

WYE BRANCH INSTALLATION PROCEDURE:

WYE BRANCH.

1. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING THE FLOW DURING THE CONNECTION. 2. THE CONTRACTOR IS TO OBTAIN INFORMATION ABOUT THE FLOW RATE PRIOR TO COMMENCING THE CONNECTION. THIS MAY BE OBTAINED BY OPENING A MANHOLE AND MEASURING THE FLOW (FLOW CAN VARY).

- EXISTING

CONCRETE CRADLE

3. FOR HIGH FLOW RATE THE CONTRACTOR SHALL SUBMIT A BY-PASS METHOD FOR APPROVAL 4. FOR LOW FLOW RATE THE CONTRACTOR MAY BE ABLE TO DIRECT THE FLOW THROUGH THE OPENED SECTION.

5. THE CONTRACTOR MUST SELECT THE PROPER SIZE WYE AND ALIGN THE INVERTS.

SAWCUT TO REMOVE SECTION OF CONCRETE CRADLE TO BE REMOVED TO INSTALL WYE BRANCH -

EXISTING SEWER FOR PROPOSED RE-POUR CRADLE AFTER INSTALLATION OF NEW WYE BRANCH

6. EXCAVATE SAFELY TO EXPOSE THE EXISTING SEWER PIPE WITHOUT DAMAGING IT. 7. EXCAVATE A DITCH WIDE ENOUGH TO ACCOMMODATE THE WYE AND THE CUT-OFF WALLS.

8. CONTRACTORS SHOULD PERFORM THE CONNECTION IN A SAFE MANNER AND PER OSHA REGULATIONS.

9. SHORING SHALL BE INSTALLED IN DITCHES AND TRENCHES AS PER OSHA REGULATIONS OR AS REGULATED BY PWD. VIOLATION OF THIS PROVISION WILL RESULT IN A STOP WORK ORDER AND/OR PENALTIES PRESCRIBED BY LAW. (REFER TO PHILADELPHIA PLUMBING CODE 10. FOR CONNECTIONS TO BRICK SEWER, CONSTRUCT A 2-FOOT WIDE BY 8-INCH HIGH, CONCRETE CUTOFF WALL TO THE SPRING LINE, ON

NEW CONC -

COLLAR

SECTION AA

CS6001

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.

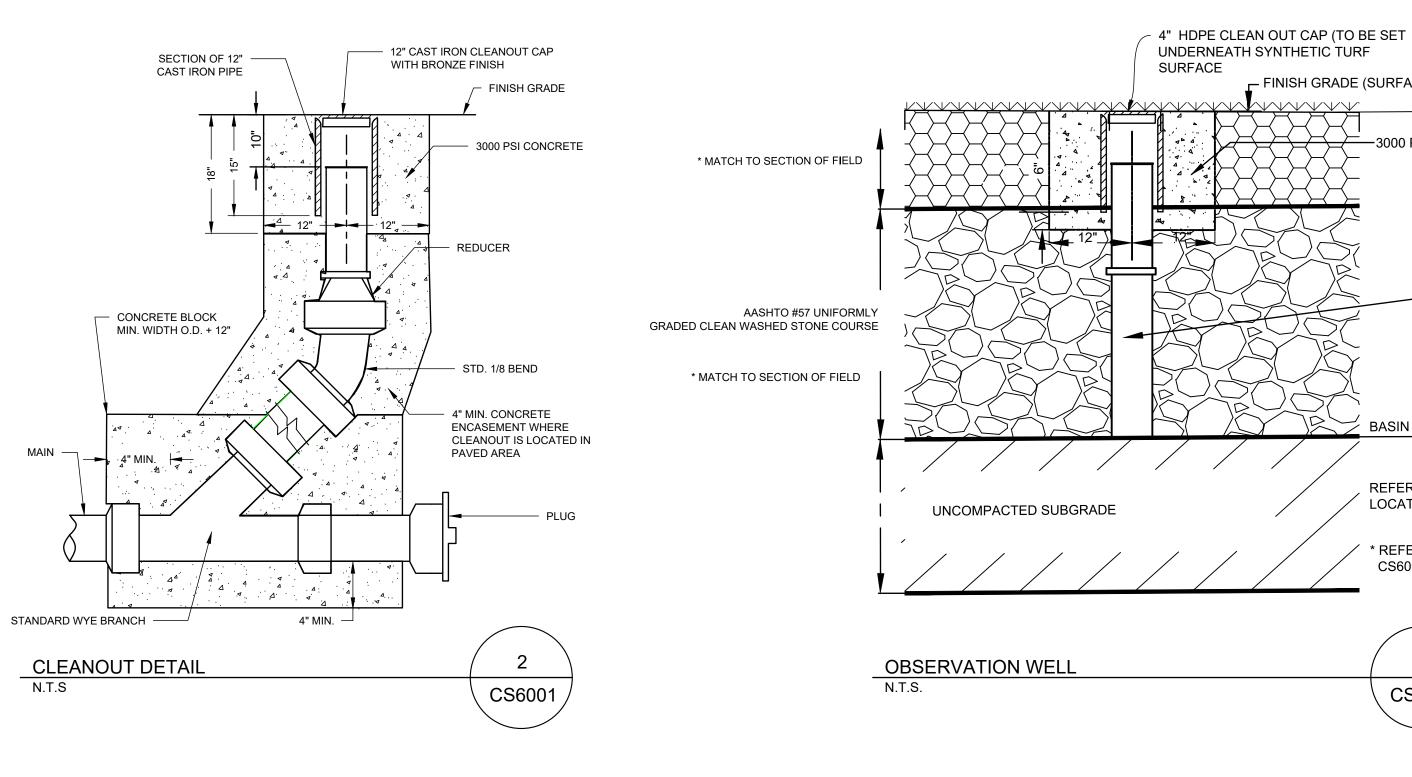
14. PREVENT ANY DEBRIS FROM FLOWING INTO THE SEWER. 15. CLEAN THE BOTTOM OF THE OPENED AREA FROM LOOSE AND SOFT SOIL IF NO CRADLE, AND PLACE STONE IN THE MIDDLE LEAVING 12 INCH BELOW THE JOINTS FOR CONCRETE COLLAR.

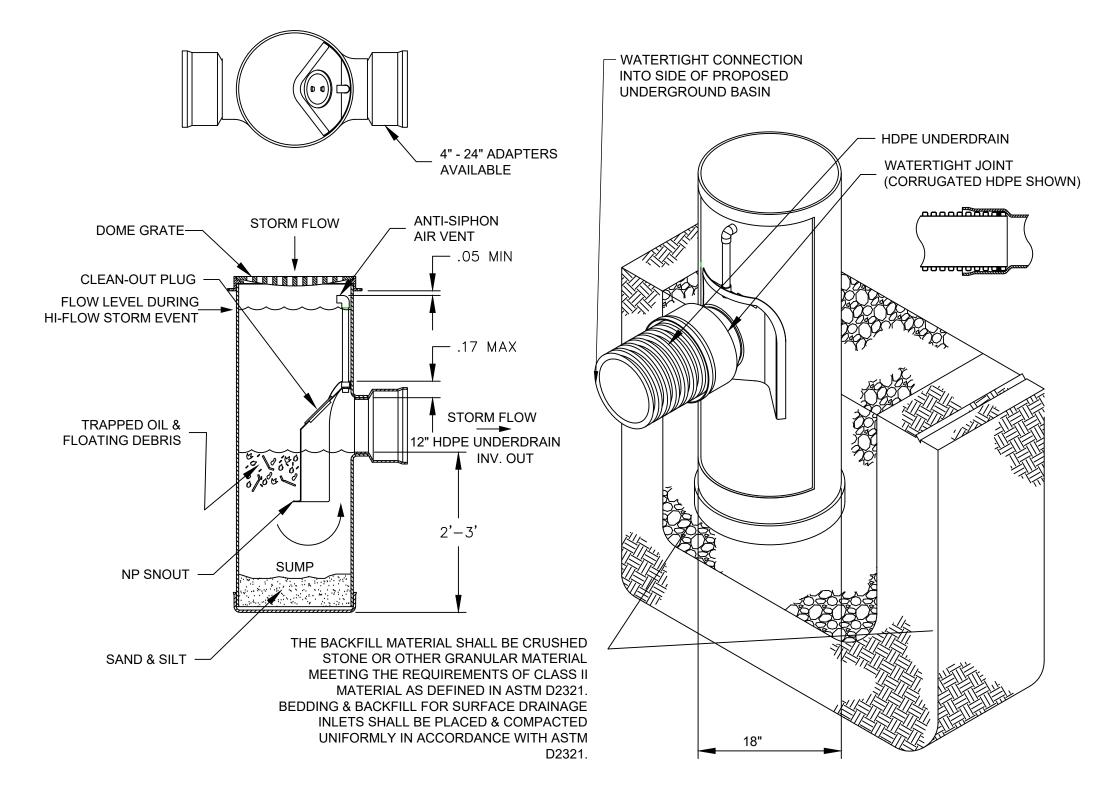
16. INSERT THE WYE SECTION IN PLACE IMMEDIATELY, SEAL THE JOINTS AND CONSTRUCT A 24-INCH CONCRETE COLLAR AROUND BOTH

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.

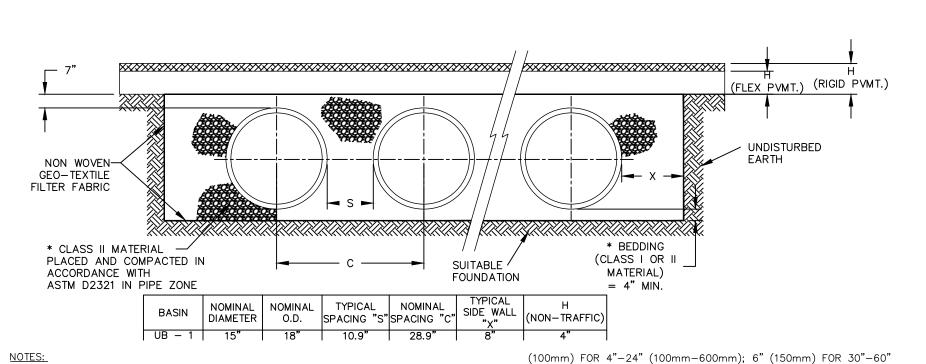






1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL DRAINAGE STRUCTURES. 2. REFER TO SHEET CS1701 FOR INLET GRATE TYPE, ELEVATIONS, AND INVERTS. **DETAIL-** 18" NYLOPLAST AREA DRAIN

CS6001



 ALL REFERENCES TO CLASS I OR II MATERIAL ARE PER ASTM D2321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.

2. ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH 7. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.

- FINISH GRADE (SURFACE OF FIELD)

-3000 PSI CONCRETE

BASIN BOTTOM

CS6001

PERFORATED

PLASTIC PIPE

REFER TO SHEET CS1701 FOR LOCATION OF OBSERVATION WELLS

* REFER TO DETAILS 1&2, SHEET CS6003 FOR FIELD SECTIONS

(MIN. 4" DIA. SIZE)

3. MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D2321. 4. <u>FILTER FABRIC:</u> A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SELECT

BACKFILL MATERIAL. 5. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING

6. <u>BEDDING:</u> SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4"

EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. 8. MINIMUM COVER: MINIMUM COVER OVER ALL RETNETION/DETENTION SYSTEMS IN

NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" UP TO 36" DIAMETER PIPE AND 24" OF COVER FOR 42" — 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. 9. PIPE USED WITHIN THE SUBSURFACE DETENTION SMP MUST HAVE A MINIMUM INNER DIAMETER OF FOURS INCHES.

