUDS SHALL BE PLUMBED, ALIGNED, AND SECURELY ATTACHED TO THE FLANGES OR WEBS OF BOTH
	UPPER AND LOWER TRACKS.
15.	AXIALLY LOADED STUDS SHALL BE INSTALLED IN A MANNER WHICH WILL ASSURE THAT ENDS OF THE
	STUDS ARE POSITIONED AGAINST THE INSIDE TRACK WEB, PRIOR TO STUD AND TRACK ATTACHMENT.
	STUDS SHALL BE SQUARELY GUT AND POSITIVELY CLAMPED AND POSITIONED UNTIL PROPERLY
16	FAGTEINED. MALL STUD DDIDCING SUALL DE ATTACHED IN A MANINED TO DDEVENT STUD DOTATION - DDIDCING, OF
10.	WALL STUD DRIDGING SHALL DE ATTAURED IN A MANNER TO PREVENT STUD RUTATION. BRIDGING, OF
	THE TTE AND SPACING SHOWN ON THE CONTRACTOR SHOP DRAWINGS SHALL BE INSTALLED PRIOR

TO LOADING. BRIDGING SPACING SHALL BE AS REQUIRED BY DESIGN BUT SHALL NOT EXCEED 5'-0" ON CENTER PROVISION FOR STRUCTURE VERTICAL MOVEMENT SHALL BE PROVIDED WHERE INDICATED ON THE 17. PLANS USING VERTICAL SLIDE CLIPS OR OTHER MEANS. FRAME BOTH SIDES OF EXPANSION JOINTS WITH SEPARATE STUDS; DO NOT BRIDGE THE EXPANSION JOINTS WITH STUD SYSTEM COMPONENTS. FRAMED WALL OPENINGS SHALL INCLUDE HEADERS AND SUPPORTING STUDS AS SHOWN ON THE PLANS AND SHOP DRAWINGS. PROVIDE ADDITIONAL JACK AND KING STUDS AS REQUIRED AT ALL OPENINGS WHICH EXCEED 24 INCHES.

JOISTS SHALL BE LOCATED DIRECTLY OVER BEARING STUDS OR A LOAD DISTRIBUTION MEMBER TO BE 19. PROVIDED AT THE TOP TRACK. CONNECTIONS SHALL BE BY WELDING, RIVETING, BOLTING OR OTHER APPROVED FASTENING DEVICES

OR METHODS PROVIDING POSITIVE ATTACHMENT AND RESISTANCE TO LOOSENING. FASTENERS SHALL BE OF COMPATIBLE MATERIAL. WELDED CONNECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH AWS SPECIFICATION FOR 21.

WELDING SHEET STEEL IN STRUCTURES, D1.3. CONTRACTOR SHALL REFER TO INSTALLATION INSTRUCTIONS PUBLISHED BY THE SCREW MANUFACTURER AND ASTM C954 FOR MINIMUM SPACING AND EDGE DISTANCES REQUIREMENTS AND TORQUE REQUIREMENTS.

<u>STRL</u>	JCTURAL WOOD
1.	DESIGN, FABRICATION, AND CONSTRUCTION OF WOOD FRAMING SHALL CONFORM WITH THE FOLLOWING CODES
	AND STANDARDS.
	 A. "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION", 2005 EDITION. (WITH SUPPLEMENT), AMERICAN FOREST AND PAPER ASSOCIATION.
	B. "TIMBER CONSTRUCTION MANUAL", FOURTH EDITION, AS ADOPTED BY THE AMERICAN INSTITUTE OF
	TIMBER CONSTRUCTION, INCLUDING THE "CODE OF STANDARD PRACTICE", AITC 106.
2.	BASE DESIGN VALUES FOR ROOF/FLOOR JOIST FRAMING: DOUG-FIR NO. 1 AND NO.2 (FB = 850 PSI, FV = 180 PSI, E
	= 1,600,000 PSI) MINIMUM.
3.	BASE DESIGN VALUE FOR WOOD STUDS AND BRACING: DOUG FIR STUD MINIMUM COMPRESSION PARALLEL TO
	GRAIN FC =850 PSI, MINIMUM TENSION PARALLEL TO GRAIN, FT = 400 PSI, MINIMUM COMPRESSION
	PERPENDICULAR TO GRAIN, 625 PSI.
4.	ALL PLYWOOD SHEATHING SHALL COMPLY WITH APA. PLYWOOD SHALL MEET C-D INTERIOR APA, STRUCTURAL I
	AND II C-D INTERIOR APA, OR STRUCTURAL I AND II C-C EXTERIOR APA. ATTACHMENT TO BE IN ACCORDANCE
	WITH IBC REQUIREMENTS. ALL PLYWOOD TO HAVE EXTERIOR GLUE.
	a. ROOF SHEATHING SHALL BE APA RATED SHEATHING, 19/32" THICK, 42/20.
	b. FLOOR SHEATHING SHALL BE APA RATED STURD-I-FLOOR, 3/4" THICK, 48/24.
_	C. WALL SHEATHING SHALL BE APA RATED SHEATHING 1/2" THICK, 32/16.
5.	PROVIDE NAILING PATTERN IN COMPLIANCE WITH IBC RECOMMENDED FASTENING SCHEDULE WHEN JOINING
0	
ю. 7	PROVIDE DOUBLE LAYER PLYWOOD UNDER ALL GERAMIG TILE FLOORS.
7.	BASE DESIGN VALUE FOR ALL OTHER STRUCTURAL WOOD FRAMING: MINIMUM EXTREME FIBER IN BENDING, FB =
o	000 PSI, MIINIMUM HORIZONTAL SHEAR, FV - 100 PSI, MIINIMUM COMPRESSION PARALLEL TO GRAIN, FC - 1,400 PSI.
0.	CONNECTORS BY SIMDSON
Q	SEE INTERNATIONAL BUILDING CODE FOR MINIMUM BRACING AND EASTENING REQUIREMENTS
3. 10	MEMBERS SHALL BE SET WITH CROWN UP AND HAVE A MINIMUM OF 3" REARING
10.	PROVIDE ADDITIONAL JOIST UNDER PARALLEL NON-LOADING BEARING PARTITIONS THAT RUN MORE THAN 1/3
	THE SPAN OF THE JOIST
12	SPLICE DOUBLE SOLE PLATES DIRECTLY OVER STUD. STAGGER SPLICE OF EACH PLATE
13.	ALL JOISTS AND RAFTERS SHALL BE RIGIDLY BRIDGED AT INTERVALS NOT EXCEEDING 8'-0".
14.	ALL BOLTS AND LAG BOLTS SHALL BE FITTED WITH GALVANIZED, MALLEABLE IRON OR STEEL PLATE WASHERS.

ALL WOOD MEMBERS EXPOSED TO EXTERIOR TO BE PRESSURE TREATED. PROVIDE FASTENERS, ANCHORS AND CONNECTORS WITH ADEQUATE CORROSION PROTECTION, WHERE IN CONTACT WITH TREATED WOOD. PROVIDE MINIMUM ZMAX COATING WHERE SIMPSON CONNECTORS ARE USED IN CONTACT WITH TREATED WOOD.



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	DEMOLITION NOTE	ES
MARK	DEMOLITION NOTES	DEMOLITION SEQUENCE
D1	DEMO EXISTING SLAB ON GRADE FOR NEW ELEVATOR PIT.	SUPPORT STRUCTURE ABOVE, ATTIC TO LOWER LEVEL, FROM TOP TO BOTTOM.
D2	DEMO EXISTING LOAD BEARING WALL AND DOOR FOR NEW OPENING.	SHORE EXISTING BRICK WALL ABOVE OPENING TO INSTALL NEW LINTELS.
D3	REMOVE EXISTING RAISED CONCRETE FLOOR TO 1" BELOW EXISTING FLOOR SLAB. INTENTIONALLY ROUGHEN.	N/A
D4	NOT USED	
D5	NOT USED	
D6	DEMO EXISTING FLOOR FRAMING FOR NEW ELEVATOR. SHORE EXISTING REMAINING FRAMING, AS REQ'D.	SUPPORT STRUCTURE ABOVE, ATTIC TO LOWER LEVEL, FROM TOP TO BOTTOM, REMOVE FLOOR SHEATHING, REMOVE FLOOR JOISTS.
D7	DEMO EXISTING INTERIOR STAIR.	REMOVE TREADS, RISERS, THEN STRINGERS
D8	DEMO PORTION OF WOOD BEARING WALL ABOVE FLOOR SHOWN. SHORE EXISTING FLOOR FRAMING, AS REQ'D.	SUPPORT STRUCTURE ABOVE, ATTIC TO LOWER LEVEL, FROM TOP TO BOTTOM.
D9	NOT USED	
D10	NOT USED	
D11	NOT USED	
D12	NOT USED	
	-	



DEMO NOTE - D3





 $1 \frac{1}{1/8"} = 1'-0"$



DEMOLITION NOTES				
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D1	DEMO EXISTING SLAB ON GRADE FOR NEW ELEVATOR PIT.	SUPPORT STRUCTURE ABOVE, ATTIC TO LOWER LEVEL, FROM TOP TO BOTTOM.		
D2	DEMO EXISTING LOAD BEARING WALL AND DOOR FOR NEW OPENING.	SHORE EXISTING BRICK WALL ABOVE OPENING TO INSTALL NEW LINTELS.		
D3	REMOVE EXISTING RAISED CONCRETE FLOOR TO 1" BELOW EXISTING FLOOR SLAB. INTENTIONALLY ROUGHEN.	N/A		
D4	NOT USED			
D5	NOT USED			
D6	DEMO EXISTING FLOOR FRAMING FOR NEW ELEVATOR. SHORE EXISTING REMAINING FRAMING, AS REQ'D.	SUPPORT STRUCTURE ABOVE, ATTIC TO LOWER LEVEL, FROM TOP TO BOTTOM, REMOVE FLOOR SHEATHING, REMOVE FLOOR JOISTS.		
D7	DEMO EXISTING INTERIOR STAIR.	REMOVE TREADS, RISERS, THEN STRINGERS		
D8	DEMO PORTION OF WOOD BEARING WALL ABOVE FLOOR SHOWN. SHORE EXISTING FLOOR FRAMING, AS REQ'D.	SUPPORT STRUCTURE ABOVE, ATTIC TO LOWER LEVEL, FROM TOP TO BOTTOM.		
D9	NOT USED			
D10	NOT USED			
D11	NOT USED			
D12	NOT USED			



STAMP AREA

$1 \frac{\text{FIRST FLOOR DEMO}}{1/8" = 1'-0"}$

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PACKAGE 2 - IFB NOT FOR CONSTRUCTION 06/02/23

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DEMOLITION NOTES)
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MARK	DEMOLITION NOTES	DEMOLITION SEQUENCE
D1	DEMO EXISTING SLAB ON GRADE FOR NEW ELEVATOR PIT.	SUPPORT STRUCTURE ABOVE, ATTIC TO LOWER LEVEL, FROM TOP TO BOTTOM.
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D3	REMOVE EXISTING RAISED CONCRETE FLOOR TO 1" BELOW EXISTING FLOOR SLAB. INTENTIONALLY ROUGHEN.	N/A
D4	NOT USED	
D5	NOT USED	
D6	DEMO EXISTING FLOOR FRAMING FOR NEW ELEVATOR. SHORE EXISTING REMAINING FRAMING, AS REQ'D.	SUPPORT STRUCTURE ABOVE, ATTIC TO LOWER LEVEL, FROM TOP TO BOTTOM, REMOVE FLOOR SHEATHING, REMOVE FLOOR JOISTS.
D7	DEMO EXISTING INTERIOR STAIR.	REMOVE TREADS, RISERS, THEN STRINGERS
D8	DEMO PORTION OF WOOD BEARING WALL ABOVE FLOOR SHOWN. SHORE EXISTING FLOOR FRAMING, AS REQ'D.	SUPPORT STRUCTURE ABOVE, ATTIC TO LOWER LEVEL, FROM TOP TO BOTTOM.
D9	NOT USED	
D10	NOT USED	
D11	NOT USED	
D12	NOT USED	





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D9	NOT USED		
D10	NOT USED		
D11	NOT USED		
D12	NOT USED		

1/8" = 1'-0"



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PLAN NOTES:

1. DATUM ELEVATION (0'-0") IS TOP OF EXISTING FIRST FLOOR SLAB. 2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN THE FIELD.

5. GRAY SHADED AREAS INDICATES WORK NOT IN CONTRACT.

3. GC TO COORDINATE FINAL DIMENSIONS WITH MANUFACTURER OR SUBCONTRACTOR.

4. SEE GENERAL STRUCTURAL NOTES FOR WORK INVOLVING MODIFICATION OF THE EXISTING STRUCTURE.

$1 + \frac{1}{1/8"} = 1'-0"$

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1/8" = 1'-0"

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PLAN NOTES:

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36'-7"

EXISTING WOOD FLOOR FRAMING

\$303-R

 $1 \frac{\text{SECOND FLOOR FRAMING PLAN}}{1/8" = 1'-0"}$

(E) WOOD BEARING WALL

\$303-R.2

- PLAN NOTES:
- 1. DATUM ELEVATION (0'-0") IS TOP OF EXISTING FIRST FLOOR SLAB.

EXISTING WOOD FLOOR FRAMING

0-0

42'-10 3/8"

14'-3 1/2"

14'-3 1/2"

0

FBa-

EXISTING STAIR

DOWN

TO REMAIN

- NEW (3) 2X12

HEADER BELOW.

SEE DETAIL 7/S302-R.2

--/

14'-3 1/2"

0

E I

- 2. ALL EXISTING DIMENSIONS SHALL BE VERIFIED IN THE FIELD.
- 3. GC TO COORDINATE FINAL DIMENSIONS WITH MANUFACTURER OR SUBCONTRACTOR. 4. SEE GENERAL STRUCTURAL NOTES FOR WORK INVOLVING MODIFICATION OF THE EXISTING STRUCTURE. 5. GRAY SHADED AREAS INDICATES WORK NOT IN CONTRACT.







1/8" = 1'-0"

PLAN NOTES:

- 1. DATUM ELEVATION (0'-0") IS TOP OF EXISTING FIRST FLOOR SLAB.
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- 3. GC TO COORDINATE FINAL DIMENSIONS WITH MANUFACTURER OR SUBCONTRACTOR. 4. SEE GENERAL STRUCTURAL NOTES FOR WORK INVOLVING MODIFICATION OF THE EXISTING STRUCTURE.
- 5. GRAY SHADED AREAS INDICATES WORK NOT IN CONTRACT.

NOTE: CATWALK ASSEMBLY (FLOOR, RAILS, LADDERS, ETC.) IS A DELEGATED DESIGN. PROVIDE CONNECTIONS TO EXISTING WIDE FLANGE BEAMS IN ROOF FRAMING OR AT TRUSS PANEL POINTS.



PENNONI ASSOCIATES INC. 1900 Market Street, Suite 300 Philadelphia, PA 19103 **T** 215.222.3000 **F** 215.222.3588 ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATE; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.







$1 \frac{\text{ROOF FRAMING PLAN}}{1/8" = 1'-0"}$



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LINTEL SCHEDULE:

NOTES:

<u>ML (72" MAX OPENING)</u>: 16" DEEP, (1) #5 TOP AND BOT

CONCRETE SINGLE ELEVATOR PIT $1 \frac{\text{DETAIL}}{3/4" = 1'-0"}$

PACKAGE 2 - IFB NOT FOR CONSTRUCTION 06/02/23

'ennoni

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Philadelphia, PA 19103

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ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY

OR LEGAL EXPOSURE TO PENNONI ASSOCIATE; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES LOSSES AND EXPENSES ARISING OUT OF OR

RESULTING THEREFROM.

T 215.222.3000 F 215.222.3588

3 <u>ELEVATOR SUMP PIT</u> 3/4" = 1'-0"

MASONRY WALL HORIZONTAL JOINT 6 REINFORCEMENT 3/4" = 1'-0"

VERTICAL

NOTES: CORNERS AND INTERSECTIONS UNLESS OTHERWISE NOTED OR SPECIFIED, AT POINTS WHERE CONCRETE MASONRY WALLS MEET OR INTERSECT, PLACE UNITS IN RUNNING BOND WITH ALTERNATE UNITS BEARING NOT LESS THAN 8 INCHES ON THE UNIT BELOW.

EXTEND REINF. TO END OF NEW SLAB 1"x12" NOTCH IN SLAB.

- CMU WALL W/

JOINT REINF.

- TOP BARS (CONT)

STIRRUPS, SEE

SCHEDULE

- BOND BEAM

ADD'L HORIZ. BARS

- BOTTOM BARS (CONT)

HORIZ.

TE

Т

1 1/2" MIN. -

1. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR LOCATIONS OF OPENINGS IN

ALL CMU WALLS. FOR OPENINGS IN NON-STRUCTURAL CMU WALLS AND CMU VENEER, REFER TO THE LINTEL SCHEDULE NOTED IN GENERAL NOTES.

2. PROVIDE VERTICAL WALL REINFORCING AT ALL JAMBS PER TYPICAL DETAILS.

CONTINUE VERTICAL WALL REINFORCING THROUGH BOND BEAM LINTELS.

2 1/2" MAX.

LOOSE ANGLE AT

NOT SHOWN.

3. PROVIDE 8" MINIMUM BEARING AT EACH END FOR BOND BEAM LINTELS.

BRICK WHERE REQ'D

3/16"Ø EXTRA HEAVY TRUSS **TYPE PREFAB CORNERS &** INTERSECTIONS AT 8" O.C.

STAMP AREA

SIMPSON' A34 METAL CLIP

TYPICAL INTERIOR HEADER DETAIL IN $\bigcirc \frac{\text{EXISTING WALL}}{1" = 1'-0"}$

	MISCELLANEOUS BOND OR PRECAST MASONRY LINTEL SCHEDULE			
WALL THICKNESS	MASONRY OPENING UP TO 6'-0"	MASONRY OPENING 6'-1" TO 8'-0"	MASONRY OPENING 8'-1" TO 10'-0"	
6" WALL	6"x8" CONCRETE WITH (1) - #5 TOP AND BOTTOM			
8" WALL	8"x8" CONCRETE WITH (2) - #4 TOP AND BOTTOM OR 8"x8" BOND BEAM WITH (1) - #5 TOP AND BOTTOM	8"x8" CONCRETE WITH (2) - #4 TOP AND BOTTOM OR 8"x16" BOND BEAM WITH (1) - #6 TOP AND BOTTOM	8"x12" CONCRETE WITH (2) - #5 TOP AND BOTTOM OR 8"x16" BOND BEAM WITH (2) - #5 TOP AND BOTTOM	

NOTE: 1. PROVIDE MINIMUM 8" BEARING ON BRICK, SOLID OR GROUTED SOLID CONCRETE BLOCK. 2. REFER TO ARCH AND MECH DRAWINGS FOR LOCATION AND SIZE OF FOR NON-BEARING MASONRY WALL.

MISCELLANEOUS STEEL ANGLE MASONRY WALL LINTEL SCHEDULE				
WALL THICKNESS	MASONRY OPENING UP TO 4'-0"	MASONRY OPENING 4'-1" TO 6'-0"	MASONRY OPENING 6'-1" TO 8'-0"	
6" WALL	JL 3 1/2x2 1/2x5/16	JL 3 1/2x2 1/2x5/16	JL 3 1/2x2 1/2x3/8	
8" WALL	JL 3 1/2x3 1/2x5/16	JL 4x3 1/2x5/16	JL 6x3 1/2x3/8	
12" WALL OR GREATER	L 3 1/2x3 1/2x5/16 PER 4" WIDTH OF WALL	L 4x3 1/2x5/16 PER 4" WIDTH OF WALL	L 6x3 1/2x3/8 PER 4" WIDTH OF WALL	

NOTES:

1. REFER TO ARCH AND MECH DRAWINGS FOR LOCATION AND SIZE OF OPENINGS FOR NON-BEARING MASONRY WALLS.

2. PROVIDE MINIMUM 6" BEARING ON BRICK, SOLID OR GROUTED SOLID CONCRETE BLOCK, BUT NOT LESS THAN 1" OF BEARING PER FOOT OF SPAN.