10. HIGH-DENSITY POLYETHYLENE (HDPE) PIPE MUST MEET THE SPECIFICATION OF AASHTO M252, TYPE S OR AASHTO M294, TYPE 2. 11. ANY PIPE MATERIALS OUTSIDE THE SMP ARE TO MEET THE CITY PLUMBING CODE

DETAIL- UNDERGROUND BASIN CROSS-SECTION: (UB -1) CS6001

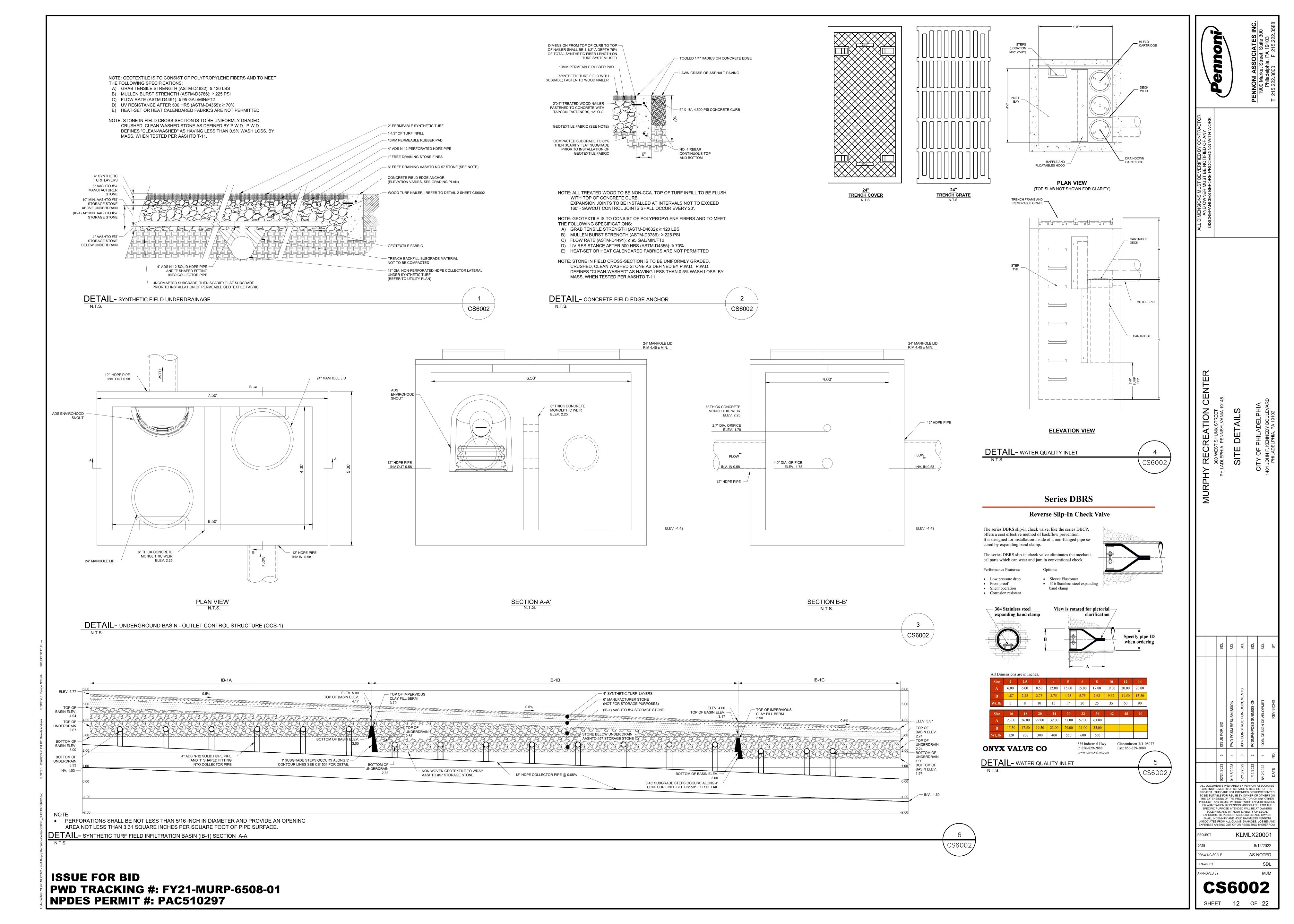
(750mm-1500mm).

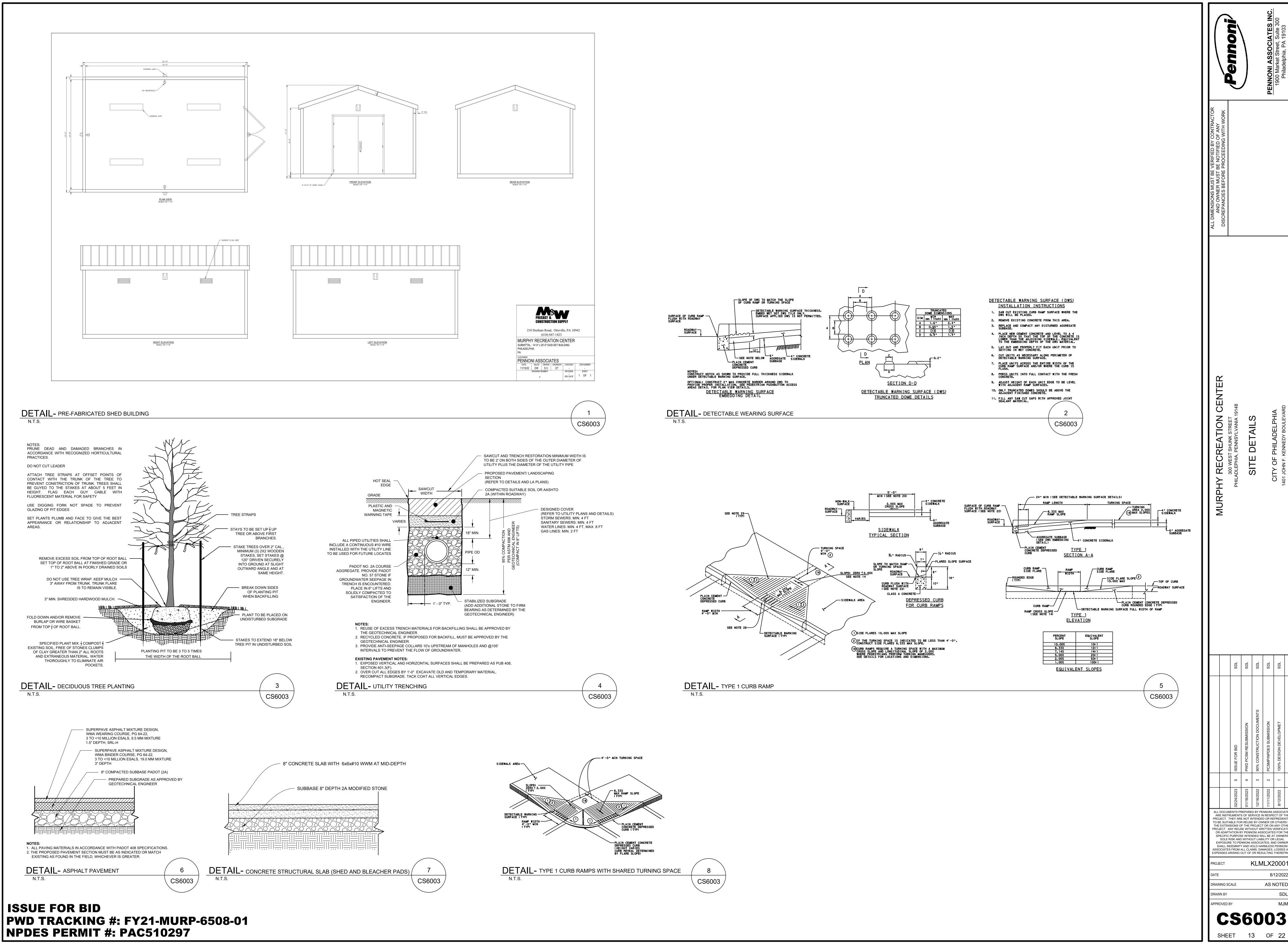
ALL DIMENSIONS MUST BE VERIFIED BY AND DECDEATION CENITED AND OWNER MUST BE NOTIFIED	DISCF	300 WEST SHUNK STREET PHILADLEPHIA, PENNSYLVANIA 19148		OTIE DEL AILO		CILY OF PHILADELPHIA 1401 IOHN E KENNEDY BOLII EVARD	I #OLJODIIN F. NEINNED I BOOLEVAND
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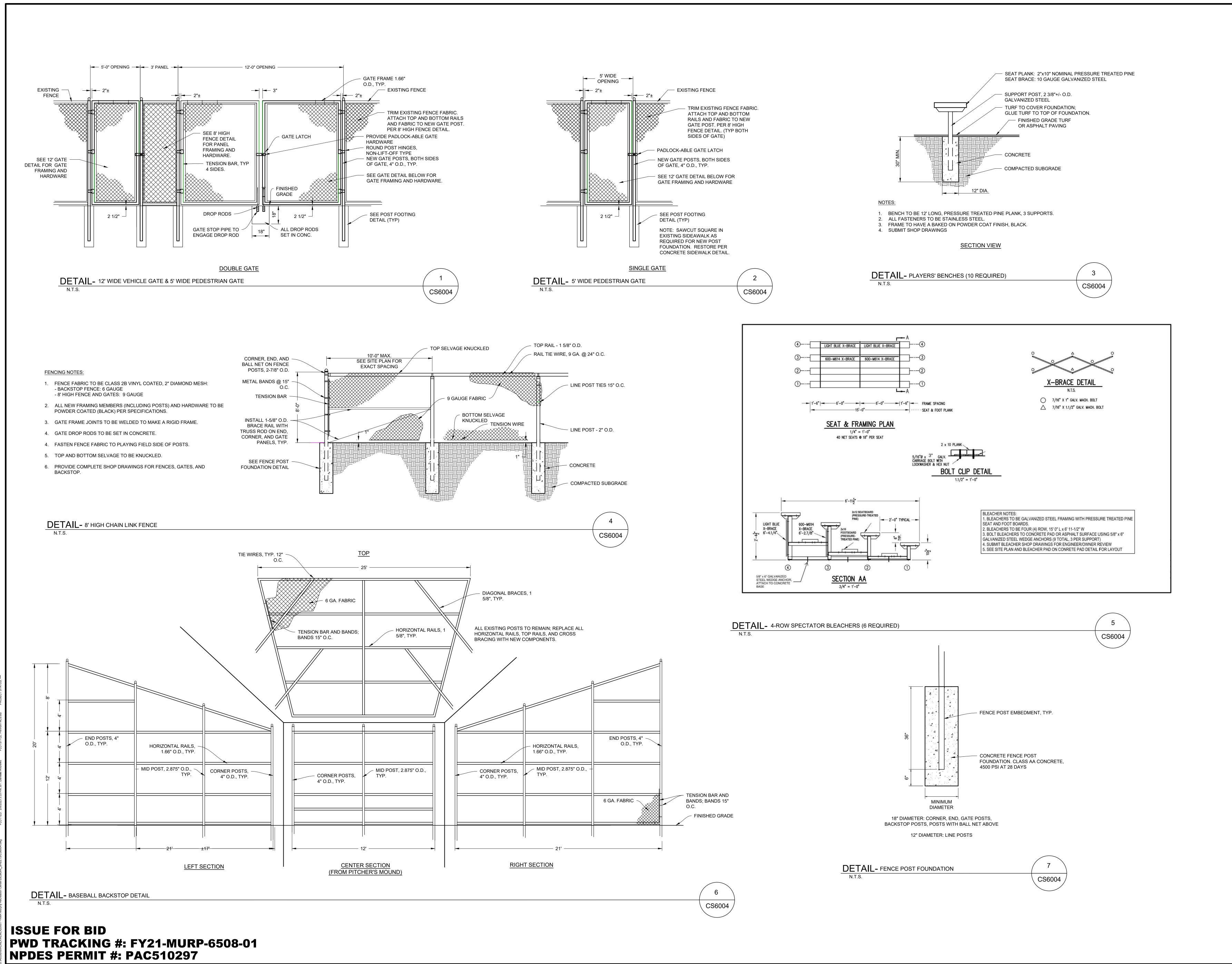
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CS6001





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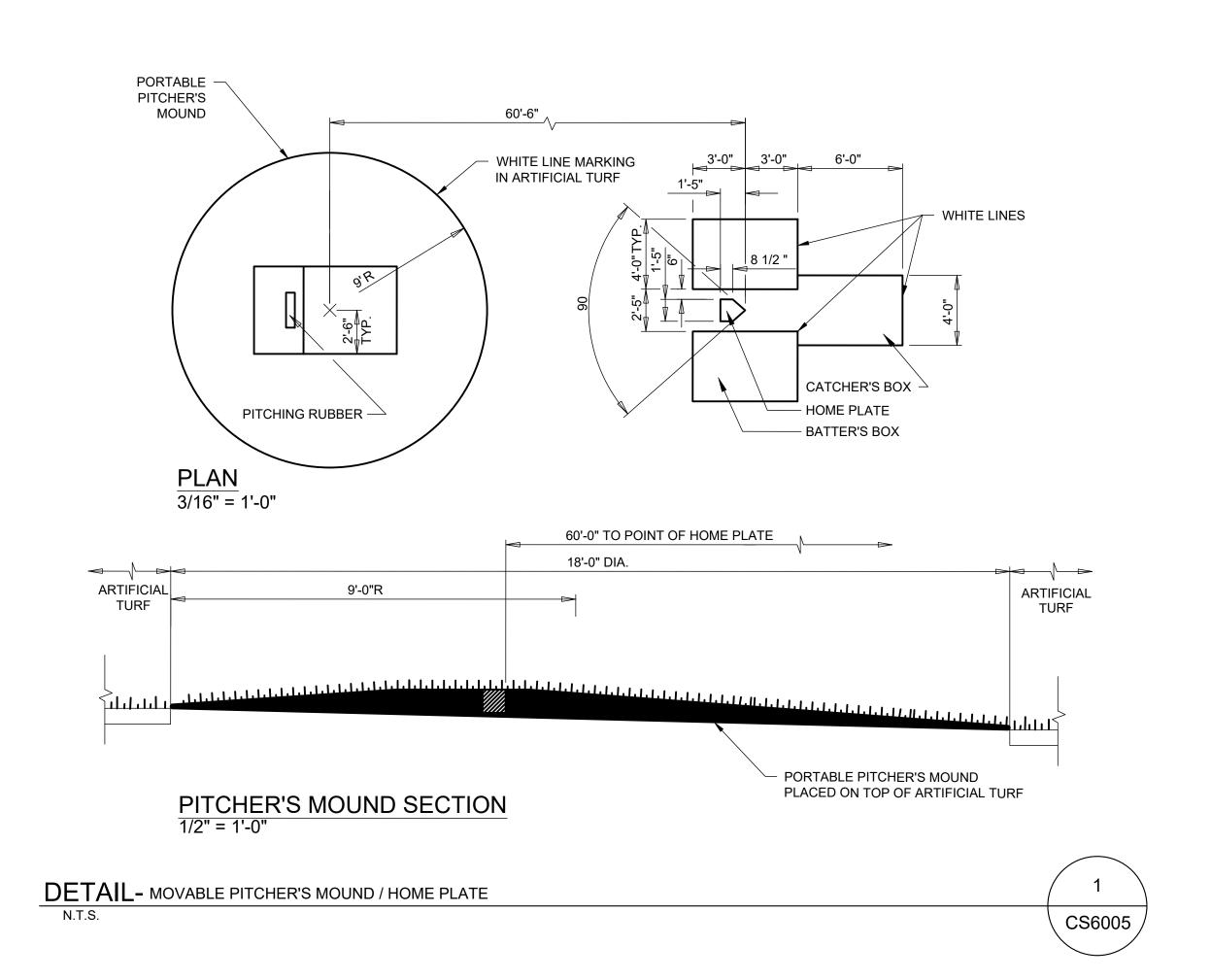


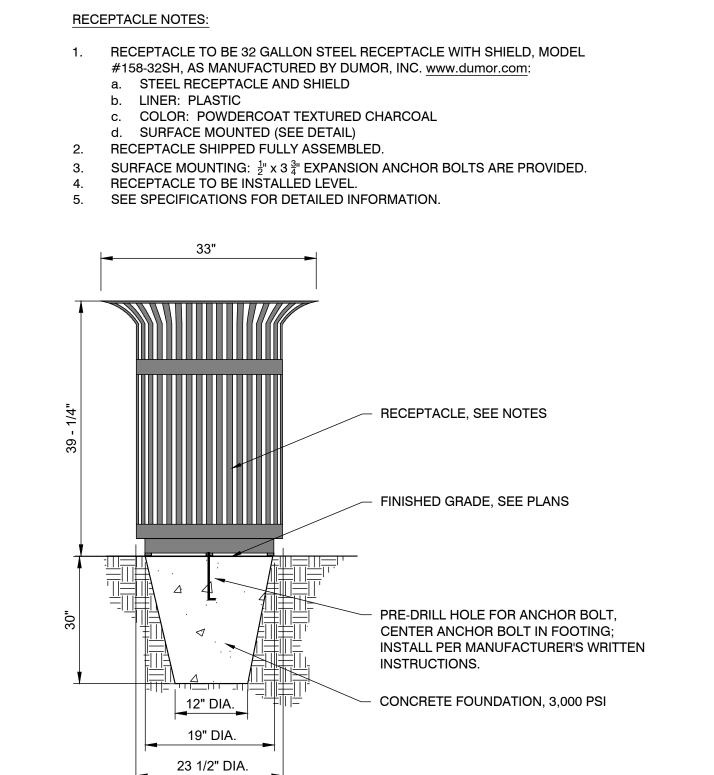
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APPROVED BY MJM

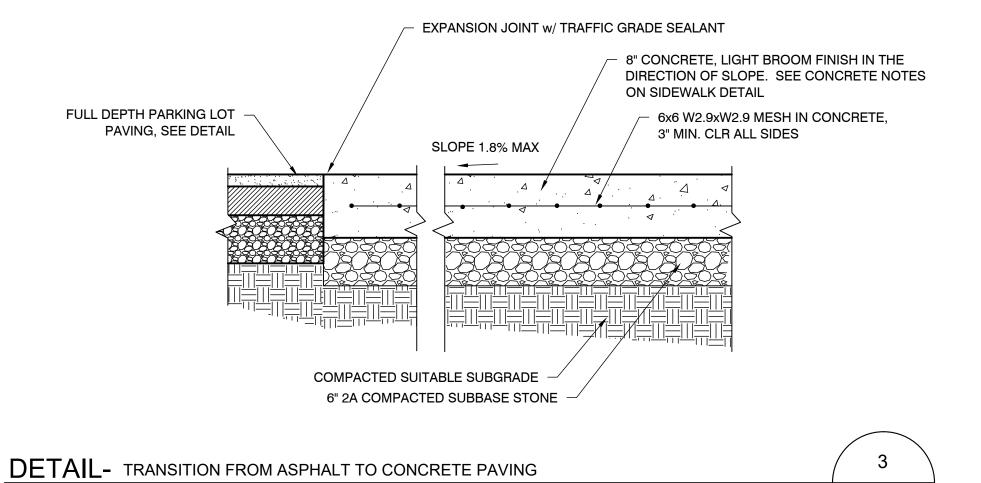
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SHEET 14 OF 22

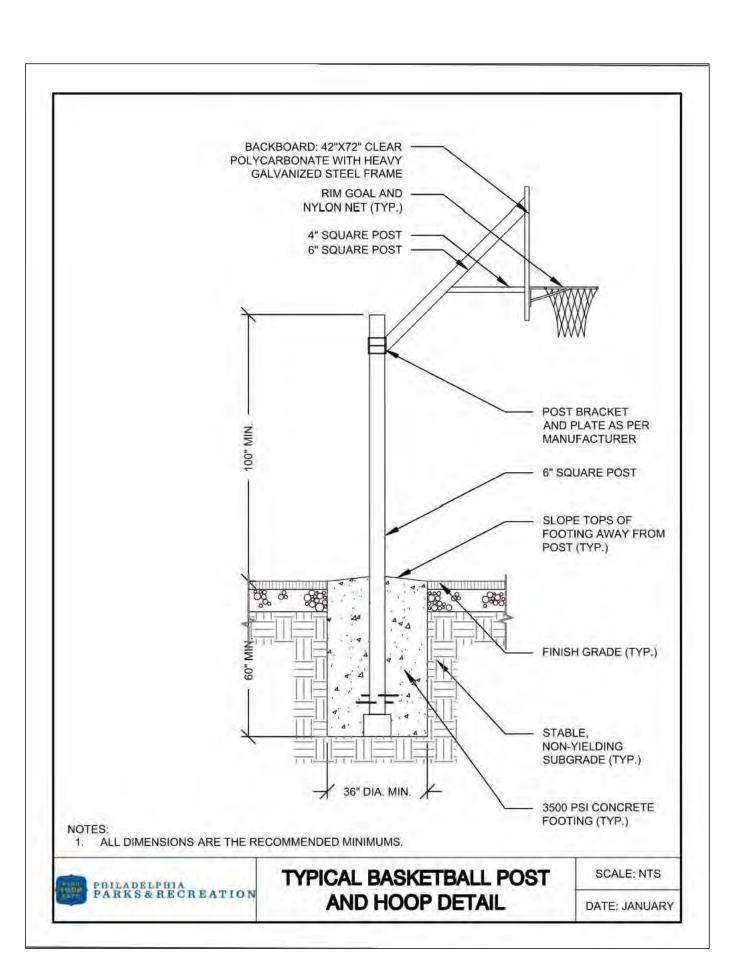


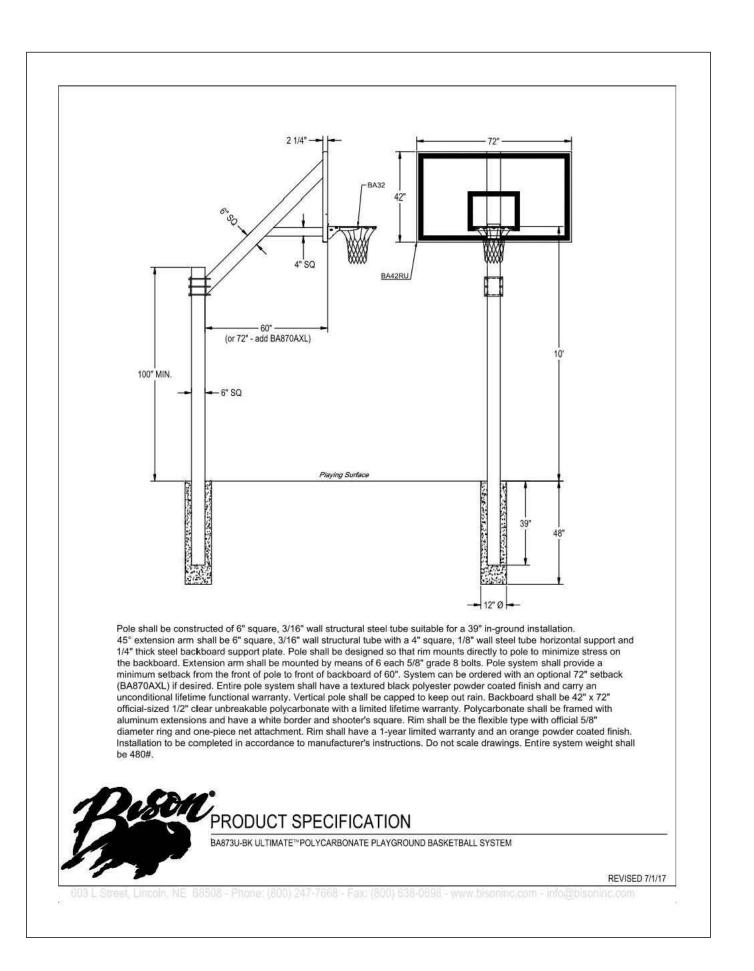


DETAIL- TRASH RECEPTACLE (6 REQUIRED)