3. ALL ANGLES LONG LEG VERTICAL

TYPICAL DETAIL MISCELLANEOUS BOND OR PRECAST MASONRY LINTEL

3 SCHEDULE 1/2" = 1'-0"

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$1 \frac{\text{SECTION AT ATTIC CATWALK}}{3/8" = 1'-0"}$

(4) <u>SECTION</u> 3/4" = 1'-0"

5 SECTION 3/4" = 1'-0"

GENERAL SYMBOLS

	DE
	ΕX
	NE
$\bullet - \bullet$	PC (N
↔	ΕX
	PC SL
1 #	SE 1 #
	BF
<u> </u>	BF
\$	BF
_₹	FL
EQPM #	EC EC #
TAG	EC TA CF

-CHWR---

—SCHWS—

-----SCHWR------

_____CWS_____

—HWR—

-HPR-

-I PR-

-PC-

—FOS—

—_BO—

----CWR--------

HWS------

—HPS———

-LPS------

—DCW———

—FOR———

	DEMOLISHED WORK
	EXISTING WORK
	NEW WORK
	POINT OF CONNECTION (NEW TO EXISTING)
ب	EXTENT OF DEMOLITION
	POINT OF CONNECTION TO EQUIPMENT SUPPLIED BY CONTRACTOR
1 # SIM	SECTION CUT ARROW: 1 = DENOTES SECTION IDENTIFICATION # = DENOTES DRAWING NUMBER OF SECTION DETAIL
	BREAK LINE (DOUBLE LINE DUCTWORK)
	BREAK LINE (DOUBLE LINE PIPING)
<u> </u>	BREAK LINE (SINGLE LINE)
	FLOW ARROW
EQPM #	EQUIPMENT TAG (REFER TO SCHEDULES AND/OR SPECS) EQPM = EQUIPMENT ABBREVIATION # = EQUIPMENT NUMBER
TAG	EQUIPMENT TAG (REFER TO SCHEDULES AND/OR SPECS) TAG = AIR DEVICE ABBREVIATION CFM = AIR DEVICE FLOW
LINE STYL	<u>.ES</u>
CA	COMPRESSED AIR
G	GAS (NATURAL)
CHWS	CHILLED WATER SUPPLY

CHILLED WATER RETURN SECONDARY CHILLED WATER SUPPLY SECONDARY CHILLED WATER RETURN CONDENSER WATER SUPPLY CONDENSER WATER RETURN HOT WATER SUPPLY (HEATING) HOT WATER RETURN (HEATING) **REFRIGERANT - LIQUID & SUCTION REFRIGERANT - SUCTION** HIGH PRESSURE STEAM HIGH PRESSURE RETURN LOW PRESSURE STEAM LOW PRESSURE RETURN PUMPED CONDENSATE A VENT DRAIN DOMESTIC COLD WATER FUEL OIL SUPPLY FUEL OIL RETURN CHEMICAL FEED BLOWOFF CONTINUOUS BLOWDOWN

10" —

6"

	BRANCH TAKE-OFF W/HEEL
→ ø → →	ROUND BRANCH TAKE-OFF W/BELLMOUTH
	SUPPLY/OUTSIDE AIR DUCT ELBOW UP
	RETURN AIR DUCT ELBOW UP
	EXHAUST/RELIEF AIR DUCT ELBOW UP
	SUPPLY/OUTSIDE AIR DUCT ELBOW DN
	RETURN AIR DUCT ELBOW DN
	EXHAUST/RELIEF AIR DUCT ELBOW DN
\boxtimes	SUPPLY AIR CEILING DEVICE
	RETURN AIR CEILING DEVICE
\square	EXHAUST AIR CEILING DEVICE
	3 WAY BLOW PATTERN
	2 WAY BLOW PATTERN
	2 WAY BLOW PATTERN
×	1 WAY BLOW PATTERN
/////////	FLEXIBLE DUCT
Ø	
	HUMIDIFIER
W x H	DUCTWORK SIZE (INSIDE DIMENSION IN INCHES)
R◀	DUCT RISE
CFM	DUCT DROP UNDERCUT DOOR W/CFM
CFM	LOUVER W/CFM
— • — •	FIRE DAMPER W/ ACCESS DOOR
SD SD	SMOKE DAMPER W/ ACCESS DOOR
FSD	COMBINATION FIRE SMOKE DAMPER W/ ACCESS DOOR
M	MOTOR OPERATED DAMPER W/ ACCESS DOOR
BDD	GRAVITY BACKDRAFT DAMPER W/ ACCESS DOOR
BRD	BAROMETRIC RELIEF DAMPER W/ ACCESS DOOR
	AIR MEASURING STATION W/ ACCESS DOOR
SPS	STATIC PRESSURE STATION
	DUCT-MOUNTED REHEAT COIL W/ ACCESS DOOR
VD	VOLUME DAMPER
←[]	ELECTRIC UNIT HEATER
10" 10"	PROPORTIONAL SPLIT OR EQUAL SPLIT
6"	ABOVE 8": SQUARE ELBOWS W/TURNING VANES
6"	8" AND BELOW: RADIUS ELBOWS
$\neg \neg \neg \neg$	ELBOWS ABOVE 8": SQUARE ELBOWS W/TURNING VANES

MECHANICAL SYMBOLS

ABOVE 8": SQUARE ELBOWS W/TURNING VANES 8" AND BELOW: RADIUS ELBOWS

MECHANICAL ABBREVIATIONS

CFH

CLG CMPR

CP

CUH

DDC

DEFL

EA

ECH

EDB

EDH

EG

EJ

ELEC

ELEV

DISC

EQUIPMENT MANUFACTURER

EXHAUST ENERGY RECOVERY COIL

ENTERING WET BULB TEMPERATURE

FLOAT AND THERMOSTATIC STEAM TRAP

ENTERING WATER TEMPERATURE

EMERGENCY

EXHAUST REGISTER

ELECTRIC RADIATION

EXPANSION TANK

ENERGY RECOVERY UNIT

EVAPORATIVE COOLER

ELECTRIC WATER HEATER

EXTERNAL STATIC PRESSURE

ENTERING

EXHAUST

EXISTING

EXTERNAL

FACE AREA

FROM ABOVE

FROM BELOW

FAN COIL UNIT

FULL LOAD AMPS

FLAT ON BOTTOM

FUEL OIL PUMP

FUEL OIL SUPPLY

FLAT ON TOP

FUTURE

GRILLE

FUEL OIL OVERFLOW

FAN POWERED BOX

FEET PER MINUTE

FEET PER SECOND

FLASH TANK OR FOOT OR FEET

HEAT ACTUATED SHUTOFF VALVE

HEATING & VENTILATING UNIT

LEAVING AIR TEMPERATURE

LEAVING DRY BULB TEMPERATURE

LEAVING WET BULB TEMPERATURE

LEAVING WATER TEMPERATURE

MODULAR BUILDING CONTROLLER

MECHANICAL EQUIPMENT ROOM

MOTOR OPERATED DAMPER

NORMALLY OPEN OR NUMBER

MAXIMUM OVER-CURRENT PROTECTION

MECHANICAL CONTRACTOR

MOTOR CONTROL CENTER

HOT WATER GENERATOR

HEAT EXCHANGER

INSIDE DIAMETER

LINEAR DIFFUSER

LINEAR FOOT

LINEAR GRILLE

LOCATION

PROPANE

LEAVING

MAXIMUM

MECHANICAL

MANHOLE

MODULATING

MIXING BOX

NEW

MANUFACTURER

MINIMUM OR MINUTE

NORMALLY CLOSED

NOT IN CONTRACT

NATURAL GAS

NOT TO SCALE

LOUVER IN DOOR

LOCKED ROTOR AMPS

1000 BTU PER HOUR

FINNED TUBE RADIATION

FLEXIBLE CONNECTION

GALLONS PER HOUR

GRAVITY ROOF VENT

GRAVITY VENT

HUMIDIFIER

HEATING COIL

MERCURY

HEATING

INCHES

KILOWATT

POUND

INITIAL

HUB OUTLET

HORSEPOWER

GALLONS PER MINUTE

FUEL OIL FILL

FINAL

FLEXIBLE

FLOOR FILTER

FUEL OIL

FIRE ALARM SYSTEM

FIRE DAMPER OR FLOOR DRAIN

FLOW METERING DEVICE

FORWARD CURVED

FILTER

	FLOW SWITCH TEMPERATURE TRANSMITTER PRESSURE TRANSMITTER PRESSURE SWITCH
	THERMOMETER
	GAUGE
	AQUASTAT
	BASKET STRAINER
	STEAM TRAP
	VACUUM BREAKER
	THERMOSTAT
	CARBON DIOXIDE SENSOR
	SENSOR
	AIR FLOW DIRECTION - SUPPLY
	AIR FLOW DIRECTION - RETURN
	AIR FLOW DIRECTION - EXHAUST
	MOTOR OPERATOR
	FAN - SINGLE LINE
	FLEXIBLE DUCT CONNECTION
	GATE VALVE
	GLOBE VALVE PLUG VALVE
	BUTTERFLY VALVE
	BALL VALVE
	CHECK VALVE
	GLOBE VALVE, ANGLE
	BALANCING VALVE
BV	CIRCUIT SETTING BALANCING VALVE
	THREE WAY CONTROL VALVE
	TWO WAY CONTROL VALVE SOLENOID VALVE
	PRESSURE REDUCING VALVE
	TEMP/PRESS RELIEF VALVE
	FLEXIBLE CONNECTION
	GAS COCK
	FUSIBLE LINK VALVE - QUICK CLOSING FUSIBLE LINK VALVE - QUICK OPENING
	AUTO FILL VALVE (DISCHARGE TO DRAIN)
	MANUAL AIR VENT
	FLOW METER - VENTURI
	FLOW METER - ORIFICE
	STRAINER WITH BLOW OFF VALVE
	PIPE RISING
	PIPE DROPPING DOWN
	CONCENTRIC REDUCER
	UNION - SCREWED OR FLANGED
	GUIDE
	EXPANSION JOINT

(T)

02

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 \bowtie

H

 \vdash

—э ____ М

(D)	DEMOLISH	EM
(Ε)	EXISTING	EMER
(F)		ENT
(M) (N)		
(N) (R)		
AC	AIR CONDITIONING UNIT	ERU
ACC	AIR COOLED CONDENSER	ESP
ACCU	AIR COOLED CONDENSING UNIT	ET
ACFM	ACTUAL CUBIC FEET PER MINUTE	EVC
AD	ACCESS DOOR	EWB
	ARCVE FINISHED FLOOR	
AHU	AIR HANDLING UNIT	EXIST
AI	ANALOG INPUT	EXT
AL	ACOUSTICAL LINING	F
AMB		F&T
AMS		FA
		FA
	AIR PRESSURE DROP	FR
ARCH	ARCHITECTURAL	FC
AS	AIR SEPARATOR	FCU
ASC	APPLICATION SPECIFIC CONTROLLER	FD
ATC	AUTOMATIC TEMPERATURE CONTROL	FIN
AVG		FLA
AWI		
BAS	DUILER BUILDING AUTOMATION SYSTEM	
BDD	BACKDRAFT DAMPER	FM
BDS	BLOWDOWN SEPARATOR	FO
BFP	BACK FLOW PREVENTER OR BOILER FEED PUMP	FOB
BFU	BOILER FEED UNIT	FOF
BHP	BRAKE HORSEPOWER OR BOILER HORSEPOWER	FOO
BI	BACKWARD INCLINED OR BINARY INPUT	FOP
BLD		FOS
BOD	BOTTOM OF DUCT OF BASIS OF DESIGN	
BOP	BOTTOM OF PIPE	FPM
BOT	BOTTOM	FPS
BRD	BAROMETRIC RELIEF DAMPER	FT
BT	BLOWDOWN TANK	FTR
BTU	BRITISH THERMAL UNIT	FUT
BTUH	BTU PER HOUR	FXC
C	CONVECTOR	GPH
CAP		GPINI
CB	CONCRETE BASE	GRV
CC	COOLING COIL	GV
CCO	CAPPED CURB OPENING	Н
CD	CEILING DIFFUSER	HAV
CFH	CUBIC FEET PER HOUR	HC
CFM		HG
CH		HU
	CEILING	HTG
CMPR	COMPRESSOR	HV
CO	CLEAN OUT	HWG
COL	COLUMN	HX
CONC	CONCENTRATION OR CONCRETE	ID
COND	CONDENSATE (STEAM/ COOLING COIL)	IN
CONN		
CP		
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT	LB
СТ	COOLING TOWER	LD
CU	CONDENSING UNIT	LDB
CUH		LF
CV		LG
DB	DRY BULB	IP
DC	DRY COOLER	LRA
DDC	DIRECT DIGITAL CONTROL	LVG
DEFL	DEFLECTION	LWB
DET	DETAIL	LWT
DIA	DIAMETER	MAX
DISCH	DISCHARGE	MBH
DI	DIGITAL INPUT	MC
DN	DOWN	MCC
DO	DIGITAL OUTPUT	MECH
DR	DRAIN	MER
DS	DISCONNECT SWITCH	MFR
		IVIH MIN
EC		MOD
ECH	ELECTRIC CEILING HEATER	MODU
EDB	ENTERING DRY BULB TEMPERATURE	MXB
EDH	ELECTRIC DUCT HEATER	Ν
EF	EXHAUST FAN	NC
		NG
EG F.I		
ELEC	ELECTRIC	NTS
ELEV	ELEVATION	

GENERAL COMPLIANCE - PHL

DESIGN AND PERFORMANCE OF COMPONENTS AND METHODS SPECIFIED HEREIN SHALL COMPLY WITH THE LATEST ADOPTED VERSIONS OF THE STATE CODES, STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS OF THE ENTITIES LISTED BELOW BUT NOT LIMITED TO:

	NORTHONS OF THE ENTITES EISTED BELOW BOT NOT EIWITED TO.
BC	2018 INTERNATIONAL BUILDING CODE
FGC	2018 INTERNATIONAL FUEL GAS CODE
MC	2018 INTERNATIONAL MECHANICAL CODE
ECC	2018 INTERNATIONAL ENERGY CONSERVATION CODE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
JL	UNDERWRITER'S LABORATORIES, INC.
M	FACTORY MUTUAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AMCA	AIR MOVING AND CONDITIONING ASSOCIATION
ARI	AMERICAN REFRIGERATION INSTITUTE
ISS	MANUFACTURER'S STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY
PA CODE	COMMONWEALTH OF PENNSYLVANIA CODE

OUTSIDE AIR OUTSIDE AIR ENTHALPY OUTSIDE AIR HUMIDITY OUTSIDE AIR INTAKE OUTSIDE AIR TEMPERATURE OPPOSED BLADE DAMPER ON CENTER OPEN ENDED DUCT ORIGINAL EQUIPMENT MANUFACTURER OPERATING OPENING PUMP PARALLEL BLADE DAMPER PUMPED CONDENSATE PRESSURE DROP PLATE & FRAME HEAT EXCHANGER PREHEAT COIL PLENUM POSITION PRESSURE PRESSURE REDUCING VALVE POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH- ABSOLUTE POUNDS PER SQUARE INCH- GAUGE QUANTITY RISE **RETURN OR RELIEF AIR**

OA

OAE

OAH

OAT

OBD

OED

OEM

OPER OPNG

OC

Р

PC

PD

PFHX

PHC

PLN

POS

PRV

PSIA

QTY

RA

RAF

RAH

RAT

RCP

REQ

RET

REV

RF

RG

RH

RHC

RHW

RLA

RPM

RTU

RM

RP

RR

RV

SB

SD

SCU

SEC

SEER

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WB

WCU

WG

WHP

WMS

WPD

VFD

TP

ΤG

TA

PSIG QUAN or

PSI

PRESS

PBD

OAI

RETURN AIR ENTHALPY RETURN AIR HUMIDITY RETURN AIR TEMPERATURE RADIANT CEILING PANEL REQUIRED RETURN REVISION

RETURN FAN **RETURN GRILLE** RELIEF HOOD OR RELATIVE HUMIDITY REHEAT COIL ROTARY HEAT WHEEL RUN LOAD AMPS

ROOM RECIRCULATION PUMP **REVOLUTIONS PER MINUTE** RETURN REGISTER ROOFTOP UNIT RELIEF VALVE SUPPLY AIR

STRUCTURAL BASE SELF CONTAINED UNIT SMOKE DAMPER OR DETECTOR SECOND EFFICIENCY RATING SENSIBLE

SUPPLY FAN SUPPLY GRILLE SPRING HANGER SCREENED OPENING STATIC PRESSURE IN WG STEAM PRESSURE DROP SUPPLY REGISTER

SUPPLY ENERGY RECOVERY COIL SAFETY RELIEF VALVE SIDE-STREAM FILTER SOUND ATTENUATOR STANDBY STEAM

SUPPLY

SURGE TANK TRANSFER AIR TRANSFER AIR DUCT TERMINAL EQUIPMENT CONTROLLER TRANSFER GRILLE TOP OF DUCT TOP OF PIPE

TOTAL TRANSFER PUMP TOTAL STATIC PRESSURE TIGHT TO STRUCTURE TYPICAL UNIT HEATER

UNLESS NOTED OTHERWISE VARIABLE AIR VOLUME VOLUME DAMPER VELOCITY

VARIABLE FREQUENCY DRIVE VIBRATION VARIABLE INLET VALVES VENT THROUGH ROOF VARIABLE VOLUME AND TEMPERATURE

WITH WITHOUT WET BULB WATER COOLED CONDENSING UNIT WATER GAUGE WATER SOURCE HEAT PUMP

WIRE MESH SCREEN WATER PRESSURE DROP

MECHANICAL DRAWING LIST-R		
SHEET		
NUMBER	DRAWING TITLE	
MECHANICA	NL .	
M001-R.2	MECHANICAL INDEX SHEET	
M002-R.2	MECHANICAL NOTES	
M100-R.2	MECHANICAL DEMOLITION - LOWER LEVEL BASE SCOPE	
M100B-R.2	MECHANICAL DEMOLITION - LOWER LEVEL DEDUCT ALT.	
M101-R.2	MECHANICAL DEMOLITION - FIRST FLOOR	
M102-R.2	MECHANICAL DEMOLITION - SECOND FLOOR	
M200-R.2	MECHANICAL PROPOSED DUCTWORK - LOWER LEVEL BASE SCOPE	
M200B-R.2	MECHANICAL PROPOSED DUCTWORK - LOWER LEVEL DEDUCT ALT.	
M200C-R.2	MECHANICAL PROPOSED DUCTWORK - LOWER LEVEL ADD ALT.	
M201-R.2	MECHANICAL PROPOSED DUCTWORK - FIRST FLOOR	
M202-R.2	MECHANICAL PROPOSED DUCTWORK - SECOND FLOOR	
M203-R.2	MECHANICAL PROPOSED DUCTWORK - ATTIC/ROOF	
M300-R.2	MECHANICAL PROPOSED PIPING - LOWER LEVEL BASE SCOPE	
M300B-R.2	MECHANICAL PROPOSED PIPING- LOWER LEVEL - DEDUCT ALT.	
M300C-R.2	MECHANICAL PROPOSED PIPING- LOWER LEVEL - ADD ALT.	
M301-R.2	MECHANICAL PROPOSED PIPING - FIRST FLOOR	
M302-R.2	MECHANICAL PROPOSED PIPING - SECOND FLOOR	
M303-R.2	MECHANICAL PROPOSED PIPING - ATTIC	
M400-R.2	MECHANICAL PARTIAL PLANS & SECTIONS	
M500-R.2	MECHANICAL CONTROLS SEQUENCES	
M501-R.2	MECHANICAL DIAGRAMS	
M600-R.2	MECHANICAL SCHEDULES	
M601-R.2	MECHANICAL SCHEDULES	
M700-R.2	MECHANICAL DETAILS	
M701-R.2	MECHANICAL DETAILS	
M702-R.2	MECHANICAL DETAILS	

- 1. SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES INDICATED ON THIS DRAWING ARE TYPICAL. DRAWINGS MAY NOT INDICATE ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING.
- 2. GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS.
- 3. THE TERM "PROVIDE" MEANS "FURNISH AND INSTALL".