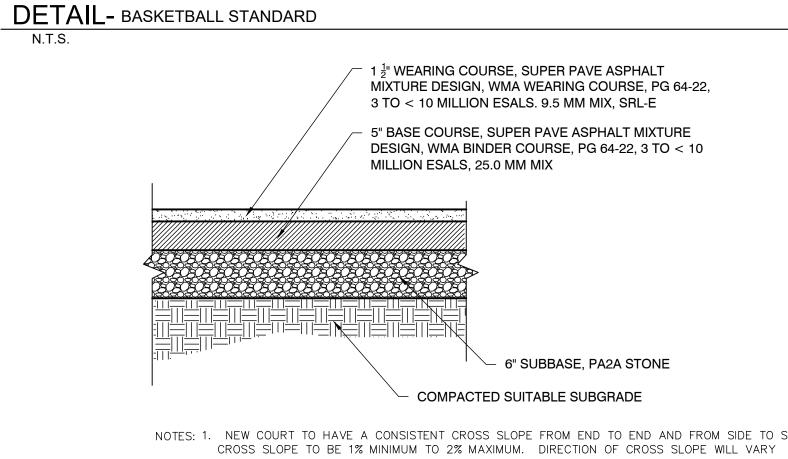
CS6005







CS6005

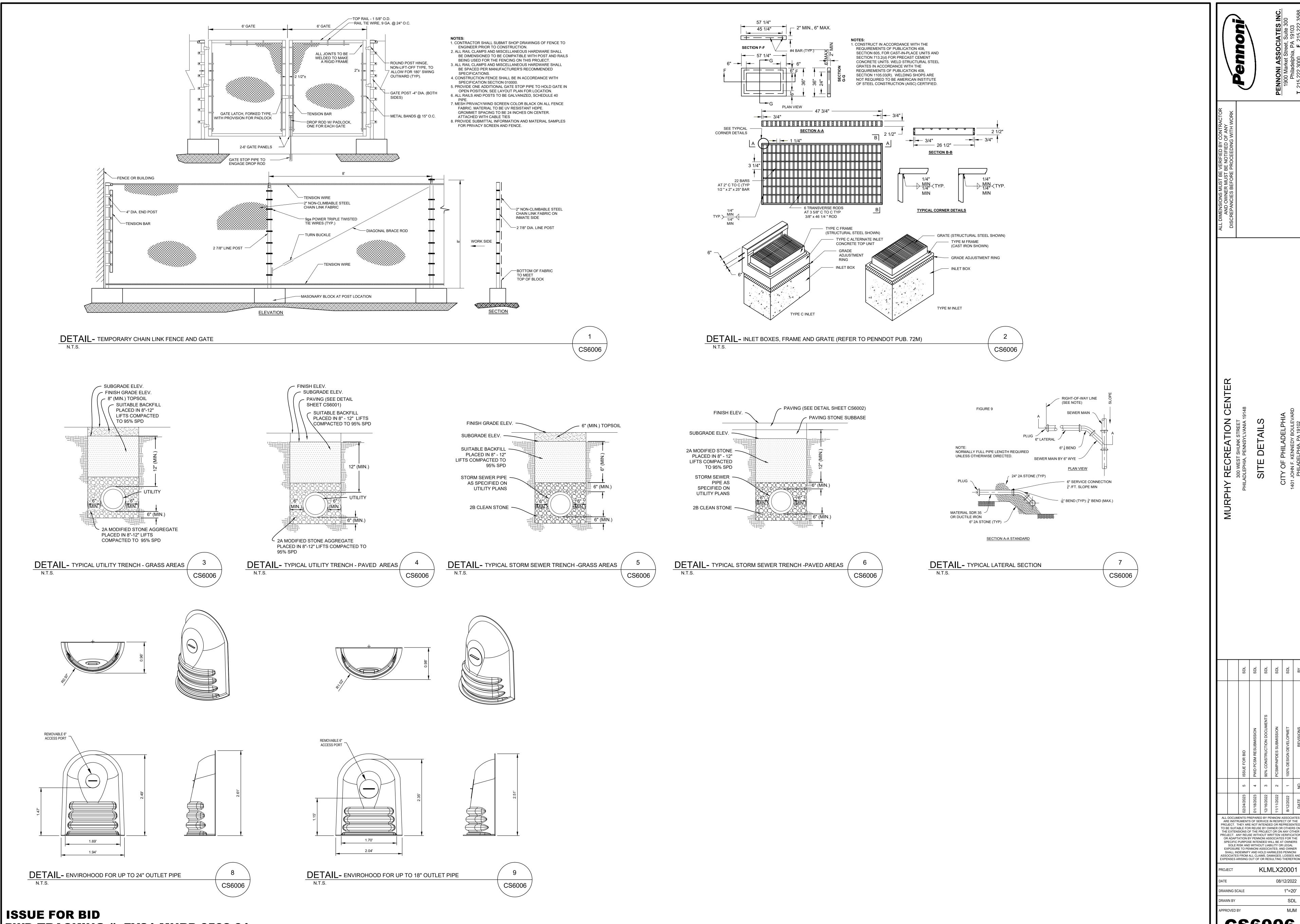


NOTES: 1. NEW COURT TO HAVE A CONSISTENT CROSS SLOPE FROM END TO END AND FROM SIDE TO SIDE. WITH FIELD CONDITIONS.

DETAIL- BASKETBALL COURT PAVING CS6005

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		Penno			PENNONI ASSOCIA	1900 Market Street, S Philadelphia PA 1	T 215.222.3000 F 27
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR	AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK						
	MURPHY RECREATION CENTER	300 WEST SHUNK STREET PHILADLEPHIA, PENNSYLVANIA 19148				CILY OF PHILADELPHIA 1401-IOHN F KENNEDY BOLL EVARD	PHILADELPHIA, PA 19102
		SDL	SDL	SDL	SDL	SDL	ВУ
		ISSUE FOR BID	PWD PCSM RESUBMISSION	90% CONSTRUCTION DOCUMENTS	PCSMP/NPDES SUBMISSION	100% DESIGN DEVELOPMET	REVISIONS
		/2023 5	/2023 4	3 3	1/11/2022 2	8/12/2022 1	TE NO.
P	ARE INS	DS/24/2023	S OF SE E NOT IN	D BY PE RVICE IN	NNONI / N RESPE D OR RE	ASSOCIA ECT OF 1 EPRESE	HE NTED
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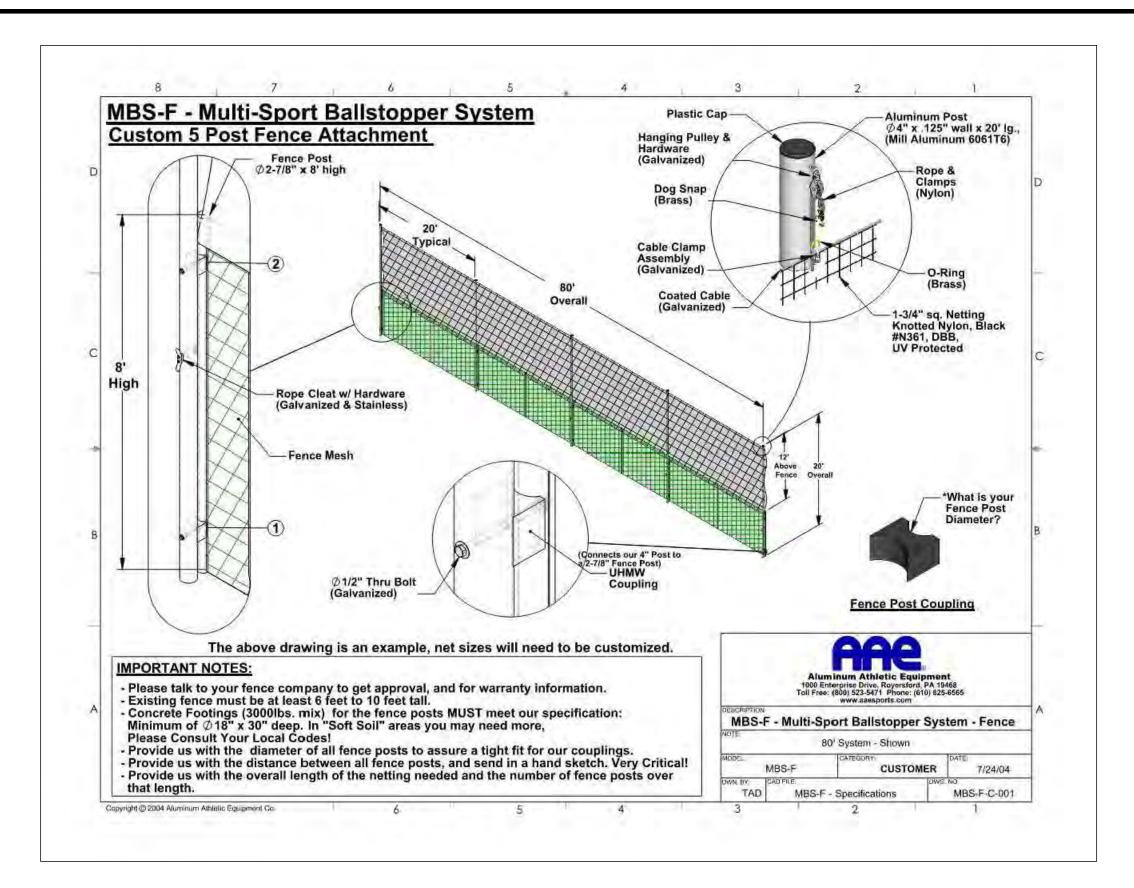
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CS6006

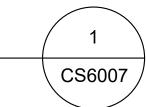
SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS

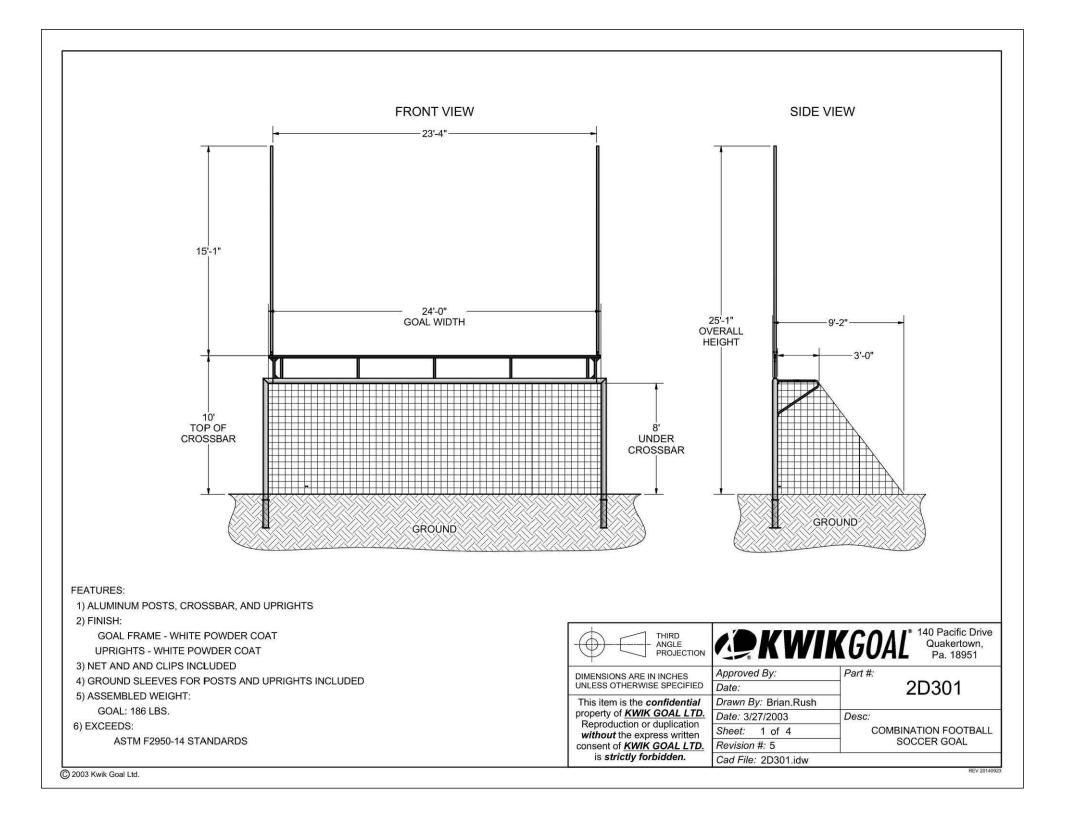
SHALL INDEMNIFY AND HOLD HARMLESS PENNONI