OWNER

- 4. ABIDE AND ENFORCE ALL SAFETY RULES AND REGULATIONS SET FORTH BY THE OWNER. ALL WORKERS AND SUPERVISORS MUST ATTAIN SAFETY TRAINING CLASSES (IF APPLICABLE). BE RESPONSIBLE TO FOLLOW ALL VERBAL INSTRUCTIONS GIVEN BY OWNERS REPRESENTATIVES
- 5. THE SUBMISSION OF A BID BY THE CONTRACTOR IS NOTIFICATION THAT THE CONTRACTOR HAS TOTALLY FAMILIARIZED HIMSELF WITH THE CONTRACT DOCUMENTS AND EXISTING SITE CONDITIONS AND HAS AGREED TO PROVIDE THE NECESSARY LABOR AND MATERIAL FOR THE COMPLETE INSTALLATION OF EACH SYSTEM IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH THE BEST PRACTICES OF THE INDUSTRY AND IN COMPLIANCE WITH ALL AUTHORITIES HAVING JURISDICTION.
- 6. THESE DRAWINGS ARE PRESENTED TO THE CONTRACTOR WITH THE UNDERSTANDING THAT THE CONTRACTOR IS AN EXPERT AND COMPETENT IN THE PREPARATION OF CONTRACT BID PRICES ON THE BASIS OF INFORMATION SUCH AS IS CONTAINED IN THESE DOCUMENTS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION AND IN COMPLETE CONFORMANCE WITH ALL APPLICABLE CODES, RULES, AND REGULATIONS. MINOR ITEMS NOT USUALLY SHOWN OR SPECIFIED, BUT MANIFESTLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE VARIOUS SYSTEMS, SHALL BE INCLUDED IN THE WORK AND IN THE PROPOSAL THE SAME AS IF SPECIFIED OR SHOWN ON THE DRAWINGS. IF ANY DEPARTURES FROM THE DRAWINGS ARE DEEMED NECESSARY, DETAILS OF SUCH DEPARTURES AND THE REASONS THEREFORE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO DEPARTURES SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER AND
- 7. VISIT THE SITE AND ADJOINING AREAS AND EXAMINE THE EXISTING CONDITIONS TO BECOME FAMILIAR WITH THEM AND TO DETERMINE THE DIFFICULTIES WHICH WILL AFFECT THE EXECUTION OF THE WORK OF THIS CONTRACT. THIS CONTRACTOR SHALL PERFORM THIS PRIOR TO THE SUBMISSION OF HIS PROPOSAL. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- 8. VISIT THE SITE AND VERIFY ALL DIMENSIONS IN THE FIELD, AND SHALL ADVISE THE ARCHITECT/ENGINEER AND THE OWNER OF ANY DISCREPANCIES BEFORE PERFORMING THE WORK
- 9. THE DRAWINGS INDICATE ARRANGEMENTS AND APPROXIMATE SIZES AND RELATIVE LOCATIONS OF PRINCIPAL APPARATUS, EQUIPMENT, DEVICES, AND SERVICES TO BE PROVIDED. DRAWINGS ARE DIAGRAMMATIC AND ARE A GRAPHIC REPRESENTATION OF CONTRACT REQUIREMENTS TO THE BEST AVAILABLE STANDARDS AT THE SCALE INDICATED.
- 10. LAYOUT OF EQUIPMENT INDICATED ON THE DRAWINGS SHALL BE CHECKED AND COMPARED AGAINST ALL DRAWINGS AND SPECIFICATIONS OF ALL TRADES AND EXACT LOCATIONS DETERMINED USING APPROVED SHOP DRAWINGS OF SUCH EQUIPMENT. WHERE PHYSICAL INTERFERENCES OCCUR. CONSULT WITH ENGINEER AND PREPARE DATED. DIMENSIONED DRAWINGS COORDINATED WITH ALL OTHER TRADES WORKING IN THIS AREA AND CORRECTING SUCH INTERFERENCE.
- 11. SCHEDULE WORK IN ACCORDANCE WITH THE CONSTRUCTION SCHEDULE SO THAT ALL WORK CAN BE INSTALLED WITHOUT DELAYING THE PROJECT. ALL WORK RELATED TO SHUTDOWN OF EXISTING SERVICES SHALL BE PERFORMED AT THE HOURS DESIGNATED BY THE OWNER WITH ALL ASSOCIATED COSTS BORNE BY THE CONTRACTOR AT NO COST TO THE OWNER. PROVIDE ANY TEMPORARY FACILITIES REQUIRED TO PERMIT THE OWNER'S USE OF EXISTING FACILITIES AND SYSTEMS TO REMAIN UNDISTURBED. COORDINATE ALL WORK, INCLUDING ALL SHUTDOWNS THAT AFFECT SYSTEMS AND/OR PORTIONS OF THE BUILDING THAT MUST REMAIN IN OPERATION, WITH THE OWNER AND ALL OTHER CONTRACTORS.
- 12. SECURE AND PAY ALL FEES, LICENSES, INSPECTIONS, AND PERMITS PERTAINING TO THE CONTRACT. SUBMIT TO OWNER DUPLICATE CERTIFICATES OF INSPECTION FROM APPROVED INSPECTION AGENCY.
- 13. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 14. BE RESPONSIBLE FOR WORKMEN'S IDENTIFICATION AND BADGING, SAFETY AND FIRE PROTECTION, BARRICADES, WARNING SIGNS, TRASH REMOVAL, CUTTING AND PATCHING.
- 15. BE RESPONSIBLE FOR ALL RIGGING, HANDLING, AND PROTECTION OF MATERIALS. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT. ALL EQUIPMENT INSTALLED SHALL BEAR THE LABEL OF AN APPROVED AGENCY.
- 16. PROVIDE LABOR TO RECEIVE, UNLOAD, STORE, PROTECT, AND TRANSFER TO POINT OF INSTALLATION FOR ALL FURNISHED ITEMS. 17. WHERE CONDUIT, CABLES, DUCTWORK, OR PIPING PASSES THROUGH FIRE RATED FLOORS OR WALLS, THE PENETRATION SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS
- UL LISTED AND ACCEPTED BY THE BUILDING DEPARTMENT AND FIRE DEPARTMENT AS BEING SUITABLE FOR THIS SERVICE. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER TO MAINTAIN THE UL LISTED FIRE RATING OF THE PENETRATED WALL OR FLOOR.
- 18. BE RESPONSIBLE FOR ALL SLAB OPENINGS, WALL OPENINGS, BEAM PENETRATIONS, AND CORING AS IT RELATES TO HIS WORK. SUBMIT SIZE AND LOCATION FOR REVIEW AND APPROVAL.
- 19. ALL EXTERIOR WALL OPENINGS SHALL BE SLEEVED, PROPERLY CAULKED, AND SEALED WITH A HIGH QUALITY SEALANT TO PREVENT INFILTRATION OF MOISTURE AND OUTSIDE AIR.
- 20. COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS. CONTRACTOR TO NOTIFY OWNER PRIOR TO STARTING WORK TO VERIFY COMPLIANCE WITH BOND AND WARRANTY OF EXISTING ROOF.
- 21. RESTORE EXISTING SYSTEMS, DEVICES, FINISHED, ETC. DAMAGED OR ALTERED BY WORK TO ACCEPTABLE CONDITIONS AS DETERMINED BY THE OWNER, ARCHITECT, AND/OR ENGINEER. EXISTING SYSTEMS AND SERVICES THAT ARE TEMPORARILY DISCONNECTED BUT ARE TO REMAIN IN USE SHALL BE PERMANENTLY RECONNECTED AND RETURNED TO PROPER OPERATION.
- 22. SUBMIT A SCHEDULE OF SUBMITTALS PRIOR TO SUBMITTING ANY SHOP DRAWINGS, ETC. FOR THIS PROJECT, INCLUDING THE ANTICIPATED DATE OF EACH SUBMISSION. CONTRACTORS SHALL SUBMIT FOUR (4) SETS OF COMPLETE SHOP DRAWINGS AND CATALOG CUTS, WIRING DIAGRAMS AND ASSOCIATED DATA TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR STARTING ANY WORK. CONTRACTOR SHALL SUBMIT FOUR (4) PRINTS OF ALL PIPING AND DUCTWORK FIELD INSTALLATION DRAWINGS FOR EACH SYSTEM TO BE INSTALLED. ENGINEER SHALL RETAIN TWO (2) COPIES FOR RECORD AND RETURN TWO (2) COPIES TO CONTRACTOR VIA CONTRACTUAL REQUIREMENTS. ANY WORK INSTALLED OR EQUIPMENT PURCHASED PRIOR TO RECEIPT OF ENGINEER APPROVED SHOP DRAWINGS THAT REQUIRES CHANGES SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
- 23. SUBMIT CATALOG INFORMATION, FACTORY ASSEMBLY DRAWINGS AND FIELD INSTALLATION DRAWINGS AS REQUIRED FOR A COMPLETE EXPLANATION AND DESCRIPTION OF ALL ITEMS TO BE PROVIDED. REVIEW AND APPROVE ALL SHOP DRAWINGS. NO SUBMISSION WILL BE ACCEPTED WITHOUT THE SIGNED APPROVAL OF THE CONTRACTOR. CHECK AND VERIFY ALL FIELD MEASUREMENTS.
- 24. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL SUPPLY THE ENGINEER WITH ONE (1) COMPLETE SET OF AS-BUILT DRAWINGS IN ELECTRONIC AUTOCAD SOFTWARE FORMAT AT CONTRACTOR'S EXPENSE AND THREE (3) COMPLETE BOUND COPIES OF OPERATION AND MAINTENANCE MANUALS. THESE SHALL BE PROVIDED TO THE OWNER AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL INSTRUCT THE OWNER'S PERSONNEL WITH REGARD TO THE PROPER OPERATION OF ALL SYSTEMS TO THE SATISFACTION OF THE OWNER.
- 25. NOTIFY ENGINEER OF COMPLETION OF ALL WORK, INDICATING THE CONTRACTOR IS READY FOR THE ENGINEER TO PERFORM THE FINAL PUNCHLIST INSPECTION.
- 26. UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED, ALL WORK FURNISHED UNDER THE CONTRACT SHALL BE GUARANTEED AGAINST ANY AND ALL DEFECTS IN WORKMANSHIP AND/OR MATERIALS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE INSTALLATION. ANY DEFECTS OF WORKMANSHIP DEVELOPING DURING THIS PERIOD SHALL BE REMEDIED AND ANY DEFECTIVE MATERIAL REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.
- 27. PREPARE FULLY DIMENSIONED FIELD SHEET METAL AND PIPING INSTALLATION DRAWINGS (MIN. 1/4"=1'-0" SCALE). THESE DRAWINGS SHALL BE FORWARDED TO ALL CONTRACTORS. EACH CONTRACTOR SHALL SUBSEQUENTLY IN SUCCESSION DELINEATE HIS RESPECTIVE WORK ON THESE COORDINATION DRAWINGS. WHEN ALL WORK HAS BEEN PROPERLY SHOWN ON THE COORDINATION DRAWINGS, AND ALL CONTRACTORS AGREE THAT THEIR RESPECTIVE WORK CAN BE INSTALLED AND WILL PROPERLY FIT TOGETHER, THEY SHALL SO ACKNOWLEDGE BY ENDORSING THE DRAWING(S), ANY WORK DONE PRIOR TO COMPLETION OF ABOVE COORDINATION PROCESS FOUND IN CONFLICT SHALL BE REMOVED AND REPLACED AT THE RESPECTIVE CONTRACTOR'S EXPENSE.
- 28. INSTALLED SYSTEMS SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT SOUND OR VIBRATION THAT IS OBJECTABLE TO THE ENGINEER, ARCHITECT, OR THE OWNER. OBJECTABLE FION CONDITIONS DUE TO WORKMANSHIP SHALL BE CORRECTED IN APPROVED MANNER BY THE CONTRACTOR AT HIS EXPENSE.
- 29. UPON COMPLETION OF ALL UNFINISHED OR FAULTY WORK NOTED IN ENGINEER FINAL PUNCH LIST, SUBMIT TO THE ENGINEER IN WRITING A LETTER OF COMPLETION CERTIFYING THAT ALL PUNCH LIST ITEMS HAVE BEEN COMPLETED AND ALL AS-BUILTS, MANUALS, ETC. HAVE BEEN SUBMITTED.
- 30. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLAB AND WALL OPENINGS, BEAM PENETRATIONS AND CORING DRILLING AS IT RELATES TO HIS WORK. PLUMBING CONTRACTOR SHALL SUBMIT SIZE AND LOCATION OF ALL SLAB AND WALL OPENINGS AND BEAM PENETRATIONS, AND COR DRILLING TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL.
- 31. EFFECTIVELY PROTECT ALL MATERIAL AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE DAMAGED ITEMS AT NO ADDITIONAL LOST TO OWNER.
- 32. REFERENCED MANUFACTURES DENOTES A MINIMUM ACCEPTABLE LEVEL OF QUALITY AND IS NOT INTENDED TO PREVENT SUBMISSION OF EQUIVALENT EQUIPMENT.
- 33. ALL WORK BEING INSTALLED IN AIR PLENUM SPACES MUST BE INSTALLED WITH PLENUM RATED MATERIAL. ANY EXISTING NON-PLENUM RATED PLUMBING PIPE LOCATED WITHIN THESE PLENUM RATED AREAS SHALL BE WRAPPED WITH A PLENUM RATED PIPE WRAPPING MATERIAL.

MECHANICAL DEMOLITION NOTES

- 1. INCLUDE IN BID ALL COSTS ASSOCIATED WITH REMOVAL AND RELOCATION OF WORK AS DESCRIBED IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE ARCHITECT.
- 2. REMOVE AND/OR RELOCATE ALL EXISTING WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL AND ELECTRICAL LAYOUTS IN FULL COORDINATION WITH THE ARCHITECT'S DEMOLITION PLANS, ALL SYSTEMS WHICH ARE NO LONGER REQUIRED TO FUNCTION SHALL BE DE-ENERGIZED AND DISCONNECTED AT THE SOURCE OF POWER SUPPLY.
- 3. DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION. ALL PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP, AND FINISH, AND SHALL ACCURATELY MATCH ALL SURROUNDING WORK.
- REMOVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
- BLANK COVERS. 6. NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN
- DEMOLITION AND PHASING SCHEDULE AND PROCEED IN THE SPECIFIED SEQUENCE. 7. ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF IN A LEGAL MANNER BY THE ELECTRICAL CONTRACTOR, AS DIRECTED BY THE OWNER. ITEMS OF
- 8. INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS OF EXISTING SERVICES SHALL BE PERFORMED AT NO ADDITIONAL CHARGES, AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF OWNER. NOTIFICATION MUST BE GIVEN AT LEAST 5 DAYS PRIOR TO SHUT DOWN. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED
- 9. ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVERTIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
- 10. PATCH AND PAINTING OF EXISTING WALLS TO REMAIN AFFECTED BY ELECTRICAL DEMOLITION ARE TO BE COMPLETED UNDER GENERAL CONSTRUCTION SPECIFICATION.
- 11. SURVEY AND RECORD THE CONDITION OF EXISTING FACILITIES TO REMAIN IN PLACE THAT MAY BE AFFECTED BY DEMOLITION OPERATIONS. THE CONTRACTOR SHALL VERIFY ALL EXISTING SOURCES OF POWER TO EQUIPMENT PRIOR TO FINAL REMOVAL.
- DISPOSED OF SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE.

CONSULT WITH FIRE MARSHALL PRIOR TO FIRE WATCH.

4. ALL EXISTING SYSTEMS WHICH BECOME EXPOSED DURING THE ALTERATION WORK SHALL BE 5. ALL UNUSED OUTLET BOXES OR CAPPED FLOOR OUTLETS SHALL BE PROVIDED WITH MATCHING

COORDINATION WITH THE PROJECT REQUIREMENTS. FOLLOW CLOSELY THE ARCHITECT'S

SALVAGE SHALL BE CAREFULLY REMOVED AND STORED AT LOCATIONS DIRECTED BY THE OWNER.

WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.

12. EXISTING WORK THAT IS TO BE REMOVED SHALL BE LEGALLY DISPOSED OF. ALL WORK TO BE

13. IF WORK REQUIRES THE INTERRUPTION FIRE ALARM AND FIRE PROTECTION SYSTEMS, ARRANGE WITH OWNER TO CONDUCT A FIRE WATCH WHILE THESE SYSTEMS ARE OUT OF SERVICE.

MECHANICAL NOTES

- 1. MOUNT SENSORS AND SWITCHES AT 4'-0" MAX ABOVE FINISHED FLOOR (2'-10" MAX ABOVE FINISHED FLOOR INSIDE REACH ACCESSIBLE LOCATIONS). COORDINATE EXACT LOCATIONS W/ARCHITECT. UNLESS OTHERWISE SPECIFIED, CONTRACTOR SHALL PROVIDE CONTROL WIRING FROM SENSORS OR SWITCH TO THE CORRESPONDING HVAC EQUIPMENT AND/OR CONTROL PANEL. ALL LOW VOLTAGE CONTROL WIRING SHALL BE INSTALLED IN A MANNER TO PREVENT PHYSICAL DAMAGE.
- 2. UNLESS OTHERWISE SPECIFIED, CONTRACTOR SHALL PROVIDE ALL AUTOMATIC TEMPERATURE CONTROLS (ATC) INCLUDING WIRING, DDC SENSORS AND ALL MISCELLANEOUS APPURTENANCES TO MEET THE INTENT OF THESE DOCUMENTS.
- 3. PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC SERVICE.
- 4. PROVIDE HANGERS, INSERTS, ANCHORS, SUPPLEMENTAL STEEL & SUPPORTS AS REQUIRED TO SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM STRUCTURE.
- 5. RUN DUCTS AND PIPING CONCEALED, UNLESS OTHERWISE SPECIFIED AND CLEAR OF CEILING INSERTS.
- 6. STRUCTURAL WELDING SHALL BE CONTINUOUS 1/4" FILLET UNLESS REQUIRED OTHERWISE.
- 7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES.
- 8. INTERNAL AIRFLOW DIMENSIONS ARE SHOWN FOR DUCTS. INCREASE DUCT SIZE AS NECESSARY TO MAINTAIN FREE FLOW AREA INDICATED.
- 9. USE FLAT TRANSVERSE SEAM FOR DUCTWORK WHERE SPACE AVAILABLE DICTATES.
- 10. PROVIDE TURNING VANES AN ALL DUCTWORK 90° AND 45° ELBOWS.
- 11. PROVIDE VOLUME DAMPERS OR OTHER APPROVED BALANCING DEVICES AT DUCT BRANCHES AND RUN OUTS, AND AT REGISTER GRILLE AND DIFFUSER NECKS IN SUPPLY, RETURN AND EXHAUST DUCTWORK WHETHER SHOWN OR NOT.
- 12. LOCATE VOLUME DAMPERS OVER ACCESSIBLE AREAS. WHERE THEY CANNOT BE MAINTAINED VIA REMOVAL OF CEILING OR ACCESS PANEL. PROVIDE REMOTE OPERATED DAMPER.
- 13. PROVIDE 36" CLEARANCE IN FRONT OF ALL ELECTRIC CONTROL PANELS PER N.E.C. AND MFG. REQUIREMENTS.
- 14. PITCH PIPING 1" IN 20' IN DIRECTION OF FLOW FOR PRESSURE PIPE.
- 15. PROVIDE MIN 1% SLOPE FOR ALL GRAVITY DRAIN PIPE
- 16. PROVIDE TRAPS IN CONDENSATE LINES THAT EXTEND OVER 2".
- 17. COORDINATE WORK SO TRAP OUTLET IS ABOVE DRAIN/PUMP RECEIVER INLET WITH SUFFICIENT ELEVATION TO ALLEVIATE HORIZONTAL OFFSET.
- 18. OBTAIN THE SERVICES OF AN INDEPENDENT AABC OR NEBB CERTIFIED BALANCING CONTRACTOR TO ADJUST EQUIPMENT TO ACHIEVE DESIGN AIR AND WATER FLOWS. ALL REQUIRED MEASURED PARAMETERS SHALL BE PRESENTED IN THE BALANCING REPORTS IN ORDER TO PROPERLY EVALUATE THE PERFORMANCE AND CAPACITY AT THE EQUIPMENT. BELTS AND SHEAVES SHALL BE REPLACED AS REQUIRED.
- 19. SUBMIT COPIES OF THE AIR BALANCE REPORT TO THE ENGINEER FOR APPROVAL. UPON APPROVAL, TWO COPIES SHALL BE TURNED OVER TO THE OWNER AND ONE COPY SHALL BE SUBMITTED TO THE TOWNSHIP INSPECTOR AT OR PRIOR TO FINAL INSPECTION.

1 MECHANICAL DEMOLITION - REC CENTER LOWER LEVEL - BASE SCOPE M100-R/2 1/8" = 1'-0"

- COORDINATE MECHANICAL WORK WITH OTHER TRADES. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK.
- 2. REFER TO PACKAGE 1 FOR EXTERIOR DEMOLITION SCOPE OF WORK.

DEMOLITION NOTES

1 MECHANICAL DEMOLITION - REC CENTER LOWER LEVEL - ALTERNATE R-3 DEDUCT M100B-B.2 1/8" = 1'-0"

- 1. COORDINATE MECHANICAL WORK WITH OTHER TRADES. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK..
- 2. THIS SHEET IS FOR PRELIMINARY PRICING ONLY. FULL ENGINEERING IS REQUIRED TO PROVIDE CONSTRUCTION DOCUMENTS FOR THIS CONCEPT SHOULD REBUILD ACCEPT.

MECHANICAL DEMOLITION - REC CENTER FIRST FLOOR

- 1. COORDINATE MECHANICAL WORK WITH OTHER TRADES. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK.
- 2 DISCONNECT AND REMOVE ALL AIR-SIDE HVAC EQUIPMENT.

DEMOLITION NOTES (#)

- DISCONNECT AND REMOVE EXISTING STEAM RADIATOR IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, COIL, SUPPORTS, CONTROLS, VALVES, STEAM TRAPS, AND PIPING.
- DISCONNECT AND REMOVE EXISTING UNIT HEATER IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, COIL, SUPPORTS, CONTROLS, VALVES, WIRING, AND PIPING.
- DISCONNECT AND REMOVE EXISTING CONVECTOR IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, COIL, SUPPORTS, CONTROLS, VALVES, AND PIPING.
- DISCONNECT AND REMOVE EXISTING CABINET UNIT HEATER IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, COIL, SUPPORTS, 4 CONTROLS, VALVES, AND PIPING. DISCONNECT AND REMOVE EXISTING WINDOW AIR CONDITIONING
- UNIT IN ITS ENTIRETY.

1 MECHANICAL DEMOLITION - REC CENTER SECOND FLOOR M102-R/2 1/8" = 1'-0"

- COORDINATE MECHANICAL WORK WITH OTHER TRADES. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK.
- 2. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS.
- 3 DISCONNECT AND REMOVE ALL AIR-SIDE HVAC EQUIPMENT.
- MAINTAIN EXISTING HEATING HOT WATER PIPE DISTRIBUTION AND BASEBOARD RADIATORS.

DEMOLITION NOTES

- DISCONNECT AND REMOVE EXISTING CONVECTOR IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, COIL, SUPPORTS, CONTROLS, VALVES, AND PIPING.
- 2 DISCONNECT AND REMOVE EXISTING STEAM RADIATOR IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, COIL, SUPPORTS, CONTROLS, VALVES, STEAM TRAPS, AND PIPING.
- B DISCONNECT AND REMOVE EXISTING CABINET UNIT HEATER IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, COIL, SUPPORTS, CONTROLS, VALVES, AND PIPING.
- DISCONNECT AND REMOVE EXISTING EXHAUST FAN IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, FAN, DUCTWORK, LOUVERS, SUPPORTS, AND WIRING.

(1) MECHANICAL PROPOSED DUCTWORK - REC CENTER LOWER LEVEL - BASE SCOPE M200-R/2 1/8" = 1'-0"

GENERAL NOTES:

- 1. REFER TO M001 FOR MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS. 2. COORDINATE MECHANICAL WORK WITH OTHER TRADES.
- 3. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF THE AREA.
- 4. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE WITH OTHER TRADES AND BUILDING.
- 5. PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS.
- 6. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
- 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE WITH AIR FLOWS ON EQUIPMENT SCHEDULE.
- 8. PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS.
- 9. REFER TO TEMPERATURE SENSOR SCHEDULE FOR SENSOR TYPES PER LOCATION. COORDINATE FINAL SENSOR LOCATIONS WITH ARCHITECT.
- 10. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES.
- 11. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS.
- 12. PRIOR TO RELEASE OF ANY HVAC EQUIPMENT FOR FABRICATION, FIELD VERIFY DIMENSIONS AND SUBMIT SHOP DRAWINGS TO A/E FOR REVIEW INDENTIFYING INSTALLATION. IDENTIFY ANY FIELD DIMENSION ISSUES TO A/E TEAM AS SOON AS THEY ARE REALIZED.
- 13. THE HVAC MECHANICAL CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE TO THE LATEST LOCAL AND NATIONAL CODE AND STANDARD.
- 14. THE HVAC CONTRACTOR SHALL VERIFY THE ACTUAL LOCATION PRIOR TO INSTALLATION AND REPORT ANY TYPE OF OBSTACLE TO PROJECT MANAGER OR ENGINEER FOR CONSULTATION.
- 15. THE HVAC CONTRACTOR SHALL SUBMIT A COPY OF EQUIPMENT SUBMITTAL TO PENNONI MECHANICAL TEAM FOR APPROVAL PRIOR TO PURCHASE ORDER. 16. AIR BALANCING CONTRACTOR SHALL BALANCE THE ENTIRE SYSTEM IN
- ACCORDANCE TO THE PROVIDED AIR FLOW DATA. 17. AIR BALANCING CONTRACTOR SHALL PROVIDE A FULL BALANCING REPORT TO
- PENNONI MECHANICAL TEAM FOR REVIEW AND APPROVAL. 18. PROVIDE VOLUME DAMPER ON ALL BRANCH DUCTWORK TO AIR DEVICES.
- DAMPER SHALL BE IMMEDIATELY AFTER BRANCH TAKE-OFF. 19. PROVIDE FIRE DAMPER ON ALL DUCT PENETRATIONS THROUGH 2-HR RATED
- WALLS. 20. ALL BRANCH PIPING TO TERMINAL HEATING COILS SHALL BE 3/4" NPS UNLESS NOTED OTHERWISE.

NEW WORK NOTES

- 1 MAINTAIN CLEARANCE OF 16" FROM DOORWAY.
- PROVIDE INTERNAL LINING WHERE INDICATED.
- DUCTWORK PENETRATES FIRST FLOOR SLAB AND SUPPLIES FIRST FLOOR DISTRIBUTION DEVICES ABOVE.
- DUCTWORK PENETRATES FIRST FLOOR SLAB AND RETURNS FROM FIRST FLOOR DISTRIBUTION DEVICES ABOVE.

- 1. COORDINATE MECHANICAL WORK WITH OTHER TRADES. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK ..
- 2. THIS SHEET IS FOR PRELIMINARY PRICING ONLY. FULL ENGINEERING IS REQUIRED TO PROVIDE CONSTRUCTION DOCUMENTS FOR THIS CONCEPT SHOULD REBUILD ACCEPT.

1 MECHANICAL PROPOSED DUCTWORK - REC CENTER LOWER LEVEL - ADD ALT M200C-B.2 1/8" = 1'-0"

- REFER TO M001 FOR MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS.
 COORDINATE MECHANICAL WORK WITH OTHER TRADES.
- PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF THE AREA.
- 4. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE WITH OTHER TRADES AND BUILDING.
- PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS.
 EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE
- MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE
- WITH AIR FLOWS ON EQUIPMENT SCHEDULE.8. PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS..
- 9. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES.
- 10. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS. NONI MECHANICAL TEAM FOR REVIEW AND APPROVAL.

MECHANICAL PROPOSED DUCTWORK - REC CENTER FIRST FLOOR

<u>GENERAL NOTES:</u>

- 1. REFER TO M001 FOR MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS.
- COORDINATE MECHANICAL WORK WITH OTHER TRADES.
 PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL,
- MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF THE AREA.PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE
- WITH OTHER TRADES AND BUILDING.5. PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS.
- 6. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
- 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE WITH AIR FLOWS ON EQUIPMENT SCHEDULE.
- PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS..
 WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS
- TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES. 10. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS.
- NONI MECHANICAL TEAM FOR REVIEW AND APPROVAL. 11. PROVIDE VOLUME DAMPER ON ALL BRANCH DUCTWORK TO AIR DEVICES. DAMPER SHALL BE IMMEDIATELY AFTER BRANCH TAKE-OFF.

NEW WORK NOTES

- 1 DUCTWORK PENETRATES FIRST FLOOR SLAB AND IS FED FROM LOWER LEVEL.
- 2 DUCTWORK PENETRATES FIRST FLOOR SLAB AND RETURNS TO LOWER LEVEL

1 MECHANICAL PROPOSED DUCTWORK - REC CENTER SECOND FLOOR M202-R/2 1/8" = 1'-0"

<u>GENERAL NOTES:</u>

- 1. REFER TO M001 FOR MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS.
- 2. COORDINATE MECHANICAL WORK WITH OTHER TRADES.
- PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF THE AREA.
- 4. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE WITH OTHER TRADES AND BUILDING.
- PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS.
 EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE
- MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
- 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE WITH AIR FLOWS ON EQUIPMENT SCHEDULE.
- PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS..
 WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS
- TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES.10. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS.
- NONI MECHANICAL TEAM FOR REVIEW AND APPROVAL. 11. PROVIDE VOLUME DAMPER ON ALL BRANCH DUCTWORK TO AIR DEVICES.

NEW WORK NOTES

1 DIFFUSERS FED THROUGH ATTIC SLAB AND SUPPLY 205 AUDITORIUM BELOW.

DAMPER SHALL BE IMMEDIATELY AFTER BRANCH TAKE-OFF.

- 2 DUCTWORK PENETRATES ATTIC SLAB AND RETURNS FROM 206
- STAGE BELOW.3 DUCTWORK PENETRATES ATTIC SLAB AND EXHAUSTS FROM 206
- STAGE BELOW.
- 4 DUCTWORK PENETRATES ATTIC SLAB AND IS FED FROM THE ATTIC.
- 5 DUCTWORK PENETRATES ATTIC SLAB AND CONNECTS TO DISTRIBUTION DEVICE SHOWN.

- 1. REFER TO M001 FOR MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS.
- 2. COORDINATE MECHANICAL WORK WITH OTHER TRADES.
- 3. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF THE AREA.
- 4. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE WITH OTHER TRADES AND BUILDING.
- 5. PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS. 6. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE
- MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS. 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE
- WITH AIR FLOWS ON EQUIPMENT SCHEDULE.
- 8. PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS.. 9. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS
- TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES. 10. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS. NONI MECHANICAL TEAM FOR REVIEW AND APPROVAL.
- 11. PROVIDE VOLUME DAMPER ON ALL BRANCH DUCTWORK TO AIR DEVICES. DAMPER SHALL BE IMMEDIATELY AFTER BRANCH TAKE-OFF.

NEW WORK NOTES

- 1 DUCTWORK PENETRATES ATTIC SLAB AND RETURNS FROM 206 STAGE BELOW.
- 2 DUCTWORK PENETRATES ATTIC SLAB AND EXHAUSTS FROM 206 STAGE BELOW.
- DUCTS PENETRATE ATTIC SLAB AND SUPPLY 205 AUDITORIUM 3 BELOW.
- DUCTWORK PENETRATES ATTIC SLAB AND CONNECTS TO DISTRIBUTION DEVICE ON SHOWN ON SECOND FLOOR. 4

1 MECHANICAL PROPOSED PIPING - REC CENTER LOWER LEVEL M300-R/2 1/8" = 1'-0"

GENERAL NOTES:

- 1. REFER TO M001 FOR MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS.
- 2. COORDINATE MECHANICAL WORK WITH OTHER TRADES.
- 3. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF THE AREA.
- 4. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE WITH OTHER TRADES AND BUILDING.
- 5. PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS.
- 6. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
- 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE WITH AIR FLOWS ON EQUIPMENT SCHEDULE.
- 8. PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS.. 9. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS
- TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES. 10. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS.
- NONI MECHANICAL TEAM FOR REVIEW AND APPROVAL. 11. PROVIDE VOLUME DAMPER ON ALL BRANCH DUCTWORK TO AIR DEVICES. DAMPER SHALL BE IMMEDIATELY AFTER BRANCH TAKE-OFF.

NEW WORK NOTES

- PROVIDE EQUIPMENT PAD WITH 6-INCH AROUND CONDENSING UNIT AND 4-INCH IN HEIGHT.
- PROVIDE FENCE WITH MIN 50% FREE AREA. REFER TO ARCHITECTURAL PLANS FOR DETAILS.

- 1. COORDINATE MECHANICAL WORK WITH OTHER TRADES. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK..
- 2. THIS SHEET IS FOR PRELIMINARY PRICING ONLY. FULL ENGINEERING IS REQUIRED TO PROVIDE CONSTRUCTION DOCUMENTS FOR THIS CONCEPT SHOULD REBUILD ACCEPT.

- 1. COORDINATE MECHANICAL WORK WITH OTHER TRADES. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK..
- 2. THIS SHEET IS FOR PRELIMINARY PRICING ONLY. FULL ENGINEERING IS REQUIRED TO PROVIDE CONSTRUCTION DOCUMENTS FOR THIS CONCEPT SHOULD REBUILD ACCEPT.

1 MECHANICAL PROPOSED PIPING - REC CENTER FIRST FLOOR M301-R/2 1/8" = 1'-0"

- 3. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF THE AREA.
- 4. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE WITH OTHER TRADES AND BUILDING.
- PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS.
 EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE
- MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE
- WITH AIR FLOWS ON EQUIPMENT SCHEDULE.
 8. PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS...
- 9. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES.
- 10. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS. NONI MECHANICAL TEAM FOR REVIEW AND APPROVAL.
- 11. PROVIDE VOLUME DAMPER ON ALL BRANCH DUCTWORK TO AIR DEVICES. DAMPER SHALL BE IMMEDIATELY AFTER BRANCH TAKE-OFF.

1 MECHANICAL PROPOSED PIPING - REC CENTER SECOND FLOOR M302-R/2 1/8" = 1'-0"

<u>GENERAL NOTES:</u>

- 1. REFER TO M001 FOR MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS.
- COORDINATE MECHANICAL WORK WITH OTHER TRADES.
 PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL,
- THE AREA. 4. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE

MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF

- WITH OTHER TRADES AND BUILDING.5. PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS.
- 6. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
- 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE WITH AIR FLOWS ON EQUIPMENT SCHEDULE.
- PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS..
 WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES.
- 10. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS. NONI MECHANICAL TEAM FOR REVIEW AND APPROVAL.
- 11. PROVIDE VOLUME DAMPER ON ALL BRANCH DUCTWORK TO AIR DEVICES. DAMPER SHALL BE IMMEDIATELY AFTER BRANCH TAKE-OFF.

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<u>GENERAL NOTES:</u>

- REFER TO M001 FOR MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS.
 COORDINATE MECHANICAL WORK WITH OTHER TRADES.
- PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF THE AREA.
- 4. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE WITH OTHER TRADES AND BUILDING.
- PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS.
 EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE
- MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE
- WITH AIR FLOWS ON EQUIPMENT SCHEDULE. 8. PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS..
- 9. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES.
- WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS. NONI MECHANICAL TEAM FOR REVIEW AND APPROVAL.
- 11. PROVIDE VOLUME DAMPER ON ALL BRANCH DUCTWORK TO AIR DEVICES. DAMPER SHALL BE IMMEDIATELY AFTER BRANCH TAKE-OFF.

M400-R2 1/2" = 1'-0"

GENERAL NOTES:

- 1. REFER TO M001 FOR MECHANICAL NOTES, LEGENDS, AND ABBREVIATIONS.
- 2. COORDINATE MECHANICAL WORK WITH OTHER TRADES.
- 3. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL CAPTURE ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ELEMENTS OF THE AREA.
- 4. PHASE CONSTRUCTION TO MAINTAIN FACILITY OPERATIONS. COORDINATE WITH OTHER TRADES AND BUILDING.
- 5. PROVIDE 1-1/2HR RATED COMBINATION FIRE/SMOKE DAMPERS WITH ACCESS DOOR AT ALL SHAFT WALL AND FLOOR PENETRATIONS. 6. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE
- MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS. 7. BALANCE ALL OUTSIDE AIR CONNECTIONS TO FCU/AC UNIT IN ACCORDANCE
- WITH AIR FLOWS ON EQUIPMENT SCHEDULE. 8. PROVIDE NEC 3'-0"CLEARANCE IN FRONT OF EACH HVAC UNIT CONTROLLERS..
- 9. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO FCU AND VAV UNIT CONTROL PANELS AND POWER SUPPLIES.
- 10. WHERE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE ACCESS DOORS TO DUCT VOLUME DAMPER ACTUATORS.
- NONI MECHANICAL TEAM FOR REVIEW AND APPROVAL. 11. PROVIDE VOLUME DAMPER ON ALL BRANCH DUCTWORK TO AIR DEVICES. DAMPER SHALL BE IMMEDIATELY AFTER BRANCH TAKE-OFF.

NEW WORK NOTES

DUCTWORK PENETRATES FIRST FLOOR SLAB AND SUPPLIES FIRST FLOOR DISTRIBUTION DEVICES ABOVE. 1

				r — — — — — I I	[CU-11		AC/FCU
				 		CU-10		AC/FCU
				 	[CU-9		AC/FCU
				 	[CU-8		AC/FCU
				 	[CU-7		AC/FCU
FTR –	FLOOR 2					CU-6		AC/FCU
UH/CUH –	PANEL			' 		CU-5		AC/FCU
- FTR 	FLOOR 2 SECOND/ PANEL	ARY BMS		 		CU-4		AC/FCU
– CONV – AHU 1 THRU 4 – FTR	SECOND/ PANEL	ARY BMS		1 	[CU-3		AC/FCU
UH/CUH – CONV – AHU 1 THRU 4 –	FLOOR 1 SECOND/ PANEL	ARY BMS		 		CU-2		AC/FCU
FTR UH/CUH CONV	LOWER L SECOND PANEL	EVEL		 		CU-1		AC/FCU
FTR – UH/CUH – CONV –	LOWER L SECOND, PANEL	EVEL ARY BMS		 	[BOILER CONTROL PANEL		BOILER PUMPS
				 	L]	
	WORKSTATION	 	_ PRIMARY CONTRO	, L PANEL		— FTR — CU-12 — UH/CUH		

(3) BMS NETWORK DIAGRAM M500-R2 1/8" = 1'-0"

CONTROLS DRAWINGS NOTES

- 1. EXISTING CONTROLS COMPRESSORS AND ELECTRICAL FRONT-ENDS ARE TO BE DE-COMMISIONED AND EXISTING PNEUMATIC TUBING AND WIRING BE ABANDONED.
- 2. PROVIDE NEW BACNET-COMPATIBLE (ASHRAE 135) DDC CONTROL SYSTEM FOR ALL NEW EQUIPMENT SPECIFIED AND ALL EXISTING EQUIPMENT IDENTIFIED ON THE DOCUMENTS.
- 3. NEW EQUIPMENT SHALL COMMUNICATE TO THE FIRE ALARM SYSTEM. MECHANICAL EQUIPMENT SHALL SHUT UPON DETECTION OF FIRE IN THEIR RESPECTIVE ZONES IN ACCORDANCE WITH THE EXISTING FIRE ALARM SEQUENCE OF OPERATIONS.
- 4. PROVIDE BMS GRAPHICS FOR ALL SYSTEMS IDENTIFIED TO BE CONNECTED TO THE BMS SYSTEM. THIS DRAWING IS FOR REFERENCE ONLY. NOT ALL REQUIRED CONTROLLERS AND DEVICES ARE SHOWN. PROVIDE THE QUANTITY OF SUPERVISORY CONTROLLERS SHOWN AT A MINIMUM. ADDITIONAL DEVICES SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE TOTAL POINT CONTROL.
- 6. ALL CONTROLLERS AND NETWORK BRANCHES SHALL BE PROVIDED BY THE BMS CONTRACTOR. THE BMS SHALL UTILIZE THE BUILDING LAN FOR COMMUNICATION BETWEEN THE NETWORK BRANCHES AND THE SERVER.
- 7. PROVIDE ALLOWANCE FOR (10) ADDITIONAL 3/4" CONTROL VALVES
- 8. PROVIDE ALLOWANCE FOR (5) ADDITIONAL 1" CONTROL VALVES
- 9. ALL PRIMARY AND SECONDARY CONTROLS TO HAVE 25% RESERVE CAPACITY IN I/O POINTS