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DETAIL- BALL CONTROL NET ON FENCE - POST FENCE ATTACHMENT



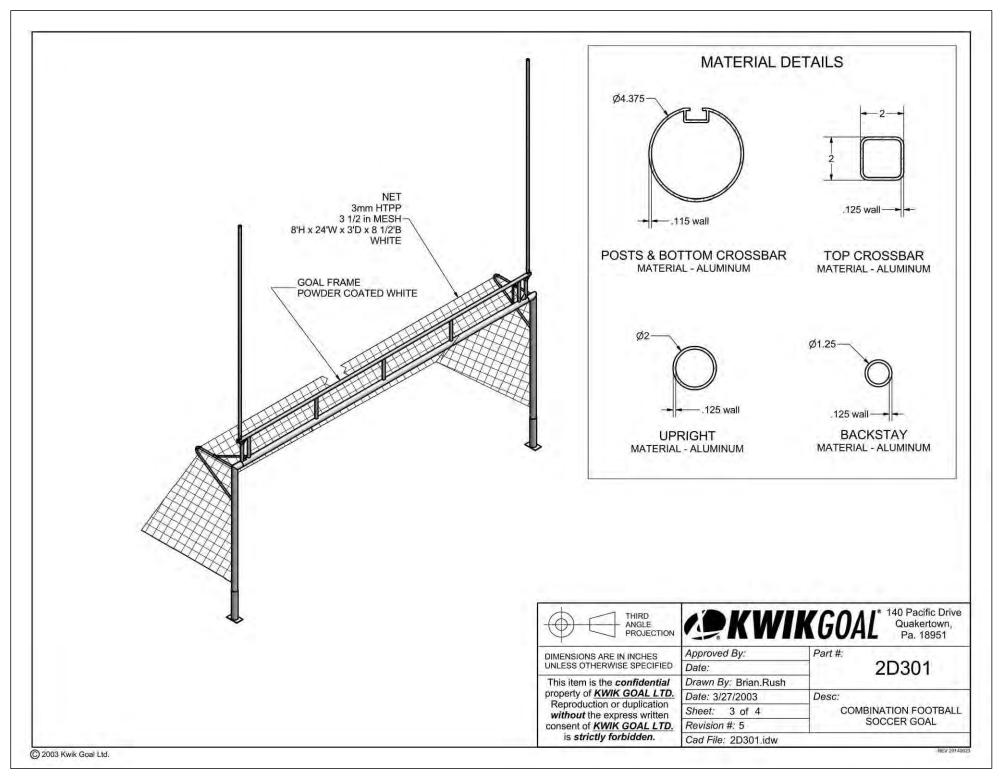


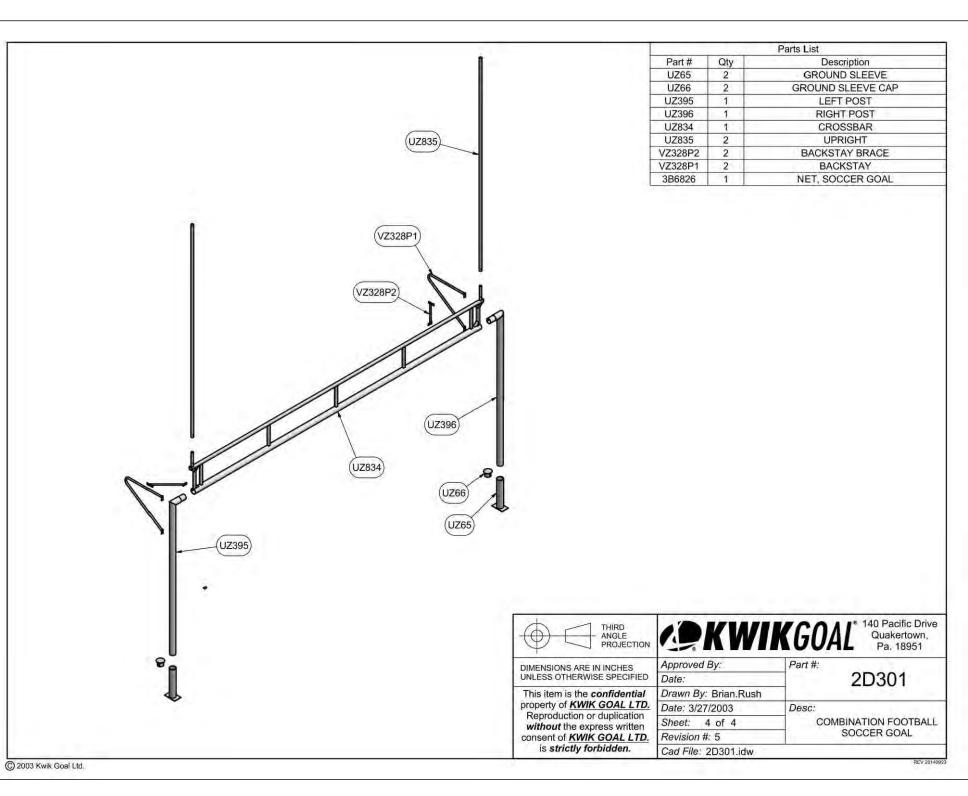
FOOTBALL/SOCCER COMBINATION GOALPOST NOTES:

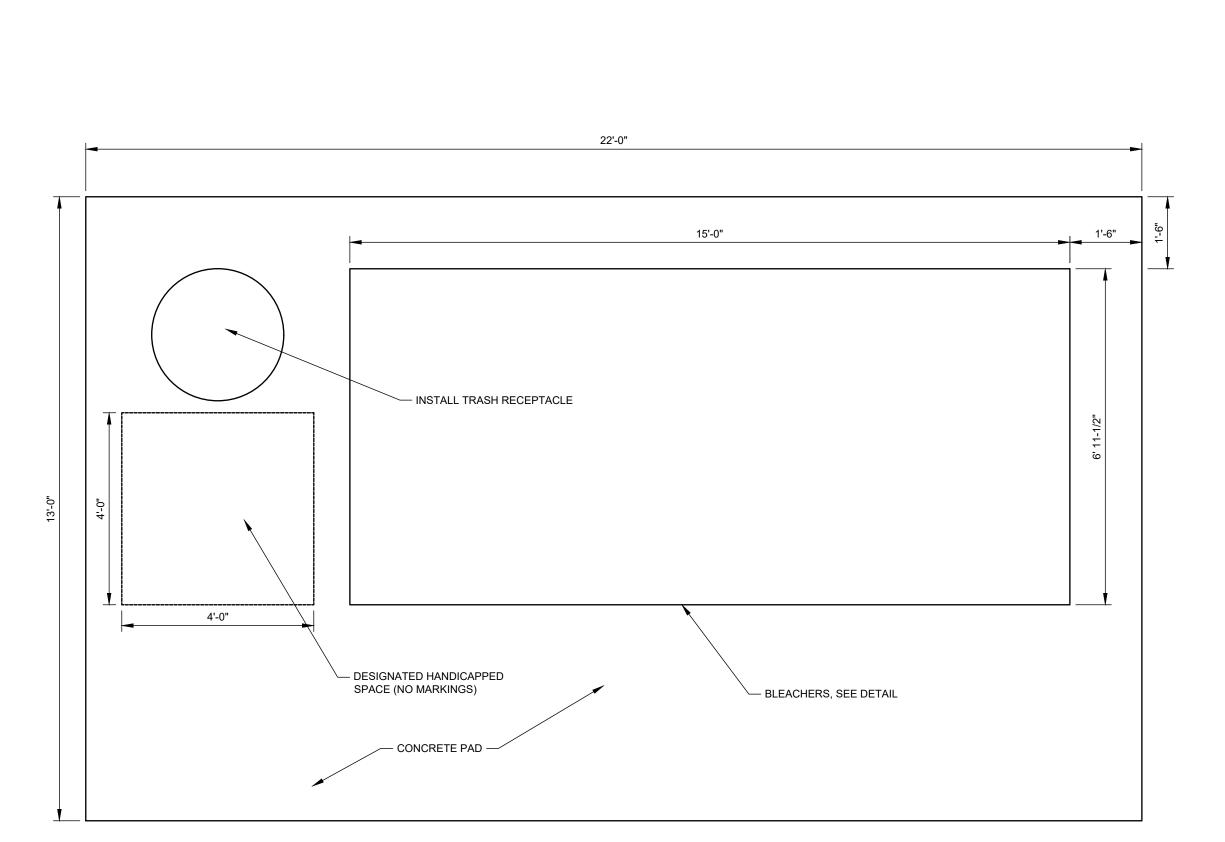
- 1. GOALPOST TO BE COMBINATION FOOTBALL SOCCER GOAL, PART #2D301, ON PNEUMATIC WHEELS, NO GROUND SLEEVES. AS MANUFACTURED BY KWIKGOAL.
- PRODUCT SHALL MEET ASTM F2950-14 STANDARDS

 2. PROVIDE TWO (2) COMBINATION FOOTBALL/SOCCER GOALPOSTS

 3. GOALPOSTS TO BE POWDER COATED WHITE
- 4. PROVIDE TWO (2) 6' HT. POSTS PADS PER GOALPOST (4 TOTAL). PAD COLOR TO
- BE CONFIRMED BY OWNER
 5. GOALPOSTS TO MEET NFHS REGULATION FOOTBALL AND SOCCER RULES







TOP OF POST SLEEVE — SHOULD BE EVEN WITH

AGGREGATE

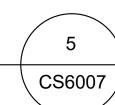
- AGGREGATE

CONCRETE

D 3'-0" [36"] HOLE DIAMETER

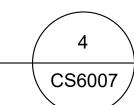
DETAIL- 40' HEIGHT BALL CONTROL NET CONCRETE FOOTING DETAIL