		KIN	GSESSING REC CENTER - BMS DATA POINTS LIST			HOT WATER BOILERS (B-1 & 2, HWP 1 & 2)
	OBJECT NAME		OBJECT NAME		SUPPLY FAN COMMAND (EA RTU)	A. SCOPE OF WORK – PROVIDE DDC AND MEET THE SEQUENCES OUTL TO THE BACNET BUILDING MANAG
	OUTSIDE AIR TEMPERATURE		PUMP RUN HOURS	NIT HEATER	SUPPLY FAN STATUS (EA RTU)	B. <u>BOILER ENABLED</u> – THE BOILERS S SCHEDULE OR VIA MANUAL COMMANE OUTLINED BELOW:
	BOILER ENABLED	HWP-2	PUMP DIFFERENTIAL PRESSURE	HEATER / U	SPACE TEMPERATURE (EA RTU)	OADB > 60 DEG F (ADJ.): DI OADB = 60 DEG F (ADJ.): EI OADB = 20 DEG F (ADJ.): EI OADB = 20 DEG F (ADJ.): EI
	BOILER RUN HOURS	HWP-1 AND H	PUMP VFD START/STOP		SPACE TEMPERATURE (SETPOINT) (EA RTU)	TEMPERATURE RESET SHALL BE C LOWER LIMIT. WHEN ENABLED THE LEAD BOILER
	BOILER ISOLATION VALVE COMMAND	ARY PUMPS	PUMP VFD STATUS	0	HOT WATER HEATING COIL COMMAND (EA HC)	THE BOILER WITH THE FEWEST RU ON A COMMAND TO START, THE BO THROUGH THE BOILER VIA PRESS FIRED AND THE BOILER CONTROLS
	BOILER ISOALTION VALVE FEEDBACK BOILER ENTERING WATER TEMP BOILER ENTERING WATER TEMP SETPOINT BOILER LEAVING WATER TEMP	PRIM	PUMP VFD SPEED PUMP VFD ALARM	ETR	SPACE TEMPERATURE (EA RTU) SPACE TEMPERATURE (SETPOINT) (EA RTU) HOT WATER HEATING COIL COMMAND (EA HC)	ACCORDANCE WITH THE RESET SU BOILER LEAD/LAG CONTROLS – SE DETERMINED BY THE FOLLOWING SETPOINT HWRT = HWST –
	BOILER LEAVING WATER TEMP SETPOINT GAS BURNER FIRING RATE					IF THE HOT WATER RETURN TEMP (ADJ.) AND THE LEAD BOILER IS OF
	BOILER CONTROL PANEL COMMUNICATION STATUS		SYSTEM DIFFERENTIAL PRESSURE		EXHAUST FAN STATUS	IF THE HOT WATER RETURN TEMP MIN (ADJ.) AND THE BOTH BOILERS ENERGIZED AND THE LAG BOILER WATER TEMPERATURE.
-1 AND P-2	LAST DIAGNOSTIC		SYSEM DIFFERENTIAL PRESSURE SETPOINT		EXHAUST DAMPER	C. <u>PRIMARY PUMP ENABLE</u> : THE PRI THE LEAD PUMP WILL BE ESTABLISHE <u>PRIMARY PUMP LEAD/LAG CONTRO</u> PRESSURE DIFFERENTIAL OF 5 PS
BOILER P.	HIGH WATER TEMPERATURE ALARM (10 DEG F ABOVE SETPOINT)		HIGH SYSTEM DIFFERENTIAL PRESSURE ALARM (2PSID ABOVE SETPOINT)	UST FAN (CON	EXHAUST DAMPER (POSITION)	IF THE HOT WATER LOOP IS PRESS FOR 15 MIN (ADJ.) AND THE LEAD F ENERGIZED AND BOTH PUMPS SH
	LOW WATER TEMPERATURE ALARM (10 DEG F BELOW SETPOINT)		LOW SYSTEM DIFFERENTIAL PRESSURE ALARM (2PSID BELOW SETPOINT)	EXHAI		IF THE HOT WATER LOOP PRESSU MIN (ADJ.) AND ALL PUMPS ARE OF ENERGIZED AND THE LAG PUMP V SETPOINT PRESSURE DIFFERENTI
	BOILER BURNER FAILURE	M	DIFFERENTIAL PRESSURE BYPASS VALVE COMMAND			D. DISABLED MODE – THE BOILER SY SCHEUDLE. WHEN DISABLED ALL PUN ENERGIZED AND ALL ASSOCIATED CO
		SYST	DIFFERNTIAL PRESSURE BYAPSS VALVE FEEDBACK		EXHAUST FAN STATUS	E. PROVIDE ALL POINTS AND ALARMS
			SYSTEM FLOW (GPM)	rrol)	EXHAUST DAMPER	A. SCOPE OF WORK –PROVIDE DDC O OUTLINED BELOW.
			SYSTEM BTUH		EXHAUST DAMPER (POSITION)	B. FIRE ALARM INTERFACE –PROVIDE DETECTION OF FIRE ANYWHERE IN TH DAMPERS WILL BE CLOSED.
			OA TEMPERATURE (EA RTU)	TEMPERAT	SPACE TEMPERATURE	C. OCCUPIED AND UNOCCUPIED MOE CAPABLE OF BEING ADJUSTED OR OV BUTTON.
			OA ENTHALPY (EA RTU)	UST FAN (SPACE TEMPERATURE SETPOINT	D. OCCUPIED MODE – THE AHU SHAL CONTINUOUSLY.
				EXHA	HIGH SPACE TEMPERATURE ALARM	WHEN ENABLED THE SUPPLY FAN VFD SHALL MODULATE FAN SPEED ACCORDANCE WITH THE FOLLOW
					LOW SPACE TEMPERATURE ALARM	COOLING MODE OCCUPIED COOLING MODE HUMIDITY COOLING MODE UNOCCUP HEATING MODE OCCUPIED HEATING MODE UNOCCUP
	OBJECT NAME HEAT PUMP MODE - HEATING / COOLING (EACH AHU) VRF CONDENSER COMMUNICATION INTERFACE (EACH AHU) DOAS / ERV COMMAND (EA UNIT)		OBJECT NAME HEAT PUMP MODE - HEATING / COOLING (EACH AHU) VRF CONDENSER COMMUNICATION INTERFACE (EACH AHU) DOAS / ERV COMMAND (EA UNIT)			<u>COOLING MODE:</u> WHEN IN COOLIN CYCLE TO MAINTAIN 55 DEG F (AD MODULATE BETWEEN MINIMUM CF THE SETPOINT TEMPERATURE ANI SHALL MODULATE TO MAINTAIN SE
	DOAS / ERV STATUS (EA UNIT) AC / FCU COMMAND (EA UNIT) AC / FCU STATUS (EA UNIT) SPACE TEMPERATURE (EACH AHU)	4	DOAS / ERV STATUS (EA UNIT) AC / FCU COMMAND (EA UNIT) AC / FCU STATUS (EA UNIT) HW REHEAT COIL COMMAND (EACH COIL)			HEATING MODE: UPON A CALL FOF MINIMUM FLOW WHILE MAINTAININ SPEED AND THERE IS STILL A CALL FAN IS AT MINIMUM SPEED AND TH MODULATE TO MAINTAIN HEATING
ß	SPACE TEMPERATURE (SETPOINT) (EACH AHU)	THRU	HW REHEAT COIL STATUS (EACH COIL)	_		DEMAND CONTROL VENTILATION - DISABLED VIA THE BMS.
/ FCU/	SPACE HUMIDITY (EACH AHU) SPACE HUMIDITY SETPOINT (EACH AHU)	& cu-1	SPACE TEMPERATURE (EACH AHU) SPACE TEMPERATURE (SETPOINT) (EACH AHU)	_		WHEN DCV IS DISABLED, THE AHU MINIMUM.
VRF AC	SPACE CO2 LEVEL (PPM) (EACH AHU) SPACE CO2 LEVEL SETPONT (PPM) (EACH AHU)	I-1 THRU 4	SPACE HUMIDITY (EACH AHU) SPACE HUMIDITY SETPOINT (EACH AHU)	_		WHEN DCV IS ENABLED, THE BMS MAXIMUM C02 LEVEL OF 800 PPM I SHALL ALLOW THE OA DAMPER TO
		AHL				WHEN DISABLED, THE OA DAMPER
	DEMAND CONTROL VENTILATION STATUS (EACH AHU)		DEMAND CONTROL VENTILATION ENABLE (EACH AHU)			ECONOMIZER – ECONOMIZER MOL
			DEMAND CONTROL VENTILATION STATUS (EACH AHU)			THE DX COIL SHALL REMAIN OFF A THE RETURN AND OUTSIDE AIR DA
			DEMAND CONTROL VENTILATION ENABLE (EACH AHU)			TEMPERATURE OF 55 DEG F (ADJ.)
			DEMAND CONTROL VENTILATION STATUS (EACH AHU)			PRESSURE BALANCE – ASSOCIATE DIFFERENTIAL PRESSURE SETPOI
						E. UNOCCUPIED MODE – ALL FANS W

A. SCOPE OF WORK - PROVIDE DDC CONTROLS TO INTERFACE WITH FACTORY BOILER CONTROL PANEL AND MEET THE SEQUENCES OUTLINED BELOW. THE BOILER CONTROL PANEL SHALL COMMUNICATE TO THE BACNET BUILDING MANAGEMENT SYSTEM. SCOPE OF WORK AFFECT SYSTEMS B-1 & B-2 AND HWP-1 & HWP-2 AND ASSOCIATED EQUIPMENT. B. BOILER ENABLED - THE BOILERS SHALL BE ENABLED AND OPERATE ON A TEMPERATURE RESET SCHEDULE OR VIA MANUAL COMMAND OR BASED ON THE OUTSIDE AIR TEMPERATURE SCHEDULE OUTLINED BELOW: OADB > 60 DEG F (ADJ.): DISABLED OADB = 60 DEG F (ADJ.): ENABLE – SUPPLY WATER TEMP = 120 DEG F (ADJ.) OADB = 20 DEG F (ADJ.): ENABLE - SUPPLY WATER TEMP = 180 DEG F (ADJ.) OADB < 20 DEG F (ADJ.): ENABLED – SUPPLY WATER TEMP = 180 DEG F (ADJ.) TEMPERATURE RESET SHALL BE ON A LINEAR SCALE FOR TEMPERATURES BETWEEN THE UPPER AND LOWER LIMIT. WHEN ENABLED THE LEAD BOILER SHALL BE ENERGIZED. THE LEAD BOILER WILL BE ESTABLISHED AS THE BOILER WITH THE FEWEST RUNTIME HOURS. ON A COMMAND TO START, THE BOILER ISOLATION VALVES WILL ENERGIZE. WHEN FLOW IS PROVEN THROUGH THE BOILER VIA PRESSURE DIFFERENTIAL SENSORS, THE BOILER'S GAS BURNERS WILL BE FIRED AND THE BOILER CONTROLS MODULATE TO MAINTAIN SETPOINT TEMPERATURE IN ACCORDANCE WITH THE RESET SCHEDULE AND ITS INTERNAL CONTROLS. BOILER LEAD/LAG CONTROLS – SETPOINT RETURN WATER (HWRT) TEMPERATURE SHALL BE DETERMINED BY THE FOLLOWING EQUATION: SETPOINT HWRT = HWST – 20 DEG F (ADJ.) IF THE HOT WATER RETURN TEMPERATURE IS 2 DEG F (ADJ.) LESS THAN THE SETPOINT FOR 15 MIN (ADJ.) AND THE LEAD BOILER IS OPERATING AT MAXIMUM FIRE, THE LAG BOILER SHALL BE ENERGIZED. IF THE HOT WATER RETURN TEMPERATURE IS 2 DEG F (ADJ.) GREATER THAN THE SETPOINT FOR 15 MIN (ADJ.) AND THE BOTH BOILERS ARE OPERATING AT MINIMUM FIRE, THE LEAD BOILER SHALL BE DE-ENERGIZED AND THE LAG BOILER BURNERS SHALL MODULATE TO MAINTAIN SETPOINT SUPPLY WATER TEMPERATURE. PRIMARY PUMP ENABLE: THE PRIMARY PUMPS WILL BE ENABLED WHEN THE BOILERS ARE ENABLED. THE LEAD PUMP WILL BE ESTABLISHED AS THE PUMP WITH THE FEWEST RUNTIME HOURS. PRIMARY PUMP LEAD/LAG CONTROL – THE LEAD PUMP VFD WILL MODULATE TO MAINTAIN SETPOINT PRESSURE DIFFERENTIAL OF 5 PSID (ADJ.) ACROSS THE SYSTEM LOOP. THE DDC CONTROLS WILL NOT ALLOW THE PUMP VFD TO MODULATE BELOW 30% OF MAXIMUM SPEED SETTING (ADJ.). IF THE HOT WATER LOOP IS PRESSURE DIFFERENTIAL IS 1 PSID (ADJ.) GREATER THAN THE SETPOINT FOR 15 MIN (ADJ.) AND THE LEAD PUMP IS OPERATING AT MAXIMUM SPEED, THE LAG PUMP SHALL BE ENERGIZED AND BOTH PUMPS SHALL OPERATE AT SYNCHRONOUS SPEEDS. IF THE HOT WATER LOOP PRESSURE DIFFERENTIAL IS 1 PSID (ADJ.) LESS THAN THE SETPOINT FOR 15 MIN (ADJ.) AND ALL PUMPS ARE OPERATING AT MINIMUM SPEED. THE LEAD PUMP SHALL BE DE-ENERGIZED AND THE LAG PUMP VFD(S) SHALL MODULATE AT SYNCHRONOUS SPEED TO MEET THE SETPOINT PRESSURE DIFFERENTIAL. D. DISABLED MODE – THE BOILER SYSTEM WILL BE DISABLED VIA MANUAL COMMAND OR OADB SCHEUDLE. WHEN DISABLED ALL PUMPS WILL BE DE-ENRGIZED, THE BOILER BURNER WILL BE DE-ENERGIZED AND ALL ASSOCIATED CONTROL VALVES IN THE BOILER PLANT WILL CLOSE. E. PROVIDE ALL POINTS AND ALARMS IDENTIFIED ON THE ASSOCIATED TABLE TO THE BMS GRAPHIC. 'MNASIUM AND BOXING (AHU-1 THRU 4, CU 1 THRU 4 AND ASSOCIATED RELIEF FANS) A. SCOPE OF WORK – PROVIDE DDC CONTROLS AND BMS INTERFACE TO MEET THE SEQUENCES OUTLINED BELOW. B. FIRE ALARM INTERFACE – PROVIDE UL-864 RELAY FOR CONNECTION TO FIRE ALARM SYSTEM. UPON DETECTION OF FIRE ANYWHERE IN THE BUILDING, THE AHUS WILL BE SHUTDOWN AND ASSOCIATED DAMPERS WILL BE CLOSED. C. OCCUPIED AND UNOCCUPIED MODE WILL BE BASED ON TIME-OF-DAY SCHEDULE AND WILL BE CAPABLE OF BEING ADJUSTED OR OVERRIDDEN THRU THE BMS OR BY SPACE THERMOSTAT OVERRIDE BUTTON D. OCCUPIED MODE – THE AHU SHALL BE ENABLED VIA MANUAL COMMAND FROM THE BMS AND RUN CONTINUOUSLY. WHEN ENABLED THE SUPPLY FAN SHALL VFD SHALL RAMP FIRST TO MINIMUM SPEED AND THEN THE VFD SHALL MODULATE FAN SPEED TO MAINTAIN SETPOINT SPACE AIR TEMPERATURE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND THE SEQUENCES BELOW: COOLING MODE OCCUPIED: 75 DEG F (ADJ) COOLING MODE HUMIDITY OCCUPIED: 50% RH COOLING MODE UNOCCUPIED: 80 DEG F (ADJ) HEATING MODE OCCUPIED: 70 DEG F (ADJ) HEATING MODE UNOCCUPIED: 65 DEG F (ADJ) COOLING MODE: WHEN IN COOLING MODE THE DX COIL ASSOCIATED AIR COOLED CONDENSER SHALL YCLE TO MAINTAIN 55 DEG F (ADJ.) DISCHARGE AIR TEMPERATURE AND THE SUPPLY FAN SHALL MODULATE BETWEEN MINIMUM CFM (PER VENTILATION TABLES) AND 100% FAN SPEED TO MAINTAIN THE SETPOINT TEMPERATURE AND HUMIDITY. THE ASSOCIATED REHEAT COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT SPACE TEMPERATURE. HEATING MODE: UPON A CALL FOR SPACE HEATING, THE SUPPLY FAN SHALL FIRST MODULATE TO MINIMUM FLOW WHILE MAINTAINING 55 DEG F DISCHARGE AIR SETPOINT. IF THE FAN IS AT MINIMUM SPEED AND THERE IS STILL A CALL FOR SPACE HEATING, THE DX COIL SHALL DE-ENERGIZE. IF THE FAN IS AT MINIMUM SPEED AND THE DX COIL IS OFF, THE HOT WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN HEATING MODE SPACE SETPOINT TEMPERATURE. <u>DEMAND CONTROL VENTILATION</u> – DEMAND CONTROL VENTILATION (DCV) SHALL BE ENABLED / DISABLED VIA THE BMS. WHEN DCV IS DISABLED, THE AHU WILL PROVIDE OUTSIDE AIR IN ACCORDANCE WITH THEE DEIGN MINIMUM. WHEN DCV IS ENABLED, THE BMS SHALL MODULATE THE OA DAMPER POSITION TO MAINTAIN A MAXIMUM C02 LEVEL OF 800 PPM IN THE SPACE. DURING OCCUPIED PERIODS THE BMS CONTROLS SHALL ALLOW THE OA DAMPER TO MODULATE TO 50% OF THE DESIGN SETPOINT. WHEN DISABLED, THE OA DAMPER SHALL BE SET TO 20% OA POSITION (ADJ.). ECONOMIZER – ECONOMIZER MODE SHALL BE AVAILABLE WHENEVER THE OUTSIDE AIR ENTHALPY IS LESS THAN THE AIR HANDLING UNIT RETURN/EXHAUST AIR ENTHALPY. WHEN IN ECONOMIZER BOTH THE DX COIL SHALL REMAIN OFF AND THE HOT WATER CONTROL VALVES WILL REMAIN CLOSED AND THE RETURN AND OUTSIDE AIR DAMPERS SHALL MODULATE TO MAINTAIN SETPOINT SUPPLY AIR TEMPERATURE OF 55 DEG F (ADJ.). PRESSURE BALANCE – ASSOCIATED RELIEF FANS WILL MODULATE TO MAINTAIN MAXIMUM DIFFERENTIAL PRESSURE SETPOINT OF 0.1 INWG (ADJ.) IN THE SPACE. E. UNOCCUPIED MODE – ALL FANS WILL DE-ENERGIZE AND THE HOT WATER CONTROL VALVES WILL CLOSE AND THE DX COMPRESSOR DENERGIZE. ALL ASSOCIATED DAMPERS WILL CLOSE. UPON A CALL FOR COOLING OR HEATING IN ACCORDANCE WITH THE OCCUPIED/UNOCCUPIED SCHEDULE, THE FAN SHALL ENERGIZE TO MINIMUM SPEED AND THE HOT WATER VALVE WILL MODULATE AND DX COMPRESSOR WILL ENERGIZE TO MAINTAIN UNOCCUPIED SETBACK SPACE TEMPERATURE. F. FREEZE PROTECTION – A FREEZESTAT WILL BE LOCATED DOWNSTREAM OF THE HOT WATER COIL. SHOULD THE FREEZESTAT TRIP, SUPPLY FAN AND RETURN FAN WILL DE-ENERGIZE, THE OUTISDE AIR DAMPER SHALL CLOSE, AND THE HOT WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN 45 DEG F IN THE AHU CABINET. A SIGNAL WILL BE ALARMED TO THE BMS. G. PROVIDE ALL POINTS AND ALARMS IDENTIFIED ON THE ASSOCIATED TABLE TO THE BMS GRAPHIC. AUDITORIUM (FCU-1 & 2 AND ERV-1 & 2) A. SCOPE OF WORK – PROVIDE DDC CONTROLS AND BMS INTERFACE TO MEET THE SEQUENCES OUTLINED BELOW. B. FIRE ALARM INTERFACE - PROVIDE UL-864 RELAY FOR CONNECTION TO FIRE ALARM SYSTEM. UPON DETECTION OF FIRE ANYWHERE IN THE BUILDING, THE HVAC SYSTEMS WILL BE SHUTDOWN AND ASSOCIATED DAMPERS WILL BE CLOSED. C. OCCUPIED AND UNOCCUPIED MODE WILL BE BASED ON TIME-OF-DAY SCHEDULE AND WILL BE CAPABLE OF BEING ADJUSTED OR OVERRIDDEN THRU THE BMS OR BY SPACE THERMOSTAT OVERRIDE BUTTON D. OCCUPIED MODE – THE FCU SHALL BE ENABLED VIA MANUAL COMMAND FROM THE BMS AND RUN CONTINUOUSLY. WHEN ENABLED THE FCU AND THE ASSOCIATED ERV WILL ENERGIZE AND MAINTAIN SETPOINT SPACE AIR TEMPERATURE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND THE SEQUENCES BELOW: COOLING MODE OCCUPIED: 75 DEG F (ADJ)

COOLING MODE HUMIDITY OCCUPIED: 50% RH COOLING MODE UNOCCUPIED: 80 DEG F (ADJ) HEATING MODE OCCUPIED: 70 DEG F (ADJ) HEATING MODE UNOCCUPIED: 65 DEG F (ADJ) COIL ASSOCIATED AIR COOLED CONDENSER SHALL CYCLE TO MAINTAIN SETPOINT SPACE

TEMPERATURE

HEATING MODE: WHEN IN HEATING MODE, THE FCU FAN SHALL RUN CONTINUOUSLY AND THE HEAT PUMP SHALL CYCLE TO MAINTAIN SETPOINT SPACE TEMPERATURE. DEMAND CONTROL VENTILATION – DEMAND CONTROL VENTILATION SHALL BE ENABLED / DISABLED VIA THE BMS.

THROTTLE TO 50% OF THE DESIGN SETPOINT.

WHEN DISABLED. THE ERV SHALL RUN CONTINUOUSLY WHEN THE FCU IS RUNNING.

COOLING MODE: WHEN IN COOLING MODE, THE FCU FAN SHALL RUN CONTINUOUSLY AND THE DX

WHEN ENABLED, THE BMS SHALL MODULATE THE ERV SHALL MAINTAIN A MINIMUM C02 LEVEL OF 800 PPM IN THE SPACE. DURING OCCUPIED PERIODS THE BMS CONTROLS SHALL ALLOW THE ERV TO

. UNOCCUPIED MODE – ALL FANS WILL DE-ENERGIZE AND THE DX COMPRESSOR DENERGIZE. ALL ASSOCIATED DAMPERS WILL CLOSE. UPON A CALL FOR COOLING OR HEATING IN ACCORDANCE WITH THE OCCUPIED/UNOCCUPIED SCHEDULE, THE FAN SHALL ENERGIZE TO MINIMUM SPEED AND DX COMPRESSOR WILL ENERGIZE TO MAINTAIN UNOCCUPIED SETBACK SPACE TEMPERATURE.

F. PROVIDE ALL POINTS AND ALARMS IDENTIFIED ON THE ASSOCIATED TABLE TO THE BMS GRAPHIC. VRF SYSTEM CONTROLS (CU-5 THRU 8 AND ASSOCIATED AC / FCU UNITS)

A. SCOPE OF WORK – PROVIDE DDC CONTROLS AND BMS INTERFACE TO MEET THE SEQUENCES OUTLINED BELOW.

B. FIRE ALARM INTERFACE – PROVIDE UL-864 RELAY FOR CONNECTION TO FIRE ALARM SYSTEM. UPON DETECTION OF FIRE ANYWHERE IN THE BUILDING, THE HVAC SYSTEMS WILL BE SHUTDOWN AND ASSOCIATED DAMPERS WILL BE CLOSED.

C. ENABLED MODE – VRF SYSTEMS SHALL BE ENABLED VIA MANUAL COMMAND OR TIME OF DAY SCHEDULE AND RUN CONTINUOUSLY.

THE ASSOCIATED DOAS UNIT WILL ENERGIZE AND DX COIL AND HOT GAS REHEAT MODULATE TO MAINTAIN SETPOINT DISCHARGE TEMPERATURE IN ACCORDANCE WITH THE FOLLOWING:

OAS SETPOINTS OOLING MODE: 68 DEG F (ADJ) HEATING MODE OCCUPIED: 65 DEG F

THE FANS FOR EACH VRF FAN COIL UNIT SHALL RUN CONTINUOUSLY WHEN THE SYSTEM IS ENABLED. VIA THE VRF SYSTEMS INTERNAL CONTROLS, THE CONDENSING UNIT COMPRESSORS SHALL MODULATE AND THE HEAT PUMP CONTROLLER SHALL FUNCTION TO OPTIMIZE AND MAINTAIN SETPOINT TEMPERATURE IN ACCORDANCE WITH THE FOLLOWING.

<u>ac unit</u> COOLING MODE OCCUPIED: 75 DEG F (ADJ)

OUTLINED BELOW.

COOLING MODE HUMIDITY OCCUPIED: 50% RH COOLING MODE UNOCCUPIED: 80 DEG F (ADJ)

HEATING MODE OCCUPIED: 70 DEG F (ADJ) HEATING MODE UNOCCUPIED: 65 DEG F (ADJ)

HEATING/COOLING MODE WILL BE DETERMINED BY OUTSIDE AIR TEMPERATURE AND THE FOLLOWING SCHEDULE.

COOLING MODE: 60 DEG F OA (ADJ.) AND WARMER OCCUPIED HEATING: 50 DEG F OA (ADJ.) AND COLDER

D. DISABLED MODE – THE VRF SYSTEM(S) SHALL BE DISABLED VIA MANUAL COMMAND OR TIME OF DAY SCHEDULE. ALL FANS AND COMPRESSORS SHUT DOWN AND ALL ASSOCIATED DAMPERS CLOSE. LOUNGE FAN COIL UNITS (FCU-3 & 4)

A. SCOPE OF WORK – PROVIDE DDC CONTROLS AND BMS INTERFACE TO MEET THE SEQUENCES

B. FIRE ALARM INTERFACE – PROVIDE UL-864 RELAY FOR CONNECTION TO FIRE ALARM SYSTEM. UPON DETECTION OF FIRE ANYWHERE IN THE BUILDING, THE HVAC SYSTEMS WILL BE SHUTDOWN AND ASSOCIATED DAMPERS WILL BE CLOSED.

C. OCCUPIED AND UNOCCUPIED MODE WILL BE BASED ON TIME-OF-DAY SCHEDULE AND WILL BE CAPABLE OF BEING ADJUSTED OR OVERRIDDEN THRU THE BMS OR BY SPACE THERMOSTAT OVERRIDE BUTTON.

D. OCCUPIED MODE – THE FCU SHALL BE ENABLED VIA MANUAL COMMAND FROM THE BMS AND RUN CONTINUOUSLY.

WHEN ENABLED THE FCU WILL ENERGIZE AND MAINTAIN SETPOINT SPACE AIR TEMPERATURE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND THE SEQUENCES BELOW:

COOLING MODE OCCUPIED: 75 DEG F (ADJ)
COOLING MODE HUMIDITY OCCUPIED: 50% RH
COOLING MODE UNOCCUPIED: 80 DEG F (ADJ)
HEATING MODE OCCUPIED: 70 DEG F (ADJ)
HEATING MODE UNOCCUPIED: 65 DEG F (ADJ)

COOLING MODE: WHEN IN COOLING MODE, THE FCU FAN SHALL RUN CONTINUOUSLY AND THE DX COIL ASSOCIATED AIR-COOLED CONDENSER SHALL CYCLE TO MAINTAIN SETPOINT SPACE TEMPERATURE.

HEATING MODE: WHEN IN HEATING MODE, THE FCU FAN SHALL RUN CONTINUOUSLY AND THE HEAT PUMP SHALL CYCLE TO MAINTAIN SETPOINT SPACE TEMPERATURE. DEMAND CONTROL VENTILATION – DEMAND CONTROL VENTILATION SHALL BE ENABLED / DISABLED

E. UNOCCUPIED MODE – ALL FANS WILL DE-ENERGIZE AND THE DX COMPRESSOR DENERGIZE. ALL ASSOCIATED DAMPERS WILL CLOSE. UPON A CALL FOR COOLING OR HEATING IN ACCORDANCE WITH THE OCCUPIED/UNOCCUPIED SCHEDULE. THE FAN SHALL ENERGIZE TO MINIMUM SPEED AND DX COMPRESSOR WILL ENERGIZE TO MAINTAIN UNOCCUPIED SETBACK SPACE TEMPERATURE.

F. PROVIDE ALL POINTS AND ALARMS IDENTIFIED ON THE ASSOCIATED TABLE TO THE BMS GRAPHIC. ELEVATOR MACHINE ROOM COOLING (AC1 & 2 AND ACCU-3)

A. SCOPE OF WORK - PROVIDE DDC CONTROLS AND BMS INTERFACE TO MEET THE SEQUENCES OUTLINED BELOW.

B. FIRE ALARM INTERFACE – PROVIDE UL-864 RELAY FOR CONNECTION TO FIRE ALARM SYSTEM. UPON DETECTION OF FIRE ANYWHERE IN THE BUILDING, THE HVAC SYSTEMS WILL BE SHUTDOWN AND ASSOCIATED DAMPERS WILL BE CLOSED.

C. ENABLED MODE – THE AC AND CU SHALL BE ENABLED VIA MANUAL COMMAND FROM THE BMS AND RUN CONTINUOUSLY.

THE AC UNITS AND ACCU SHALL MODULATE VIA THEIR INTEGRAL CONTROLS TO MAINTAIN A SPACE SETPOINT TEMPERATURE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: ELEVATOR MACHINE ROOM: 85 DEG F (ADJ)

D. DISABLED MODE – THE AC AND CU UNIT SHALL BE DISABLED VIA MANUAL COMMENT FROM THE BMS. ALL FANS AND COMPRESSORS SHUT DOWN.

E. PROVIDE ALL POINTS AND ALARMS IDENTIFIED ON THE ASSOCIATED TABLE TO THE BMS GRAPHIC. EXHAUST FANS – CONSTANT VOLUME

A. SCOPE OF WORK – PROVIDE DDC CONTROLS TO MEET THE SEQUENCES OUTLINED BELOW.

B. FIRE ALARM INTERFACE – UPON DETECTION OF FIRE ANYWHERE IN THE BUILDING, EXHUAST FAN(S) SHALL BE SHUT DOWN AND ASSOCIATED DAMPERS CLOSE.

C. ENABLED MODE – EXHAUST FAN SHALL BE ENABLED VIA MANUAL COMMAND OR TIME OF DAY SCHEDULE TO RUN CONTINUOUSLY.

WHEN ENABLED, THE ASSOCIATED MOTORIZED ISOLATION DAMPER SHALL OPEN, AND FANS SHALL ENERGIZE.). DISABLED MODE – WHEN DISABLED, VIA MANUAL COMMAND FROM THE BMS, FANS SHALL DE-

ENERGIZE AND THE ASSOCIATED ISOLATION DAMPER SHALL CLOSE. E. PROVIDE ALL POINTS AND ALARMS IDENTIFIED ON THE ASSOCIATED TABLE TO THE BMS GRAPHIC.

EXHAUST FANS – TEMPERATURE CONTROL (ATTIC FANS)

A. SCOPE OF WORK - PROVIDE DDC CONTROLS TO MEET THE SEQUENCES OUTLINED BELOW. B. FIRE ALARM INTERFACE - UPON DETECTION OF FIRE ANYWHERE IN THE BUILDING, EF-1-7 SHALL BE SHUT DOWN AND ASSOCIATED DAMPERS CLOSE.

C. ENABLED MODE – EXHAUST SHALL BE ENABLED VIA MANUAL COMMAND FROM THE BMS AND RUN CONTINUOUSLY.

WHEN ENABLED, THE FAN ECM MOTOR SHALL MODULATE TO MAINTAIN A SPACE SETPOINT TEMPERATURE OF 85 DEG F (ADJ.).

D. DISABLED MODE – WHEN DISABLED, VIA MANUAL COMMAND FROM THE BMS, EF-7 SHALL DE-ENERGIZE.

F. PROVIDE ALL POINTS AND ALARMS IDENTIFIED ON THE ASSOCIATED TABLE TO THE BMS GRAPHIC. CABINET UNIT HEATER / UNIT HEATER

A. SCOPE OF WORK – PROVIDE DDC CONTROLS TO MEET THE SEQUENCES OUTLINED BELOW.

B. HEATING MODE WILL BE BASED OUTSIDE AIR THERMOSTAT AND THE FOLLOWING SCHEDULE

OA TEMP 55 DEG F (ADJ.) AND ABOVE: SYSTEM IN COOLING MODE; CUH IS DISABLED OA TEMP LESS THAN 55 DEG F (ADJ.): SYSTEM IN HEATING MODE

C. HEATING MODE: WHEN IN HEATING MODE. THE CUH FAN SHALL RUN CONTINUOUSLY AND THE HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE SETPOINT TEMPERATURE OF 65 DEG F (ADJ.).

D. PROVIDE ALL POINTS AND ALARMS IDENTIFIED ON THE ASSOCIATED TABLE TO THE BMS GRAPHIC. FINNED TUBE RADIATOR (FTR)

A. SCOPE OF WORK - PROVIDE DDC CONTROLS TO MEET THE SEQUENCES OUTLINED BELOW. B. HEATING MODE WILL BE BASED OUTSIDE AIR THERMOSTAT AND THE FOLLOWING SCHEDULE OA TEMP 55 DEG F (ADJ.) AND ABOVE: SYSTEM IN COOLING MODE; FTR IS DISABLED

OA TEMP LESS THAN 55 DEG F (ADJ.): SYSTEM IN HEATING MODE

C. HEATING MODE: WHEN IN HEATING MODE, THE HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE SETPOINT TEMPERATURE OF 72 DEG F (ADJ.).

PROVIDE ALL POINTS AND ALARMS IDENTIFIED ON THE ASSOCIATED TABLE TO THE BMS

2 HOT WATER FLOW DIAGRAM1 M501-R/2 12" = 1'-0"

AIR	HANDI		т																															
						SUPPLY FAN	I DATA						COILING COIL PERFORMANCE	E(DX)						HEATING CC	DIL (HOT W	ATER)					ELECTRICAL			FILTER				
										EAT °F LAT	°F																			PRE FILTER SEC	CTION			
UNIT NO.	LOCATION	I SERVICE S	STEM TYPE	SUPLY CFM	MIN. OA CFM E	.S.P. (in. W.G.)	MAX. T.S.P. (in. W.G.)	BHP (HP)	MHP (HP)	DB WB DB V	TOTAL CAPACI	Y (MBH)	SENSIBLE CAPACITY (MBH) MA	X. P.D. (INWG)	MAX. FACE VEL. (FPM)	REFRIG. TYPE	CAPACITY (MBH	i) eat °f lat	°F MAX. P.D. (IN	WG) MAX. FACE VEL	. (FPM) E	EWT °F LWT °F GP	M MAX. P.I	D. (FTHD) M	IN. ROWS MIN	I. FPI V/	/PH/HZ FLA MCA	MOCP	MERV FINAL	AX. P.D. (in. W.G.)	MAX. FACE VEL. (FPM)	- Oper. Unit weight (LBS.)	BASIS OF DESIGN : MANUFACTURER & MOE	EL NO. REMARKS
AHU-1	BOXING	BOXING	VRF	3500	700	1.5	3.8	3.0	5	80 67 55	55 130		95	1	467	R410A	100	50 76	0.4	500		160 130 7.0	0 0.	.13	1 1	10 20	08/3/60 15.3 19.12	5 34 8	13	1.6	430	1905	DAIKIN CAH008GDGC	SEE NOTES
AHU-2	BOXING	BOXING	VRF	3500	700	1.5	3.8	3.0	5	80 67 55	55 130		95	1	467	R410A	100	50 76	0.4	500		160 130 7.0	0 0.	.13	1 1	10 20	08/3/60 15.3 19.12	5 34 8	13	1.6	430	1905	DAIKIN CAH008GDGC	SEE NOTES
AHU-3	GY	GYM	VRF	3500	700	1.5	3.8	3.0	5	80 67 55	55 130		95	1	467	R410A	100	50 76	0.4	500		160 130 7.0	0 0.	.13	1 1	10 20	08/3/60 15.3 19.12	5 34 8	13	1.6	430	1905	DAIKIN CAH008GDGC	SEE NOTES
AHU-4	GYM	GYM	VRF	3500	700	1.5	3.8	3.0	5	80 67 55	55 130		95	1	467	R410A	100	50 76	0.4	500		160 130 7.0	0 0.	.13	1 1	10 20	08/3/60 15.3 19.12	5 34 8	13	1.6	430	1905	DAIKIN CAH008GDGC	SEE NOTES

NOTES:

1. AHU CONTROLS TO BE SHIPPED TO FACTORY FOR INSTALL AND WIRED IN THE FIELD.

2. UNIT CASING SHALL NOT EXCEED 1:200 DEFLECTION RATIO AND 1% LEAKAGE AT +/-8 INCH WG INTERAL PRESSURE.

3. AHUS SHALL HAVE THE FOLLOWING SECTIONS: MIXING BOX, FLAT FILTER, DX COIL SECTION, ACCESS, HW REHEAT COIL SECTION, AIRFOIL PLENUM FAN SECTION.

4. PROVIDE ALL AHUS WITH RA AND OA MOTORIZED DAMPERS, INTEGRATE TO NEW BMS 5. PROVIDE UNITS WITH CONDENSATE PUMP

6. PROVIDE VRV INTEGRATION KIT

	ONDITIONING		JOUEDOL																		
						COOLING CAPACITY			HEATING	G CAPACIT	Y	ELE	CTRICA	L			FILTE	ER			
		050,405					EAT °F	LAT °F									PRE FILTER S	ELECTION			DEMADIKO
UNII NO.	LOCATION	SERVICE	SYSTEM TYPE	TOTAL CFM	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	DB WB	DB WB	CAPACITY (MBH)	EAT °F	LAT °F	V PH I	HZ MCA	A MOP	REFRIGERANT	MERV	MAX. P.D. (in. W.G.)	MAX. FACE VEL. (FPM)	OPER. UNIT WEIGHT (LBS.)	BASIS OF DESIGN: MANUFACTURER & MODEL NO.	REMARKS
AC-1	003 LOCKER ROOM	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-2	003 LOCKER ROOM	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-3	003B LOCKER ROOM	-	WALL MOUNTED	260	6.4	5.616	75 63	55 55	8.7	58	85	208 1	60 0.3	15	R410A	8	0.5	500	35	FXAQ07PVJU	SEE NOTES
AC-4	003B LOCKER ROOM	-	WALL MOUNTED	280	8.1	6.048	75 63	55 55	11.1	58	85	208 1	60 0.3	15	R410A	8	0.5	500	35	FXAQ09PVJU	SEE NOTES
AC-5	008 COORIDOR	-	WALL MOUNTED	260	6.4	5.616	75 63	55 55	8.7	58	85	208 1	60 0.3	15	R410A	8	0.5	500	35	FXAQ07PVJU	SEE NOTES
AC-6	009 MULTI SPACE	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-7	009 MULTI SPACE	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-8	014 CORRIDOR	-	WALL MOUNTED	260	6.4	5.616	75 63	55 55	8.7	58	85	208 1	60 0.3	15	R410A	8	0.5	500	35	FXAQ07PVJU	SEE NOTES
AC-9	018 CORRIDOR	-	WALL MOUNTED	280	8.1	6.048	75 63	55 55	11.1	58	85	208 1	60 0.3	15	R410A	8	0.5	500	35	FXAQ09PVJU	SEE NOTES
AC-10	025 CORRIDOR	-	WALL MOUNTED	280	8.1	6.048	75 63	55 55	11.1	58	85	208 1	60 0.3	15	R410A	8	0.5	500	35	FXAQ09PVJU	SEE NOTES
AC-11	031 EXERCISE ROOM	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-12	031A EXERCISE ROOM	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-13	032 EXERCISE ROOM	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-14	032 EXERCISE ROOM	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-15	033 CORRIDOR	-	WALL MOUNTED	280	8.1	6.048	75 63	55 55	11.1	58	85	208 1	60 0.3	15	R410A	8	0.5	500	35	FXAQ09PVJU	SEE NOTES
AC-16	034A MULTISPACE	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-17	034B MULTISPACE	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-18	106 STAFF OFFICE	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-19	112 OFFICE	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-20	115 CONFERENCE	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-21	119 ARTS & CRAFTS	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-22	119 ARTS & CRAFTS	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-23	201 COMPUTER ROOM	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-24	201 COMPUTER ROOM	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-25	203 PPR STAFF OFFICE	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-26	203 PPR STAFF OFFICE	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-27	207 KITCHEN	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-28	209 GAME ROOM 1	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-29	209 GAME ROOM 1	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-30	209 GAME ROOM 1	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-31	210 GAME ROOM 2	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-32	210 GAME ROOM 2	-	WALL MOUNTED	500	15.4	10.8	75 63	55 55	21.0	58	85	208 1	60 0.4	15	R410A	8	0.5	500	35	FXAQ18PVJU	SEE NOTES
AC-33	015 STORAGE	-	WALL MOUNTED	290	12.0	6.264	75 63	55 55	13.5	58	85	208 1	60 0.4	15	R410A	8	0.5	500	26	FXAQ12PVJU	SEE NOTES
AC-34	017 DOJO ROOM	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-35	017 DOJO ROOM	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-36	017 DOJO ROOM	-	WALL MOUNTED	635	20.6	13.716	75 63	55 55	27.5	58	85	208 1	60 0.6	15	R410A	8	0.5	500	35	FXAQ24PVJU	SEE NOTES
AC-37	006 TELECOM	-	WALL MOUNTED	290	12.0	6.264	75 63	55 55	13.5	58	85	208 1	60 0.4	15	R410A	8	0.5	500	26	FXAQ12PVJU	SEE NOTES
AC-38	028 TELECOM	-	WALL MOUNTED	290	12.0	6.264	75 63	55 55	13.5	58	85	208 1	60 0.4	15	R410A	8	0.5	500	26	FXAQ12PVJU	SEE NOTES

NOTES:

1. REFRIGERANT IS R-410A, REFRIGERANT PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.

2. PROVIDE UNITS w/WALL MOUNTED TEMPERATURE SENSOR. 3. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR MOUNTING UNITS.

4. PROVIDE ISOLATION/SERVICE VALVES ON EACH LINE SET AT EACH AC UNIT AND CONDENSING UNIT.

5. PROVIDE EACH AC UNIT WITH CONDENSATE LIFT KIT SIMLAR TO ASURITY CP-M230; 1.3 GPH at 20FTHD, 19W, 230V/1PH. CIRCUIT PUMP THRU THE ASSOCIATED AC UNIT.

DOAS UNIT SCHEDULE

DUA		CHEDULE																									
					COOLING DX					HEATING (ELE	CTRIC)		HOT GAS REH	EAT COIL		F	AN DATA				ELE	CTRI	CAL				
UNIT No.	LOCATION	SERVICE	CFM			EAT °F	EAT °F	LAT °F	EAT °F		EAT °F	LAT °F		EAT °F L	_AT °F	CI 499		PDM	XT. S.P.		ы <u>1</u> 7		мсл	MOCP	WEIGHT	BASIS OF DESIGN :	REMARKS
						DB	WB	DB	WB		DB	DB		DB	DB	CLASS	DIVIVE			V			IVICA	NICCF	(LB3.)	MANOI ACTONEN & MODEL	
DOAS-1	FILTER ROOM	002 OWER / FIRST LEVE	L2375	138.8	84.8	93	75	60	60	135.9	17	68	45.2	55	72	11	DIRECT	2450	1.5	208	3 60	7.05	8.55	15.86	633	OXYGEN 8 T24IN	SEE NOTES
DOAS-2	MECH 036	LOWER / FIRST LEVE	2375	138.8	84.8	93	75	60	60	135.9	17	68	45.2	55	72		DIRECT	2450	1.5	208	3 60	7.05	8.55	15.86	633	OXYGEN 8 T24IN	SEE NOTES

NOTES:

1. REFRIGERANT IS R-410A, REFRIGERANT PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.

2. PROVIDE UNITS W/WALL MOUNTED TEMPERATURE SENSOR.

3. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR MOUNTING UNITS.

4. PROVIDE ISOLATION/SERVICE VALVES ON EACH LINE SET AT EACH AC UNIT AND CONDENSING UNIT.

5. PROVIDE EACH DOAS UNIT WITH INTEGRAL CONDENSATE LIFT KIT.

6. PROVIDE	E VRV INTEGRATIC	ON VALVE KIT.																	4. MAXIMUM SYSTEM P	REFRIGERANT OF
PACK	AGED TE	RMINAL A	R COND	ITIONIN	IG UN	IT SCHED	ULE	-				-								
							COOLING	1			HEATING COIL			ELECTRI						
		SERVICE	SYSTEM	TOTAL CEM	MIN. OA									ELECTRI				OPER. UNIT	BASIS OF DESIGN MANUFACTURER & MODEL	REMARKS
	LOOATION	GERVIOL	TYPE		CFM	CAPACITY (MBH)	AMB TEMP DB °F	KW	MIN EER	CAPACITY (MBH)	AMB TEMP DB °F	KW	MIN COP	MBH	ĸw	V/PH/HZ	MCA	(LBS.)	No.	
PTAC-1	LOWER LEVEL	004 LIFEGUARD RO		420	100	14.3	95	1.42	10.2	13.2	47	1.37	3	10.2	3	208/1/60	20.3	132	ISLANDAIRE - EZ SERIES VP - EZ15	SEE NOTES

NOTES:

1. PROVIDE PTAC UNITS WITH MOTORIZED FRESH AIR DAMPER, STAGE HEATER (KW PER SCHEDULE), WIRED REMOTE THERMOSTAT, CONDENSATE REMOVAL KIT, AND STANDARD LOUVER AND WALL SLEEVE. 2. PROVIDE UNIT WITH FACTORY STANDARD MERV 8 FILTER.