DETAIL- CONCRETE BLEACHER PAD LAYOUT



DETAIL- COMBINATION FOOTBALL SOCCER GOAL

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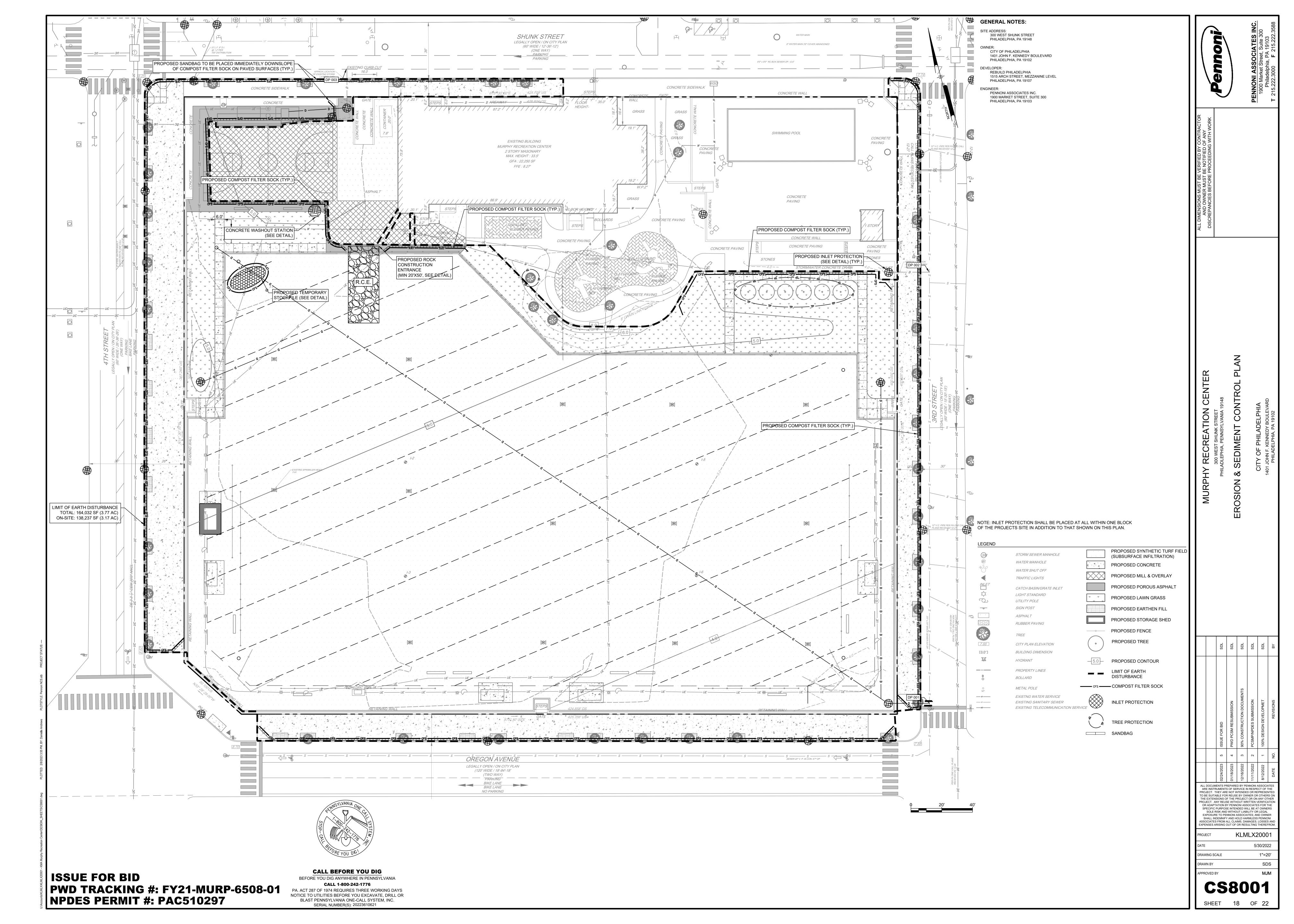
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SHALL INDEMNIFY AND HOLD HARMLESS PENNONI

EXPENSES ARISING OUT OF OR RESULTING THEREFROM

CS6007

KLMLX20001



PWD STANDARD EROSION AND SEDIMENTATION CONTROL NOTES:

- AN INDUSTRIAL WASTE PERMIT WILL BE REQUIRED SHOULD PUMPING TO CITY-OWNED INFRASTRUCTURE BECOME NECESSARY DURING CONSTRUCTION. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN. OVER UNDISTURBED VEGETATED AREAS. INLET PROTECTION SHOULD BE PROVIDED FOR ALL INLETS OWNED BY PWD THAT ARE LOCATED WITHIN ONE BLOCK OF THE PROJECT SITE.
- PWD IS NOT RESPONSIBLE FOR ANY CLEANING OR REPAIRS NEEDED ON CITY-OWNED INFRASTRUCTURE DUE TO FAILURE OF ANY EROSION AND SEDIMENT CONTROL PRACTICES. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY
- INSPECTION AND MAINTENANCE OF ALL EROSION AND SEDIMENT BEST MANAGEMENT PRACTICES SHALL OCCUR ON A WEEKLY BASIS, BEFORE ANY ANTICIPATED PRECIPITATION EVENTS, AND AFTER ALL PRECIPITATION EVENTS.
- 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 EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE. IN NO CASE SHALL THE SEDIMENT BE WASHED, 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 AT 45 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 INTERVALS 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 ABOVE 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 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 PLAN MAPS AND/OR DETAIL SHEETS.
- 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 PWD AND PA DEP.
- 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 APPROVED DRAWINGS MUST BE AVAILABLE AT THE

UNTIL 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

- PROJECT SITE AT ALL TIMES. PWD SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. PWD MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND
- 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 BE NOTIFIED AT 1-800-242-1776 FOR THE
- 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 BY PWD AND THE PA DEP PRIOR
- CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING, AND TOPSOIL 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 FUNCTIONING 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 CLEARLY MARKED AND FENCED OFF BEFORE
- CLEARING AND GRUBBING OPERATIONS BEGIN : 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 PWD AT THE TIME OF
- 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. AREAS TO BE VEGETATED SHALL HAVE A

AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL

- MINIMUM FOUR INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULICHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF TWO INCHES OF TOPSOIL
- 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, UNLESS DIRECTED OTHERWISE BY ENGINEER. EACH LIFT TO BE COMPACTED TO AT LEAST 98% OF ITS MAXIMUM STANDARD PROCTOR DENSITY (ASTM 2012) OR 95% OF ITS MAXIMUM MODIFIED PROCTOR DENSITY (ASTM 2016E)
- 3. 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. 4. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- 6. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD
- 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 PROTECTIVE
- BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN ONE YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN ONE YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS

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

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 OTHER MOVEMENTS.

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

- 0. 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 AND PA DEP. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED. TEMPORARY F&S BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES. AREAS DISTURBED DURING
- 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 STRUCTURES AND/OR POLLUTE THE SURFACE
- 5. DURING CONSTRUCTION, THE SELECTED CONTRACTOR IS EXPECTED TO FOLLOW THE PCSMP APPROVED BY PWD. NO CHANGE OR DEVIATION FROM THE APPROVED PCSMP IS PERMITTED WITHOUT 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 MAIN STANDARD DETAILS AND CORROSION CONTROL SPECIFICATIONS", 1985 EDITION, AND "STANDARD DETAILS AND STANDARD SPECIFICATIONS FOR SEWERS", 1985 EDITION.
- 5. CONTACT PWD WATER TRANSPORT RECORDS (1101 MARKET STREET, 2ND FLOOR, PHONE: 215-685-6271) FOR ADDITIONAL APPROVALS AND PERMITS REQUIRED FOR ALL WATER SERVICES, METERS, AND CONNECTIONS TO THE
- 6. 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 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 THE SITE. 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, OR 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 TEMPORARY EROSION AND SEDIMENT CONTROL:
- INLET PROTECTION SHALL BE APPLIED, AS DETAILED ON THE PLAN, TO EVERY INLET WHICH HAS BEEN CONSTRUCTED TO THE ROADWAY SUBBASE ELEVATION. INLET PROTECTION MUST BE PROVIDED FOR ALL CITY OWNED INLETS
- 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 FILTERS 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 EACH FENCE 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 BE 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.
- STOCKPILED TOPSOIL MOUNDS SHALL BE STABILIZED BY APPLYING TEMPORARY SEED AND A PERIMETER SILT FENCE/FILTER SOCK SHALL BE INSTALLED AROUND EACH MOUND. TEMPORARY SEEDING SHALL BE PER PENNDOT FORM
- ALL STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS NEAR AS POSSIBLE TO THE LOCATION SHOWN ON THE PLAN. 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 EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.
- FREQUENT INSPECTION SHALL BE MADE ON THE FILTER FABRIC FENCE/COMPOST FILTER SOCK, DAMAGED FENCES/SOCK SHALL BE IMMEDIATELY REPLACED. SEDIMENT MUST BE REMOVED WHERE 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 ROCK FILTER OUTLET. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET

PROCEDURE FOR STABILIZATION OF SOILS FOUND OR SUSPECTED TO BE CONTAMINATED:

- 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 COVER IMMEDIATELY PER THE REQUIREMENTS OF THE
- EXPOSED SOILS TO BE SPRINKLED WITH WATER ON A DAILY BASIS UNTIL MOIST TO PREVENT DUST GENERATION AND TRANSPORT.
- UTILIZE APPROVED PA DEP EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL FROM LEAVING THE SITE. METHODS INCLUDE, BUT ARE NOT LIMITED TO WHEEL WASH, SILT FENCE, INLET FILTER PROTECTION, ROCK CONSTRUCTION ENTRANCE, ETC

SEQUENCE OF CONSTRUCTION:

LL 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 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 EDIMENT 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 ISTURBANCE ACTIVITIES. ALL CONTRACTORS INVOLVED SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM. INC. AT 1-800-242-1776 FOR BURIED UTILITY LOCATION:

FORE 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 HE 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

HE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE PHILADELPHIA WATER DEPARTMENT AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL PROPOSED

SOIL/ROCK SPOIL AND BORROW AREAS ON OR OFFSITE. HIS SITE IS ENROLLED IN DEP'S ACT-2 PROGRAM WITH THE APPROVED REPORT FOR SPECIAL INDUSTRIAL AREA (SIA) DATED NOVEMBER 23, 2020 FOR THE BASELINE ENVIRONMENTAL REPORT IN ACCORDANCE WITH THE PROVISIONS OF

- ACT 2. THE PERMITTEE IS REPONSIBLE FOR ASSURING THAT THE WORK FOLLOWS ALL REPORTS/PLANS/PROCEDURES APPROVED BY THE DEPARTMENT'S ENVIRONMENTAL CLEANUP AND BROWNFIELDS (ECB) PROGRAM CONSTRUCTION WILL BEGIN UPON RECEIPT OF ALL REQUIRED PERMITS FROM CITY OF PHILADELPHIA AND AGENCIES HAVING JURISDICTION.
- BEFORE ANY SITE WORK BEGINS, AREAS FOR PROPOSED INFILTRATION STORMWATER MANAGEMENT PRACTICES (SMPs) MUST BE PHYSICALLY STAKED. PERFORM A MINIMUM OF TWO INFILTRATION TESTS AT THE BOTTOM ELEVATION OF EACH SMP. THE INFILTRATION TESTING PROCEDURE MUST BE IN COMPLIANCE WITH THE CURRENT PHILADELPHIA STORMWATER MANAGEMENT
- THE ENGINEER MUST PROVIDE A SIGNED AND SEALED INFILTRATION TESTING REPORT, INCLUDING A TESTING LOCATION PLAN AND SUMMARY OF RESULTS. ALL INFORMATION MUST BE SUBMITTED TO PWD TO REVIEW AND APPROVAL BEFORE PROCEEDING WITH CONSTRUCTION. IF INFILTRATION TESTING FAILS TO MEET PWD MINIMUM STANDARDS OR IF UNSUITABLE CONDITIONS FOR INFILTRATION ARE ENCOUNTERED, A SYSTEM REDESIGN WILL BE REQUIRED.
- 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 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.
- WATER PUMPED FROM WORK AREAS SHOULD BE TREATED FOR SEDIMENT REMOVAL PRIOR TO DISCHARGING TO A "SURFACE WATER"
- THE CONTRACTOR MUST DETERMINE IF AN INDUSTRIAL GROUNDWATER DISCHARGE PERMIT FROM THE PHILADELPHIA WATER DEPARTMENT INDUSTRIAL WASTE UNITY IS REQUIRED PRIOR TO DISCHARGE OF GROUNDWATER OR STORMWATER INTO CITY-OWNED INFRASTRUCTURE. CONTACT PWD INDUSTRIAL WASTE UNIT AT 215-685-6085 FOR INFORMATION.
- DISTURBANCE OF THE PROJECT SITE MUST BE KEPT TO THE ABSOLUTE MINIMUM
- . ALL SOIL MOVEMENT SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND APPLICABLE MUNICIPAL, STATE, AND FEDERAL REGULATIONS.
- 1. EXISTING PEDESTRIAN TRAFFIC SHALL BE MAINTAINED OR PROPERLY DIRECTED AROUND THE SITE THROUGHOUT THE DURATION OF THE PROJECT
- DELINEATE LIMITS OF DISTURBANCE AS OUTLINED ON THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS WITH ORANGE CONSTRUCTION FENCING. LINEAR LITTLITY 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
- 4. 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
- . 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
- 6. CONCRETE WASHOUT TO BE INSTALLED IN PROXIMITY TO THE ROCK CONSTRUCTION ENTRANCE PER THE APPROVED PLANS. 7. 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. 8. 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
- . CONTRACTOR TO BEGIN DEMOLITION OF THE REMAINING EXISTING SITE FEATURES. REMOVE VEGETATION AND BEGIN BULK EXCAVATION AND CONSTRUCTION OF THE IMPROVEMENTS.
- 20. CONSTRUCT UNDERGROUND UTILITIES, STORM SEWER PIPE, INLETS, MANHOLES, AND CLEANOUTS. CONNECT UNDERGROUND UTILITIES AT EXISTING BUILDING. EXCAVATE TRENCHES ONLY AS FAR AS MAY BE BACK FILLED IN ONE DAY
- . PRIOR TO SMP INSTALLATION, THE INSPECTIONS COORDINATOR OF PWD (OFFICE: 215-685-6387) MUST BE CALLED TO SCHEDULE AN INSPECTION 2. CONCURRENTLY WITH STORM SEWER CONSTRUCTION. PERFORM ROUGH GRADING OF THE SITE AND INSTALL CONCRETE CURB. STORAGE STONE SUBBASE IN THE LOCATION OF THE INFILTRATION BASIN (IB-1). AND SIDEWALKS
- CONTRACTOR TO UTILIZE FILL MATERIAL FROM THE STOCKPILE TO COMPLETE ROUGH GRADING. DISTURBED AREAS SHALL BE IMMEDIATELY STABILIZED AND GRADED TO SLOPE TOWARDS THE SITE AND COMPOST FILTER SOCK . COMPLETE GRADING, SIDEWALKS, AND OTHER CONCRETE SURFACES AROUND THE PROPOSED SYNTHETIC TURF FIELD. CONSTRUCT LANDSCAPED AREAS, SMPS, AND STABILIZE AS REQUIRED
- 24. REMOVE ROCK CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT WHEN CONCRETE WORK IS COMPLETE AND CONSTRUCTION EQUIPMENT NO LONGER NEEDS ACCESS. 25. COMPLETE UTILITY HOOK UPS TO THE PROPOSED STORAGE SHED.
- 26. COMPLETE PROPOSED SYNTHETIC TURF FIELD CONSTRUCTION.
- 27. ONCE THE PROPOSED STRUCTURE NO LONGER REQUIRES HEAVY EQUIPMENT FOR ITS CONSTRUCTION, THE CONTRACTOR SHALL SWEEP ALL PAVEMENT AREAS AND PERFORM FINAL PAVING AND LINE STRIPING AS INDICATED ON THE
- 8. 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. 29. 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 30. 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
- 31 CONTRACTOR TO COLLECT AND REMOVE ALL TRASH/DEBRIS ON SITE ISSUE FOR BID

PWD STANDARD SEQUENCE OF CONSTRUCTION NOTES:

- 1. AT LEAST SEVEN (7) DAYS PRIOR TO ANY EARTH DISTURBANCE, THE INSPECTIONS COORDINATOR OF PWD (OFFICE: 215-685-6387) MUST BE CALLED TO SCHEDULE A PRECONSTRUCTION MEETING. 2. AT 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 SCHEDULE
- ALL 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 SEDIMENT
- AND REPLACE IT WITH CLEAN-WASHED STONE
- 4. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT INSPECTIONS COORDINATOR OF PWD (OFFICE: 215-685-6387) FOR A FINAL INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.
- 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
- 6. THE NPDES NOTICE OF TERMINATION (N.O.T.) MUST BE SUBMITTED TO PA DEP UPON COMPLETION OF CONSTRUCTION (WHEN APPLICABLE)
- 7. WATER PUMPED FROM WORK AREAS SHOULD BE TREATED FOR SEDIMENT REMOVAL PRIOR TO DISCHARGING TO A "SURFACE WATER" (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

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 FROSION AND SEDIMENT CONTROL PLAN PREPARER, AND A REPRESENTATIVE FROM THE PHILADEL PHIA WATER DEPARTMENT TO SCHEDULE A PRE-CONSTRUCTION MEETING. LSO, 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 seg. AND 287.1 et seg.

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
- 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. 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
- 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. REMOVE ROCK CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT WHEN CONCRETE WORK IS COMPLETE AND CONSTRUCTION EQUIPMENT NO LONGER NEEDS ACCESS
- 20. 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 ROSION, 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.
- 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.
- 22. 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. 23. CONTRACTOR TO COLLECT AND REMOVE ALL TRASH/DEBRIS ON SITE.

SOILS SUMMARY CHART: NRCS WEB SOIL SURVEY, PHILADELPHIA COUNTY, PENNSYLVANIA, SEPTEMBER 18, 2018.

RBAN LAND	-	0-8	-	-		-
					COMPOSED OF PAVEMENT, BUILDINGS, OTHER ARTIFICIAL COVERS.	
AME	GROUP	SLOPES (%)	SEASONAL HIGH WATER TABLE (IN)	BEDROCK (IN)	LIMITATIONS	RESOLUTION
			DEPTH 1	0		

EROSION AND SEDIMENTATION CONTROL NO 125:

THE PCSM PLAN. AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING

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

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

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

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

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

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

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

- 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
- 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
- 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
- SHALL NOT EXCEED 20 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE
- 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

- 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 ALI 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, FLOODPLAINS 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
- 23. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS

39. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN

- 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.
- 26. 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
- 27. 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
- 28. 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 MOVEMENT
- 29. 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 DISTRICT OR THI

11. 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

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

- 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.
- REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON 32. 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. 33. 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
- 34. 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.

35. 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

37. 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

- AND/OR DETAIL SHEETS. 36. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
- ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL 38. THE E&S CONTROL PLAN MAPPING MUST DISPLAY A PA ONE CALL SYSTEM INCORPORATED SYMBOL INCLUDING THE SITE IDENTIFICATION NUMBER. (THIS IS A NUMBERED SYMBOL NOT A NOTE.)

- 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 LIPON 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

EROSION AND SEDIMENTATION MAINTENANCE:

- 4. 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
- 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.
- 9. SEDIMENT SHALL BE REMOVED FROM COMPOST FILTER SOCKS WHEN REACHING ONE HALF THE HEIGHT OF THE SOCK, IF USED.
- 10. 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 11. 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. 12. 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. 13. 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.
- 14. 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 FLIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLILUTION
- 15. 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.
- 16. 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. 17. 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,

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 seg. AND 287.1 et seg.

- TEMPORARY SEEDING SITE PREPARATION: CHAPTER 102, EROSION CONTROL TEMPORARY STABILIZATION OF ALL EXPOSED EARTH SURFACES WHERE CONSTRUCTION ACTIVITY HAS CEASE, INCLUDING TOPSOIL STOCKPILES SHALL BE STABILIZED IMMEDIATELY BY
- 1. APPLY ONE (1) TON OF AGRICULTURAL GRADE LIMESTONE PER ACRE PLUS FERTILIZER IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING REGULARLY TRACKED ONTO PUBLIC (10-10-10) AT THE RATE OF 1000 LBS PER ACRE AND WORK INTO SOIL WHEREVER POSSIBLE. 2. APPLY 100% ANNUAL RYEGRASS SEED AT A RATE OF 4 TO 5 LBS PER 1000 SQUARE FEET

PERMANENT SEEDING SITE PREPARATION:

- NPDES PERMIT) PERMANENT STABILIZATION OF THE ALL EXPOSED EARTH SURFACES AFTER THE COMPLETION OF THE SITE GRADING AND IMPROVEMENTS SHALL BE ACCOMPLISHED BY THE FOLLOWING METHODS
- OBTAIN SOILS TESTING FROM AN INDEPENDENT LABORATORY TO DETERMINE NECESSARY SOILS MODIFICATIONS.

AFTER INSTALLATION OF THE NEEDED SURFACE WATER CONTROL MEASURES. PERFORM ALL

4 IN THE ABSENCE OF SOILS TESTING WORK IN FERTILIZER AT THE RATE OF 1000 LBS. OF 10-20-20 OR EQUIVALENT PER ACRE

MINIMUM RATE OF SIX TONS LIMESTONE PER ACRE (276 LBS, PER 1,000 SQUARE FEET).

3. IN THE ABSENCE OF SOILS TESTING, APPLY AGRICULTURAL GRADE LIMESTONE AT THE

3. AFTER SEEDING MULCH WITH HAY OR STRAW AT A RATE OF THREE (3) TONS PER ACRE.

CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.

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

8. APPLY STRAW MULCH AT A RATE OF 3.0 TON PER ACRE IMMEDIATELY AFTER SEEDING.

5. SMOOTH AND FIRM SEEDED AREAS WITH CULTIPACKER, OR OTHER SIMILAR EQUIPMENT

- 9 LISE 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
- 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.

USE SEED MIXTURE 2, AS SHOWN IN TABLE 11.4.

PERMANENT SEEDING NOTES:

RECYCLING AND DISPOSAL NOTE:

CONSTRUCTION WASTES INCLUDE, BUT NOT LIMITED TO:

INLET PROTECTION

PRIOR TO SEEDING.

PUMPED WATER FILTER BAGS

THE FOLLOWING METHODS AND MATERIALS.

- 4. WATER AND MAINTAIN ALL LAWN AREAS. 5. RESEED BARE OR THIN AREAS AS DIRECTED BY THE ENGINEER.
- 7. APPLY STRAW MULCH AT 3.0 TON/ACRE IMMEDIATELY AFTER SEEDING 8. APPLY STRAW AND MULCH DURING NON-GROWING SEASONS (NOVEMBER - MARCH)

6. IF GROUND COVER IS NOT OTHERWISE SPECIFIED ON THE APPROVED LANDSCAPING PLANS,

- O ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMEN MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY
- 2. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF APPENDIX 64 FROSION CONTROL RULES AND REGULATIONS TITLE 25 PART 1 D.E.P. SUB-PART C. PROTECTION OF NATURAL RESOURCES. ARTICLE III. WATER RESOURCES.
- SHRUBS WHICH ARE TO REMAIN IN PLACE. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGES, INCLUDING REPLACING TREES OR SHRUBS IN KIND IF NECESSARY 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:

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 OMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NO INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE). CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FIL 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 CERTIFY 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 DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY SANBORN MAPS ENVIRONMENTAL QUESTIONNAIRES TRANSACTION SCREENS

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

DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN

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 FII EXCAVATED ON-SITE THAT IS USED TO ESTABLISH FINAL GRADE, FILL IMPORTED TO THE PROJECT

IN THE EVENT THAT FILL EXCAVATED ON-SITE THAT IS USED TO ESTABLISH FINAL GRADE, FILI 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

UNFORSEEN EROSIVE CONDITIONS NOTES:

- SHOULD UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION. THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE DISPLACEMENT. STOCKPILES OF WOOD CHIPS, HAY BALES, CRUSHED STONE AND OTHER PROBLEMS OF EROSION.
- CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT EXISTING TREES AND

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

TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC 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. JE THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE. IT MUST BE TESTED TO

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 MPORTED TO THE SITE, AND EXPORTED FROM THE SITE, MUST MEET THE DEFINITION OF CLEAN

REGULATIONS ARE AVAILABLE ON-LINE AT <u>WWW.PACODE.COM < HTTP://WWW.PACODE.COM ></u>.