FAN COIL UNIT SCHEDULE

							SUPPLY FAN D	DATA				COOLING COIL				HEATING C	OIL					D		
UNIT No		SERVICE	SYSTEM TYPE	TOTAL CEM	MIN OA CEM								EAT °F	LAT	T°F				REFRIGERANT		FILIE	N	OPER LINIT WEIGHT (LBS.)	BASIS OF DESIGN MANUFACTURER (
		CERTICE				E.S.P. (in. W.G.)	MAX T.S.P. (in W.G.)	HP V	PH HZ	MOCP	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)) DB WB	3 DB	WB	CAPACITY (MBH)	AT °F	LAT °F		MERV	MAX. P.D. (in. W.G.)	MAX. FACE VEL. (FPM)		
FCU-1	ATTIC	AUDITORIUM 205	VRV	2500	500	1.0	-	10.7 MCA 208	1 60	15	82	61	75 63	55	55	112	68	85	R410A	8	0.3	500	300	DAIKIN FXMQ96MJVU
FCU-2	ATTIC	AUDITORIUM 205	VRV	2500	500	1.0	-	10.7 MCA 208	1 60	15	82	61	75 63	55	55	112	68	85	R410A	8	0.3	500	300	DAIKIN FXMQ96MJVU
FCU-3	DOJO ROOM	LOUNGE 111	VRV	1375	-	1.0	0.8	3.4 MCA 208	1 60	15	48	35.8	75 63	55	55	54	68	85	R410A	8	0.5	500	102	DAIKIN FXMQ48PBVJU
FCU-4	DOJO ROOM	LOUNGE 111	VRV	1375	-	1.0	0.8	3.4 MCA 208	1 60	15	48	35.8	75 63	55	55	54	68	85	R410A	8	0.5	500	102	DAIKIN FXMQ48PBVJU
																	•							

NOTES:

1. REFRIGERANT IS R-410A, REFRIGERANT PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.

2. PROVIDE UNITS w/WALL MOUNTED TEMPERATURE SENSOR. 3. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR MOUNTING UNITS.

4. PROVIDE ISOLATION/SERVICE VALVES ON EACH LINE SET AT EACH AC UNIT AND CONDENSING UNIT.

5. PROVIDE EACH FCU UNIT WITH INTEGRSAL CONDENSATE LIFT KIT.

ENERC	SY RE	COVERY	UNIT S	СНЕ	EDULE																															
								FAN C	DATA						ELECTR	ICAL							EN	ERGY REC	COVERY DATA											
																			coo	LING SE	EASON						HEA	TING S	SEASO	٧						
UNIT NO.	LOCATION	SERVICE	SYSTEM TYPE	CFME	E.S.P (IN H2O)	MOTOR (HP) DRIVE	RPM	CFM E.S.P (IN H	120) M	IOTOR (HP)	DRIVE	RPM		н нд м	са мо	OCP	OU	ITDOOR	RET	URN	SUF	PPLY			OU	TDOOR	RE	TURN	SU	JPPLY	C	OPER. WEIGHT	T(LBSB	SIS OF DESIGN : MANUFACTURER &	MODEL NOREMARKS
																	CAPACITY (ME	BH) DB	°F WB °	F DB °F	WB °F	DB °F	WB °F	RU'S EFF.	CAPACITY (MBH	H) DB °	F WB °F	F DB °	F WB °	F DB °I	F WB °F	ERU'S EFF.				
ERV-1	ATTIC	SECOND FLOOR	ERV	1300	1.5	0.78	ECM	1880	1300 1.5		0.93	ECM	1993	208 3	60 7	'.8 1	5 41.5	95	5 78	75	62.5	81.5	70.4	0.53	65.3	0	-1.5	72	55.8	46.1	1 37.9	0.63	750		GREENHECK ECV-20-F-H	SEE NOTE:
ERV-2	ATTIC	SECOND FLOOR	ERV	1300	1.5	0.78	ECM	1880	1300 1.5		0.93	ECM	1993	208 3	60 7	.8 1	5 41.5	95	5 78	75	62.5	81.5	70.4	0.53	65.3	0	-1.5	72	55.8	46.1	1 37.9	0.63	750		GREENHECK ECV-20-F-H	SEE NOTE

NOTES:

1. PROVIDE ERVS WITH OUTSIDE AIR AND AND EXHAUST FILTER UPSTREAM OF ENERGY WHEEL. FULTERS SHALL BE MINIMUM MERV 8.

2. PROVIDE UNIT WITH INTEGRAL OUTSIDE AIR AND EXHAUST AIR MOTOR OPERATED DAMPERS.

3. PROVIDE FROST CONTROL.

4. ENERGY WHEEL SHALL BE ON ECM MOTOR

5. PROVIDE BACNET INTERFACE.

CONDENSING UNIT SCHEDULE

				COOLING				HEATING				COMPRESS	SOR	CONDENSE	R FAN	ELE	CTRICAL	-			
UNIT NO.	LOCATION	SERVICE	TOTAL MBH	AMB TEMP DB °F	KW	MIN EEF	R TOTAL MBH	AMB TEMP DB °F	ĸw	MIN COP	COMP. QTY	RLA	COMP. TYPE	FAN QTY	FLA	V PH HZ	MCA	MOCP	OPER. UNIT WEIGHT (LBS)	BASIS OF DESIGN : MANUFACTURER & MODEL NO.	REMARKS
CU-1	OUTSIDE	AHU-1	146	95	-	11.5	101	9	-	2.2	2	16.2+22.6	i INV.	-	-	208 3 60	55.1	60	700	DAIKIN REYQ144XATJA	SEE NOTES
CU-2	OUTSIDE	AHU-2	146	95	-	11.5	101	9	-	2.2	2	16.2+22.6	i INV.	-	-	208 3 60	55.1	60	700	DAIKIN REYQ144XATJA	SEE NOTES
CU-3	OUTSIDE	AHU-3	146	95	-	11.5	101	9	-	2.2	2	16.2+22.6	i INV.	-	-	208 3 60	55.1	60	700	DAIKIN REYQ144XATJA	SEE NOTES
CU-4	OUTSIDE	AHU-4	146	95	-	11.5	101	9	-	2.2	2	16.2+22.6	i INV.	-	-	208 3 60	55.1	60	700	DAIKIN REYQ144XATJA	SEE NOTES
CU-5	OUTSIDE	AC UNITS	158	95	-	20.4	124	9	-	2.05	2	49	INV.	-	-	208 3 60	61.9	70	800	DAIKIN REYQ168XATJA	SEE NOTES
CU-6	OUTSIDE	AC UNITS	146	95	-	11.5	101	9	-	2.12	2	42.6	INV.	-	-	208 3 60	55.1	60	700	DAIKIN REYQ144XATJA	SEE NOTES
CU-7	OUTSIDE	FCU UNITS	210	95	-	21.7	181	9	-	2.2	2	28.2+23.3	i INV.	-	-	208 3 60	43, 38.	1 50, 45	750	DAIKIN REYQ216XATJA	SEE NOTES
CU-8	OUTSIDE	AC / FCU UNITS	230	95	-	20	187	9	-	2.16	4	28.2+28.2	INV.	-	-	208 3 60	(2) 43	(2) 50	750	DAIKIN REYQ240XATJA	SEE NOTES
CU-9	OUTSIDE	AC / FCU UNITS	182	95	-	21.4	176	9	-	2.37	3	23.3+23.3	i INV.	-	-	208 3 60	(2) 38.7	1 (2) 45	750	DAIKIN REYQ192XATJA	SEE NOTES
CU-10	OUTSIDE	DOAS-1	144	95	-	11.9	162	9	-	3.8	2	42.6	INV.	-	-	208 3 60	58.3	70	727	DAIKIN REYQ144XATJB	SEE NOTES
CU-11	OUTSIDE	DOAS-2	144	95	-	11.9	162	9	-	3.8	2	42.6	INV.	-	-	208 3 60	58.3	70	727	DAIKIN REYQ144XATJB	SEE NOTES
CU-12	OUTSIDE	AC-33	18	95	5.3	13	12	17	3.5	-	1	15.3	INV.	-	-	208 1 60	16.5	20	172	DAIKIN RZQ18TAVJUA	SEE NOTES

NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. 2. CONDENSING UNITS SHALL BE CAPABLE OF COMMUNICATING WITH BACNET BUILDING CONTROL SYSTEM. 3. PROVIDE UNITS WITH INVERTER COMPRESSORS, LOW AMBIENT CONTROLS AND HIGH-STATIC FANS. 4. MAXIMUM SYSTEM REFRIGERANT CHARGE ASSUMED AS 95 LB.

AIR DEVICE SCHEDULE

UNIT NO.	TYPE	MODULE SIZE	NECK SIZE	MAX. S.P. in. W.G.	MATERIAL	BASIS OF DESIGN: MANUFACTURER AND MODEL NO.	REMARKS
SGA	WALL	PER MFR	AS NOTED	0.10	STEEL	KRUEGER 80	SEE NOTES
SGB	CEILING	PER MFR	AS NOTED	0.10	STEEL	KRUEGER 80	SEE NOTES
SGC	DUCT	PER MFR	AS NOTED	0.10	STEEL	KRUEGER 80	SEE NOTES
SGD	CEILING	PER MFR	1.5"	0.10	ALUMINUM	KRUEGER DFL	SEE NOTES
SGE	FLOOR	PER MFR	AS NOTED	0.10	STEEL	KRUEGER 80	SEE NOTES
SGN	DUCT	PER MFR	16"	0.10	STEEL	KRUEGER RPNLP	SEE NOTES
RGA	WALL	PER MFR	AS NOTED	0.10	STEEL	KRUEGER S80	SEE NOTES
RGB	CEILING	PER MFR	AS NOTED	0.10	STEEL	KRUEGER S80	SEE NOTES
RGC	DUCT	PER MFR	AS NOTED	0.10	STEEL	KRUEGER S80	SEE NOTES
RGE	FLOOR	PER MFR	AS NOTED	0.10	STEEL	KRUEGER S80	SEE NOTES
TGA	WALL	PER MFR	AS NOTED	0.10	STEEL	KRUEGER 80	SEE NOTES
TGB	CEILING	PER MFR	AS NOTED	0.10	STEEL	KRUEGER 80	SEE NOTES
TGC	DUCT	PER MFR	AS NOTED	0.10	STEEL	KRUEGER 80	SEE NOTES
EGA	WALL	PER MFR	AS NOTED	0.10	STEEL	KRUEGER S80	SEE NOTES
EGB	CEILING	PER MFR	AS NOTED	0.10	STEEL	KRUEGER S80	SEE NOTES
EGC	DUCT	PER MFR	AS NOTED	0.10	STEEL	KRUEGER S80	SEE NOTES

NOTES: 1. COLOR TO BE SELECTED BY ARCHITECT.

2. PROVIDE EACH AIR DEVICE WITH THE CORRECT MOUNTING FRAME TYPE TO MATCH CEILING TYPE WHERE INSTALLED. VERIFY MOUNTING TYPE PRIOR TO ORDERING.

UNIT NO.	LOCATION	SERVICE	CFM E	XT. S.P.	TYPE	CLASS	RPM BHP	HP	DRIVE	V	PH HZ	WEIGHT (LBSE	ASIS OF DESIGN : MANUFACTURER & MODE	LREMARKS
EF-1	LOWER LEVEL	MEN'S TOILET ROOM 005	600	0.5	INLINE	П	1600 0.25	3.3 FLA	ECM	115	1 60	50	GREENHECK CSP-A780	SEE NOTES
EF-1C	LOWER LEVEL	TLT ROOM 003A	625	0.5	INLINE	п	1600 0.24	3.3 FLA	ECM	115	1 60	50	GREENHECK CSP-A780	SEE NOTES
EF-2	LOWER LEVELV	VOMEN'S TOILET ROOM 01	0350	0.5	INLINE	Ш	1102 0.09	4.1 FLA	ECM	115	1 60	50	GREENHECK CSP-A700-VG	SEE NOTES
EF-3	LOWER LEVEL	MEN'S TOILET ROOM 013	350	0.5	INLINE	11	1102 0.09	4.1 FLA	ECM	115	1 60	50	GREENHECK CSP-A700-VG	SEE NOTES
EF-4	LOWER LEVELV	VOMEN'S TOILET ROOM 02	2 300	0.6	INLINE	п	1350 0.07	1.42 FLA	ECM	115	1 60	50	GREENHECK CSP-A390	SEE NOTES
EF-5	LOWER LEVEL	MEN'S TOILET ROOM 024	300	0.6	INLINE	п	1350 0.07	1.42 FLA	ECM	115	1 60	50	GREENHECK CSP-A390	SEE NOTES
EF-6	FIRST FLOOR V	VOMEN'S TOILET ROOM 10	3 300	0.6	INLINE	II	1350 0.07	1.42 FLA	ECM	115	1 60	50	GREENHECK CSP-A390	SEE NOTES
EF-7	FIRST FLOOR	MEN'S TOILET ROOM 116	300	0.6	INLINE	п	1350 0.07	1.42 FLA	ECM	115	1 60	50	GREENHECK CSP-A390	SEE NOTES
EF-8	SECOND FLOOR	GN TOILET 202	100	0.6	SIDEWALL	п	825 0.06	0.45 FLA	ECM	115	1 60	50	GREENHECK CSP-A200	SEE NOTES
EF-9	BOXING	BOXING 101	7000	0.5	SIDEWALL	п	1750 1.47	1.50	ECM	208	3 60	150	GREENHECK AER-24-03-0323	SEE NOTES
EF-10	GYM	GYMNASIUM 121	7000	0.5	SIDEWALL	п	1750 1.47	1.50	ECM	208	3 60	150	GREENHECK AER-24-03-0323	SEE NOTES

NOTES:

1. PROVIDE ALL FANS WITH MOTOR OPERATED DAMPERS.

2. PROVIDE ALL FANS WITH FAN STARTERS BY FAN MANUFACTURER.

3. EF-1 THRU 8 SHALL OPERATED CONITNIOUSLY ON TIME-OF-DAY SCHEDULE.

4. EF-9 - AND 10 SHALL INERLOCK WITH BOXING / GYM AHUS CONTROLS.

BRANCH SELECTOR SCHEDULE

						ELECTRICAL		
UNIT No.	LOCATION	MODEL #	REFRIGERAN T	NET WEIGHT (LB)	PH/V/HZ	MCA	MOP	REMARKS
BS-1	003 LOCKER ROOM	BSF8Q54TVJ	R410A	81.6	1/208/60	0.8	15	SEE NOTES
BS-2	106 STAFF OFFICE	BSF6Q54TVJ	R410A	72.8	1/208/60	0.6	15	SEE NOTES
BS-3	031 EXERCISE ROOM	BSF8Q54TVJ	R410A	81.6	1/208/60	0.8	15	SEE NOTES
BS-4	119 ARTS&CRAFTS	BSF6Q54TVJ	R410A	72.8	1/208/60	0.6	15	SEE NOTES
BS-5	203 PPR STAFF OFFICE	BSF6Q54TVJ	R410A	72.8	1/208/60	0.6	15	SEE NOTES
BS-6	210 GAME ROOM 2	BSF8Q54TVJ	R410A	81.6	1/208/60	0.8	15	SEE NOTES
BS-7	017 DOJO ROOM	BSF6Q54TVJ	R410A	72.8	1/208/60	0.6	15	SEE NOTES

PUMP SCHEDULE										DUCT CON	STRUCTION		N SCHEDULE						
		PERFORMANCE DATA		CC	DNSTRUCTION DATA	MOTOR	DATA ELECTRICAL DATA				SERVICE		OUTSIDE AIR	SUPPLY AND RETURN	N AIR SUPPLY AND R (IN AT	ETURN AIR IC)	EXHAUST AIF	۲	
UNIT NO. LOCATION SERVICE SYSTEM TYP	E FLUID GPM FL	UID TEMP (°F) REQ. NPSH TDH	(FT H2O) RPM BHP T	YPE SUCTION SIZE(IN.)	DISCHARGE SIZE(IN.)	ESIGN PRESS (PSI) MHP STAF	RT TYPE VOLTS PHASE HZ	.BS.) BASIS OF DESIGN : MANUFACTURER & MODE	EL NO. REMARKS	DUCT SECTION	FROM:			ALL	ALL		SPACE OR PLEN	IUM	
											ATION:		+/- 2.0" H2O	+/- 2.0" H2O	+/- 2.0"	H2O	+/- 2.0" H2C		
P-1 ELEC RM BUILDING HW P-2 ELEC RM BUILDING HW	WATER 65 WATER 65	<u>130 -</u> 130 -	60 - 1.41 IN 60 - 1.41 IN	LINE 3 LINE 3	3 3	175 2 V 175 2 V	/FD 208 3 60 205 /FD 208 3 60 205	ARMSTRONG SERIES 4380 ARMSTRONG SERIES 4380	SEE NOTES SEE NOTES	SMACNA CLASSIFICA	TION:		A G90 GALVANIZED STEEL	A G90 GALVANIZED STI	EEL G90 GALVANIZ	ED STEEL	A G90 GALVANIZED	STEEL	
										INNER WALL MATERIA	L:		-	-	-		-		
RADIATOR SCHEDULE										DUCT AIR TEMPERAT	JRE:		ALL TEMPS.	ALL TEMPS.	ALL TEN	IPS.	ALL TEMPS		
UNIT NO.	LOCATION	SERVICE LENG	TH HEAT OUTPUT	EAT (°F) EWT (°F) LV	VT (°F) GPM MAX PD	OPER. UNIT WEIGHT	BASIS OF DESIGN:	REMARKS		EXTERIOR INSULATIO			FIBERGLASS (1.5 PCF)	FIBERGLASS (1.5 PC	CF) FIBERGLASS				
FTR-1	NOT USED		(MBH/FT) -			(LBS) -	-				VAPOR B	BARRIER:	5 THK (MIIN R& INSTALLED) FRK	FRK	FRK		FRK		
FTR-2	BASEMENT	005 M TLT RM -	0.4	65 160	130 0.5 1.0	25	RITTLING PRF-2	-		INTERNAL LINER	TYPE: DENSITY	/:	-						
FTR-4	BASEMENT	003 LOCKER ROOM - 003 LOCKER ROOM -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	25	RITTLING PRF-2 RITTLING PRF-2			REMARKS:									
FTR-5 FTR-6	BASEMENT	003 LOCKER ROOM -	0.4	65 160	<u>130</u> 0.5 1.0	50	RITTLING PRF-2												
FTR-7	BASEMENT	009 MULTISPACE -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2 RITTLING PRF-2	-											
FTR-8 FTR-9	BASEMENT	009 MULTISPACE -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2												
FTR-10	BASEMENT	009 MULTISPACE -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	25	RITTLING PRF-2			NOTES: 1. ALL DUCTWORK	SHALL BE MINIMUM 2	26 GAUGE.							
FTR-11 FTR-12	BASEMENT	010 W TLTRM -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	50	RITTLING PRF-2			2. CONSTRUCT DU	CTWORK TO SMACNA	STANDARDS.	IOT MORE THAN 25 AND A SMO		ΟΕ ΝΟΤ ΜΟΡΕ ΤΗΛΝ 50 ΜΗ				772
FTR-13	BASEMENT	013 M TLTRM -	0.4	65 160	130 0.5 1.0	25	RITTLING PRF-2	· ·		4. ACOUSTIC LINER	SIMILAR TO DUCTMA	TE POLYARMOR WHERE NO	ITED ON DRAWING.		ST NOT MORE THAN SO WIT		SNDANCE WITH AS	THE 64 AND OL 7	23.
FTR-14 FTR-15	BASEMENT	015 STORAGE - 017 DO IO ROOM -	0.4	<u>65</u> 160 65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2												
FTR-16	BASEMENT	017 DOJO ROOM -	0.4	65 160	130 0.5 1.0	75	RITTLING PRF-2		LOUVER SCH										
FTR-17 FTR-18	BASEMENT	017 DOJO ROOM - 017 DOJO ROOM -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2 RITTLING PRF-2												
FTR-19	BASEMENT	017 DOJO ROOM -	0.4	65 160	130 0.5 1.0	75	RITTLING PRF-2	-	L-1	GREENHE			AKE ESD-035 2375 24X30X	6 <u>3.2</u>	747	0.10			
FTR-20	BASEMENT BASEMENT	019 STORAGE - 020 STORAGE -	0.4	<u>65</u> 160 65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2 RITTLING PRF-2		L-2	GREENHE			AKE ESD-035 2375 24X30X	6 <u>3.2</u>	624	0.10			
FTR-22	BASEMENT	022 W TLTRM -	0.4	65 160	130 0.5 1.0	50	RITTLING PRF-2	-	L-3	GREENHE			EE ESD 625 250 20x14x6	6 0.5	652	0.05			
FTR-24	BASEMENT	024 M TLTRM - 028 TELECOM -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	50	RITTLING PRF-2 RITTLING PRF-2		L-4	GREENHE			EF ESD-035 350 20X14X0	6 0.5	632	0.06			
FTR-25	BASEMENT	031 EXERCISE ROOM -	0.4	65 160	130 0.5 1.0	50	RITTLING PRF-2		L-3			VER WIGETT SPACE 009 RELIE	F E3D-033 500 18X14X0	0 0.5	032	0.05		ESD-055 SEE	
FTR-27	BASEMENT	031A EXERCISE ROOM -	0.4	65 160	130 0.5 1.0	50	RITTLING PRF-2		L-7	NOT USE									
FTR-28 FTR-29	BASEMENT	032 EXERCISE ROOM -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2		L-7					6 95	724	0.09			
FTR-30	NOT USED		-			-			L-8	GREENHE			ESD-635 7000 60x40x6	6 9.5	734	0.08			
FTR-31 FTR-32	BASEMENT	034 CLASSROOM -	0.4	<u>65</u> 160	130 0.5 1.0 130 0.5 1.0	50	RITTLING PRF-2		L-9	GREENHE			ESD-635 7000 60x40x6	6 9.5	734	0.07			
FTR-33	BASEMENT	034 CLASSROOM -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2	· ·	L-10	GREENHE			E ESD 635 7000 60x40x6	6 0.5	734	0.07			
FTR-34 FTR-35	BASEMENT NOT USED	036 MECH -	0.4	<u>65</u> 160 	<u>130 0.5 1.0</u> 	50	RITTLING PRF-2		L-11	GREENHE			KE ESD 625 1200 28x20x4	6 1.6	200	0.08			
FTR-36	FIRST FLOOR	103 W TLTRM -	0.4	65 160	130 0.5 1.0	50	RITTLING PRF-2	-	L-12	GREENHE			KE ESD-035 1300 28X20X	6 1.6	800	0.10			
FTR-37 FTR-38	FIRST FLOOR	106 STAFF OFFICE -	0.4	<u>65</u> 160 65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2		L-13	GREENHE			LIST ESD 625 1200 28x20x6	6 1.6	800	0.10			
FTR-39	FIRST FLOOR	108 OFFICE -	0.4	65 160	130 0.5 1.0	25	RITTLING PRF-2	-	L-14	GREENHE			UST ESD-035 1300 28X20X	6 1.6	800	0.09			
FTR-40 FTR-41	FIRST FLOOR	110 OFFICE - 111 CIRCULATION -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	25 50	RITTLING PRF-2 RITTLING PRF-2		L-15	GREENIE			USI LSD-035 1500 288208	0 1.0	800	0.09	GREENHECK	L3D-033 3LL	
FTR-42	FIRST FLOOR	111 CIRCULATION -	0.4	65 160	130 0.5 1.0	25	RITTLING PRF-2	-	NOTES:										
FTR-43 FTR-44	FIRST FLOOR	111 CIRCULATION - 111 CIRCULATION -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	25 50	RITTLING PRF-2 RITTLING PRF-2		1. COORDINATE FINISH WI										
FTR-45	FIRST FLOOR	111 CIRCULATION -	0.4	65 160	130 0.5 1.0	50	RITTLING PRF-2	-	2. COORDINATE MOUNTING 3. PROVIDE ALL LOUVERS	G DETAILS WITH ARCHITECTUR WITH BIRDSCREENS.	AL PLANS.								
FTR-40	FIRST FLOOR	111 CIRCULATION - 112 OFFICE -	0.4	<u> 65 160 </u>	130 0.5 1.0 130 0.5 1.0	50 50	RITTLING PRF-2 RITTLING PRF-2												
FTR-48	FIRST FLOOR	112 OFFICE -	0.4	65 160	130 0.5 1.0	25	RITTLING PRF-2	-	PI	SERVICE		HOT WATER				REERIGERANT			
FTR-50	FIRST FLOOR	115 CONFERENCE - 115 CONFERENCE -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2 RITTLING PRF-2			LOCATION T	MPERATURE	INDOORS		INDOORS		INDOORS / OUTDO	ORS		
FTR-51 FTR-52	FIRST FLOOR	116 M TLTRM -	0.4	65 160	<u>130</u> 0.5 1.0	50	RITTLING PRF-2					120-200 F		42-55 F		42-58 DEG F		NTO	
FTR-53	FIRST FLOOR	119 ARTS&CRAFTS - 119 ARTS&CRAFTS -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2					PIPE SIZE	MATERIAL/JOINTS		MATERIAL/JOINTS		MATERIAL/JOI	NIS	
FTR-54 FTR-55	SECOND FLOOR	201 COMPUTER ROOM -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2												
FTR-56	SECOND FLOOR	202 GN TLT -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	25	RITTLING PRF-2					3/4" - 2"	ASTM B88 HARD-DRAWN TYPE L COPPER/ANSI B16.22 SOLDER 95/5TA SOLDERED	2 3/4" - 2"	ASTM B88 HARD-DRAWN TYPE L COPPER/ANSI B16.2 SOLDER 95/5TA SOLDERED	23/4" - 2" PER	MANUFACTURER REC	UIREMENT	
FTR-57 FTR-58	SECOND FLOOR	203 PPR STAFF OFFICE -	0.4	65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2			ST PIPE MATERI	ALS							-	
FTR-59	SECOND FLOOR	205 AUDITORIUM -	0.4	65 160	130 0.5 1.0	75	RITTLING PRF-2	-		ИАТЕ			ASTM ۵53 SCH ۸۵		ASTM 453 SCH 40				
FTR-60 FTR-61	SECOND FLOOR	205 AUDITORIUM - 205 AUDITORIUM -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	75 50	RITTLING PRF-2 RITTLING PRF-2			bipe n		2 1/2" & UP	SEAMLESS STEEL/ANSI B16.9 BUTT WELD	2 1/2" & UP	SEAMLESS STEEL/ANSI B16.9 BUTT WELD	2 1/2" & UP PER	MANUFACTURER REC	UIREMENT	
FTR-62	SECOND FLOOR	205 AUDITORIUM -	0.4	65 160	130 0.5 1.0	50	RITTLING PRF-2							-					
FTR-64	SECOND FLOOR	206 STAGE - 206 STAGE -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	50 50	RITTLING PRF-2 RITTLING PRF-2					450 0010		150 0810					
FTR-65	SECOND FLOOR	STAGE L -	0.4	65 160	130 0.5 1.0	25	RITTLING PRF-2	-		SEAMLESS/E	RW	SEAMLESS OR ERW		SEAMLESS OR ERW					
FTR-67	SECOND FLOOR	STAGE R - KITCHEN 207 -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	25 25	RITTLING PRF-2 RITTLING PRF-2			-		-		-					
FTR-68	SECOND FLOOR	GAME ROOM 1 209 -	0.4	65 160	130 0.5 1.0	50	RITTLING PRF-2					PIPE SIZE	INSULATION THICKNESS	PIPE SIZE	INSULATION THICKNESS	PIPE SIZE	INSULATION THIC	KNESS	
FTR-70	SECOND FLOOR SECOND FLOOR	GAME ROOM 1 209 - GAME ROOM 1 209 -	0.4	65 160 65 160	130 0.5 1.0 130 0.5 1.0	75	RITTLING PRF-2 RITTLING PRF-2				ULATION THICKNESS	3/4" - 1" 1 1/2" - 4"	1 1/2" 2"	3/4" - 1" 1 1/4" - 2"	1/2" 1/2"	3/4" - 1 1/2" 1" INI 2" - 4" 1" INI	<u>JOOR/2" OUTDOOR</u> DOOR/2" OUTDOOR		
FTR-71	SECOND FLOOR	GAME ROOM 2 210 -	0.4	65 160	130 0.5 1.0 120 0.5 1.0	75	RITTLING PRF-2	-		JLATI		6"	2"	2 1/2" - 4"	1"	6" 1" INI	DOOR/2" OUTDOOR		
1 11472	SECOND FLOOR	GAME ROOM 2 210 -	0.4	05 100	130 0.5 1.0	50	RITILING PRF-2						-	6" 8" & UP	- -	8" & UP 1" INI 	JOOR/2" OUTDOOR		
NOTES: 1. COORDINATE FINISH WITH ARCHITECT.										JACKET	ТҮРЕ	MOLDED FIBERGLAS	S	MOLDED FIBERGLASS			VERIC / ARMAFLEX		
2. COORDINATE LENGTHS WITH FLOOR PLANS.										WEATHERPR	OOFING	NONE		NONE		NONE			
EXPANSION TANK S	SCHEDUI	.E								MAXIMUM K-'	ALUE	Kmax = 0.27 AT 175 D	EG F	Kmax = 0.23 AT 75 DEG F N		Kmax = 0.27			
												PIPE SIZE	ISOLATION/THROTTLE	PIPE SIZE	ISOLATION/THROTTLE		ISOLATION/THR(UTILE	
UNIT NO. LOCATION SERVICE SYSTEM TYPE	ACTUAL VOLUME (G	AL.) ACCEPT. VOLUME (GAL.)	HEIGHT (FT IN.) DIAME	TER (FT IN.) WORKING F	PRESS. (PSIG) SYSTEM OF	ER. TEMP(°F) OPER. WEIGHT (LBS.) BASIS OF DESIGN : MANUFACTURER & MO	DDEL NO. REMARKS		ILVES		3/4" - 2"	BALL VALVE/BALL VALVE	3/4" - 2"	BALL VALVE/BALL VALVE	3/4" - 2" PER	MANUFACTURER REC	UIREMENT	
ET-1 MER HW DIAPHRAGM	300	300	-	- 1	50 .	50 -	ARMSTRONG	SEE NOTES		것 VALVES 권		2-1/2" & UP	BUTTERFLY VALVE/BALL	2-1/2" & UP	BUTTERFLY VALVE/BALL	2-1/2" & UP PER	MANUFACTURER RF(
NOTES:										₫					VALVE			· · · · · · · · · · · · · · · · · · ·	
1. PROVIDE MINIMUM 12 PSIG PRECHARGE; FIELD A	DJUST FOR SYSTEM N	EEDS.										-	-	-					
UNIT HEATER SCHEDULE																			
			HEATING COIL						REM	AKKS									
UNIT NO. LOCATION SERVICE	STOLEMIYPE		LAT (°F) EWT (°F) LWT	(°F) GPM MAX PD (FTHD)												1			

EXF	EXPANSION TANK SCHEDULE													
UNIT NO.	LOCATION	SERVICE	SYSTEM TYPE	ACTUAL VOLUME (GAL.)	ACCEPT. VOLUME (GAL.)	HEIGHT (FT IN.)	DIAMETER (FT IN.)	WORKING PRESS. (PSIG)	SYSTEM OPER. TEMP(°F)	OPER. WEIGHT (LBS.)	BASIS OF DESIGN : MANUFACTURER & MODEL NO.	REMARKS		
ET-1	MER	HW	DIAPHRAGM	300	300	-	-	150	150	-	ARMSTRONG	SEE NOTES		

	HEALER	SCHEDULE														
								HEATIN	G COIL							
UNIT NO.	LOCATION	SERVICE	SYSTEM TYPE	AIRFLOW (CFM)	MBH	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	GPM	MAX PD (FTHD)	MHP	V/PH/HZ	OPER. UNIT WEIGHT (LBS)	BASIS OF DESIGN: MANUFACTURER AND MODEL NO.	REMARKS
CUH-1	LOWER LEVEL	001 VESTIBULE	VERTICAL	420	16	65	98	160	130	1.0	0.2	0.25	120/1/60	150	RITTLING RW-260-04	SEE NOTES
CUH-2	LOWER LEVEL	002 FILTER ROOM	VERTICAL	420	16	65	98	160	130	1.0	0.2	0.25	120/1/60	150	RITTLING RW-260-04	SEE NOTES
CUH-3	LOWER LEVEL	004 LIFEGUARD ROOM	VERTICAL	420	16	65	98	160	130	1.0	0.2	0.25	120/1/60	150	RITTLING RW-260-04	SEE NOTES
CUH-4	LOWER LEVEL	007 VESTIBULE	VERTICAL	420	16	65	98	160	130	1.0	0.2	0.25	120/1/60	150	RITTLING RW-260-04	SEE NOTES
CUH-5	LOWER LEVEL	033 CORRDIOR	VERTICAL	420	16	65	98	160	130	1.0	0.2	0.25	120/1/60	150	RITTLING RW-260-04	SEE NOTES
CUH-6	FIRST FLOOR	113 VESTIBULE	VERTICAL	420	16	65	98	160	130	1.0	0.2	0.25	120/1/60	150	RITTLING RW-260-04	SEE NOTES
CUH-7	FIRST FLOOR	111 LOUNGE	VERTICAL	420	16	65	98	160	130	1.0	0.2	0.25	120/1/60	150	RITTLING RW-260-04	SEE NOTES
UH-1	LOWER LEVEL	001 WATER METER ROOM	HORIZONTAL	630	24	50	95	160	130	2.5	0.2	0.25	120/1/60	150	RITTLING RH-33	SEE NOTES
UH-2	LOWER LEVEL	026 BOILER ROOM	HORIZONTAL	630	24	50	95	160	130	2.5	0.2	0.25	120/1/60	150	RITTLING RH-33	SEE NOTES

NOTES:

1. PROVIDE UNITS WITH COIL CONNECTION KITS. 2. UNIT HEATERS SHALL BE CAPABLE OF COMMUNICATING WITH THE BACNET BUILDING CONTROL SYSTEM.

3. PROVIDE HEATERS w/INTEGRAL THERMOSTAT

							BOILER F	PERFORM	IANCE DATA		BURNER PERFORMANCE DATA				ELECTRIC	AL DATA			
		SERVICE	SYSTEM TYPE								GAS GAS DATA								DEMADINO
UNIT NO.	LOCATION			SYSTEM TYPE	SYSTEM TYPE	GAS INPUT (MBH)	NOMINAL CAPACITY (MBH)	GPM	EWT (°F)	LWT (°F)	MAX. PD (FT. HD)	HEAT EXCHANGER DESIGN PRESSURE (PSIG)	MEDIUM	MIN PRESS. (in. W.C.)	MAX PRESS. (in. W.C.)	VOLTS	PHASE H	IZ FLA MOCP	OPER. WEIGHT (LBS.)
B-1	BOILER ROOM	AHU-1, AHU-2 , RADIATORS, CUHS	HW	1000	850	57	130	160	10	150	NG	3	14	115	1	60 4	3000	WEIL MCLAIN SF1000	SEE NOTES
B-2	BOILER ROOM	AHU-1, AHU-2 , RADIATORS, CUHS	HW	1000	850	57	130	160	10	150	NG	3	14	115	1	60 4	3000	WEIL MCLAIN SF1000	SEE NOTES

NOTES:

1. PROVIDE GAS TRAIN WITH ALL VENTING, INTEGRATED BOILER CONTROL PACKAGE, OPERATING THERMOSTAT, HIGH LIMIT THERMOSTAT, AIR SWITCH, AND MANUAL RESET LOW WATER CUTOFF. 2. PROVIDE MANUFACTURER'S CONDENSATE TRAP KIT AND INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

CONVECTOR SCHEDULE											
UNIT NO.	LOCATION	SERVICE									
CONV-1	BASEMENT	ST1-LL									
CONV-2	BASEMENT	ST6-LL									
CONV-3	FIRST FLOOR	ST2-1									
CONV-4	FIRST FLOOR	ST5-1									

	HOT WATER		CONDENSATE DRAIN		REFRIGERAN	Г			
	INDOORS		INDOORS		INDOORS / OL	JTDOORS			
	120-200 F		42-55 F		42-58 DEG F				
	PIPE SIZE	MATERIAL/JOINTS	PIPE SIZE	MATERIAL/JOINTS	PIPE SIZE	MATERIAL/JOINTS			
	3/4" - 2"	ASTM B88 HARD-DRAWN TYPE L COPPER/ANSI B16.22 SOLDER 95/5TA SOLDERED	3/4" - 2"	ASTM B88 HARD-DRAWN TYPE L COPPER/ANSI B16.22 SOLDER 95/5TA SOLDERED	3/4" - 2"	PER MANUFACTURER REQUIREMENT			
	2 1/2" & UP	ASTM A53 SCH 40 SEAMLESS STEEL/ANSI B16.9 BUTT WELD	2 1/2" & UP	ASTM A53 SCH 40 SEAMLESS STEEL/ANSI B16.9 BUTT WELD	2 1/2" & UP	PER MANUFACTURER REQUIREMENT			
	-	-	-	-	-	-			
	150 PSIG		150 PSIG		PER MANUFACTURER REQUIREMENT				
	SEAMLESS OR ERW		SEAMLESS OR ERW		PER MANUFA	CTURER REQUIREMENT			
	-		-		-				
	PIPE SIZE	INSULATION THICKNESS	PIPE SIZE	INSULATION THICKNESS	PIPE SIZE	INSULATION THICKNESS			
	3/4" - 1"	1 1/2"	3/4" - 1"	1/2"	3/4" - 1 1/2"	1" INDOOR/2" OUTDOOR			
S	1 1/2" - 4"	2"	1 1/4" - 2"	1/2"	2" - 4"	1" INDOOR/2" OUTDOOR			
	6"	2"	2 1/2" - 4"	1"	6"	1" INDOOR/2" OUTDOOR			
	8" & UP	2"	6"	-	8" & UP	1" INDOOR/2" OUTDOOR			
	-	-	8" & UP	-	-	-			
	MOLDED FIBERGLASS		MOLDED FIBERGLASS		FLEXIBLE ELA	STOMERIC / ARMAFLEX			
	ASJ		ASJ		ASJ				
	NONE		NONE		NONE				
	Kmax = 0.27 AT 175 DEG F		Kmax = 0.23 AT 75 DEG F ME	AN TEMP	Kmax = 0.27				
	PIPE SIZE	ISOLATION/THROTTLE	PIPE SIZE	ISOLATION/THROTTLE	PIPE SIZE	ISOLATION/THROTTLE			
	3/4" - 2"	BALL VALVE/BALL VALVE	3/4" - 2"	BALL VALVE/BALL VALVE	3/4" - 2"	PER MANUFACTURER REQUIREMENT			
	2-1/2" & UP	BUTTERFLY VALVE/BALL VALVE	2-1/2" & UP	BUTTERFLY VALVE/BALL VALVE	2-1/2" & UP	PER MANUFACTURER REQUIREMENT			
	•	-	-	-	-	-			

		E	DUAL TEN	/IPERATUF	RE COIL	(HEATING	3)			
ICE	SYSTEM TYPE	MBH	EAT (°F)	EWT (°F)	LWT (° F)	GPM	MAX PD (FTHD)	OPER. UNIT WEIGHT (LBS)	BASIS OF DESIGN: MANUFACTURER AND MODEL NO.	REMARKS
LL	VERTICAL	6	65	160	152	1.6	0.1	100	RITTLING SL-18-36-08	SEE NOTES
LL	VERTICAL	6	65	160	152	1.6	0.1	100	RITTLING SL-18-36-08	SEE NOTES
-1	VERTICAL	4	65	160	152	1.0	0.1	100	RITTLING SL-18-24-08	SEE NOTES
-1	VERTICAL	4	65	160	152	1.0	0.1	100	RITTLING SL-18-24-08	SEE NOTES

AIR S	EPER/	ATOR	SCHEDULE					
UNIT NO.	LOCATION	SERVICE	DESIGN FLOW (CFM)	MAX PD (INWG)	WORKING PRESS. (PSIG)	OPER. WEIGHT (LBS.)	BASIS OF DESIGN : MANUFACTURER & MODEL NO.	REMARKS
AS-1	MER	HW	65	2	150	500	SPIROTHERM VDT300	-
-								

8 HOT WATER COIL WITH THERMOSTATIC CONTROLS N700-R2 NOT TO SCALE

NOTES: 1. INSTALL PER MANUFACTURERS RECOMMENDATIONS. INSTALL PIPING COUNTER FLOW TO AIRFLOW.
 ONLY USE FOR CONVECTORS.

9 RAISED CONCRETE PAD DETAIL (SLAB ON GRADE)

1. COORDINATE PAD SIZE, HEIGHT, EMBEDDED UTILITIES, ANCHOR

N700-R 2 NOT TO SCALE

ENTRAINED.

- BOLTS & PAD LOCATIONS WITH FINAL EQUIPMENT REQUIREMENTS
- AND MANUFACTURER'S RECOMMENDATIONS. 2. ALL PADS TO HAVE 1" CHAMFERED EDGES, ALL AROUND.
- 3. PAD DIMENSION SHALL PROJECT 6" (MIN.) PAST UNIT, ALL AROUND. 4. ALL CONCRETE TO BE BROOMED FINISHED, 4000 PSI AND 5-7% AIR

MAIN DUCT - ACOUSTIC LINED OR INSULATED AS -

SCHEDULED

FRAME 2

HINGE POS. 2

TYPE 1

₩

FRAME 3

HINGE POS. 3



NOTES:

- REFER TO VALVE SPECIFICATION AND PIPE SCHEDULES FOR MATERIALS AS VALVE TYPES.
 INSTALL BALANCING VALVE WITH INLET AND OUTLET STRAIGHT PIPE IN ACCORDANCE WITH MANUFACTURER'S
- REQUIREMENTS. 3. INSTALL PIPING COUNTER FLOW TO AIRFLOW.



4 CABINET UNIT HEATER PIPING DETAIL M701-R2 NOT TO SCALE

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NOTES:

1. REFER TO VALVE SPECIFICATION AND PIPE SCHEDULES FOR MATERIALS AS VALVE TYPES.

- 2. INSTALL BALANCING VALVE WITH INLET AND OUTLET STRAIGHT PIPE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- 3. INSTALL PIPING COUNTER FLOW TO AIRFLOW.



7 TYPICAL DUCT MOUNTED REGISTER (RECTANGULAR DUCT)









NOTES: 1. AIR CUSHION REQUIRED AT END OF RUN FOR BRANCH TAKE OFFS ILLUSTRATED 2. CUSHION DEPTH, D, EQUAL TO 1/2 THE GREATER OF H OR W, SUBJECT TO 6" MINIMUM, WHERE H =

HEIGHT OF DUCT 3. SUPPLY AIR AND RETURN AIR DUCT SHALL BE EXTERNALLY INSULATED ONLY.