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.

AREA OF EARTH DISTURBANCE CONTAIN CONCENTRATIONS OF REGULATED SUBSTANCES

UNTIL AUTHORIZED TO RESUME BY DEP/PWD.

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

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATE ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE ROJECT. THEY ARE NOT INTENDED OR REPRESEN TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS THE EXTENSIONS OF THE PROJECT OR ON ANY OTHE PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICA OR ADAPTATION BY PENNONI ASSOCIATES FOR TH SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNE SHALL INDEMNIFY AND HOLD HARMLESS PENNON ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSE EXPENSES ARISING OUT OF OR RESULTING THEREFRO

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| PWD TRACKING #: FY21-MURP-6508-01 NPDES PERMIT #: PAC510297

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

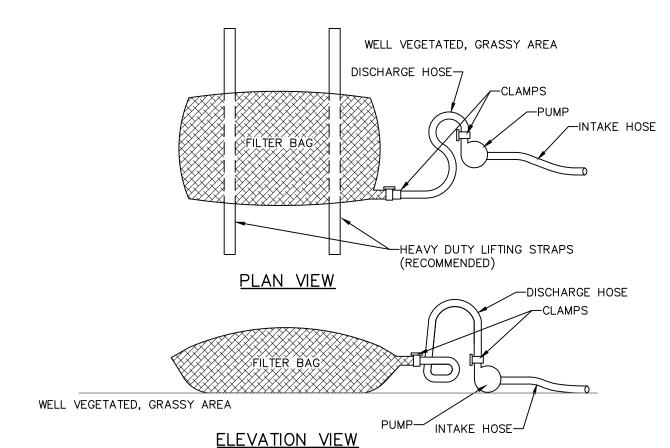
TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3-1 ROCK CONSTRUCTION ENTRANCE



NOTES: LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
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

RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

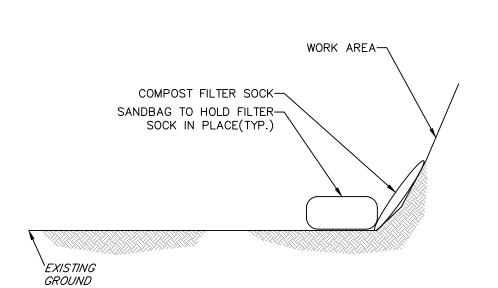
A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE 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 GEÓTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT B 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

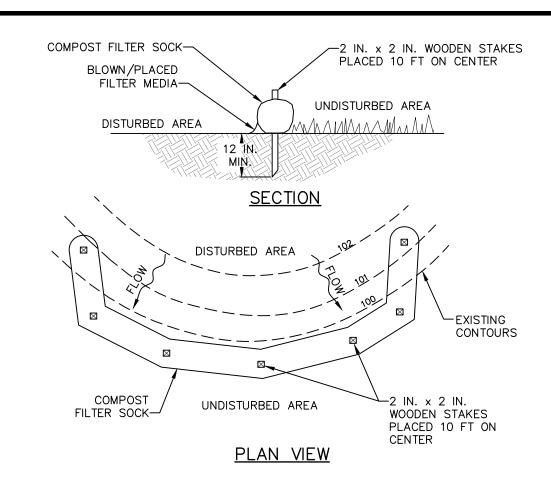
FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY

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. STANDARD CONSTRUCTION DETAIL #3-16 PUMPED WATER FILTER BAG



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SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

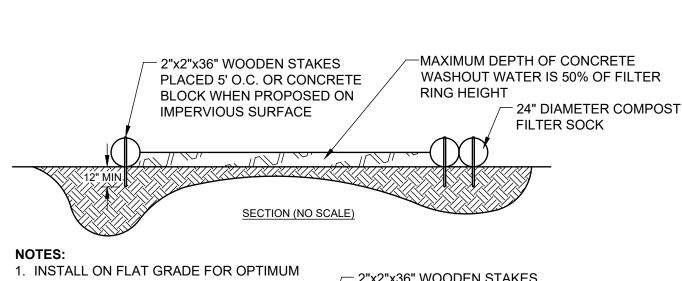
> STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK

> > NOT TO SCALE

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE

SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH

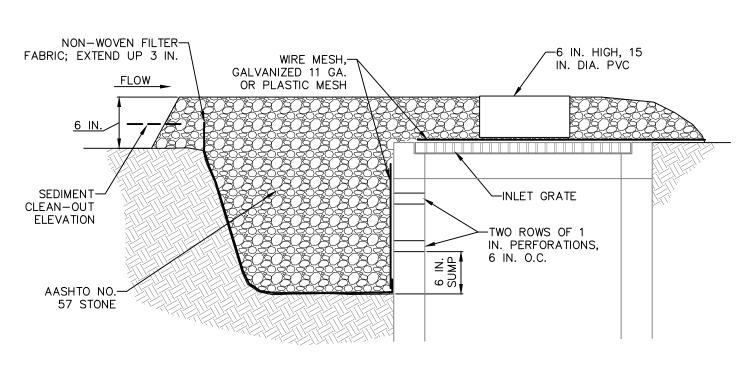
SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.



- 2"x2"x36" WOODEN STAKES PERFORMANCE. PLACED 5' O.C. 2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT. 24" DIAMETER COMPOST FILTER SOCK. 4' MIN. OVERLAP ON UPSLOPE SIDE OF FILTER RING. PLAN (NO SCALE)

NOTES: 1. A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS 2. WHENEVER COMPOST SOCK WASHOUTS ARE USED, A SUITABLE IMPERVIOUS GEOMEMBRANE SHOULD BE PLACED AT THE LOCATION OF THE WASHOUT. COMPOST SOCKS SHOULD 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 SOCK LOCATED AT THE UPSLOPE CORNER (AS SHOWN ABOVE). CARE SHOULD BE TAKEN TO ENSURE CONTINUOUS CONTACT OF THE SOCK WITH THE GEOMEMBRANE AT ALL LOCATIONS. WHERE NECESSARY, SOCKS MAY BE STACKED AND STAKED SO AS TO FORM A TRIANGULAR CROSS SECTION. 3. ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATLY. ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY. PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

TYPICAL COMPOST SOCK / CONCRETE WASHOUT

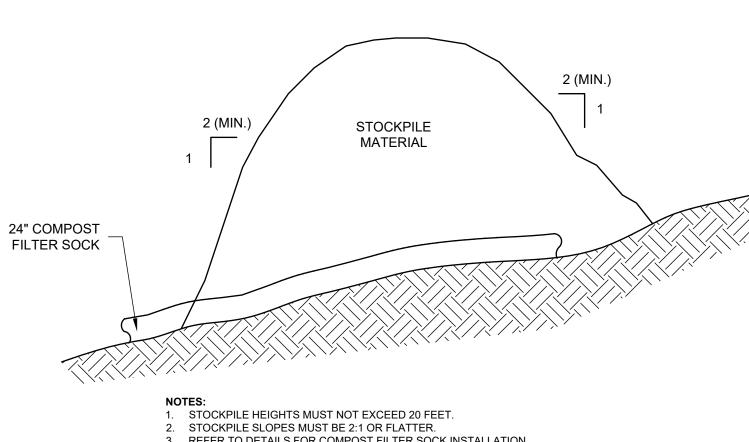


STONE PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENTATION BASINS AND SEDIMENT TRAPS. SHOULD INCLUDE OPENINGS OF 1/4 IN. MAXIMUM FOR WIRE OR PLASTIC MESH.

HOLES MAY BE DRILLED IN CONCRETE BOX. EARTHEN BERM IN ROADWAY SHALL NOT BE REQUIRED.

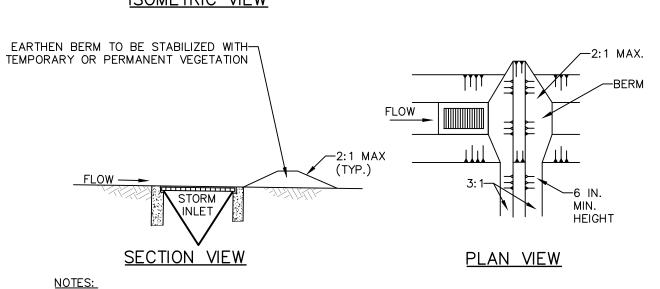
ALTERNATE STONE INLET PROTECTION FOR TYPE M INLET CAN BE USED ON ONE ACRE MAXIMUM DRAINAGE AREA WITH 15 IN. OVERFLOW PIPE AND 4 IN. HEAD. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. FOR SYSTEMS DISCHARGING TO HO OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 IF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #4-21 ALTERNATE STONE INLET PROTECTION - TYPE M INLET - AT GRADE



3. REFER TO DETAILS FOR COMPOST FILTER SOCK INSTALLATION. **STOCKPIL**

IN. REBAR FOR EXPANSION RESTRAINT BAG REMOVAL FROM (1/4 IN. NYLON ROPE) -2 IN X 2 IN. X 3/4 IN. RUBBER BLOCK INSTALLATION DETAIL



MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

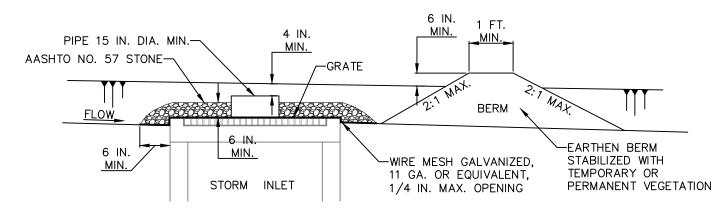
ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50

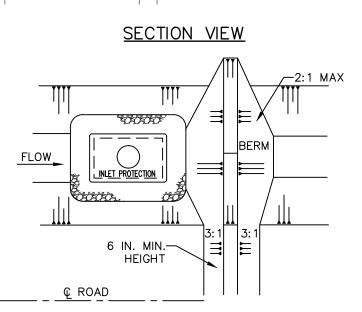
LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING

TO THE PLAN NOTES. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-16 FILTER BAG INLET PROTECTION - TYPE M INLET NOT TO SCALE





PLAN VIEW NOTES: INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN

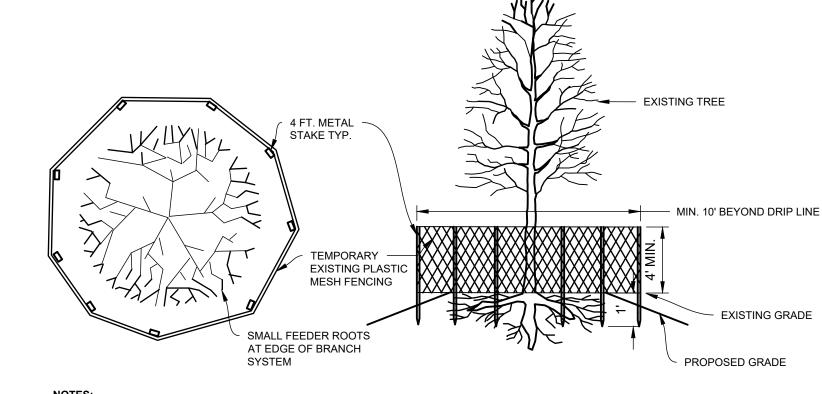
GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY

SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY. STONE INLET PROTECTION AND BERM FOR A TYPE M INLET CAN BE USED IN ONE ACRE MAXIMUM DRAINAGE AREA WITH 15 IN. OVERFLOW PIPE AND 4 IN. HEAD. A PERFORATED PLATE WELDED TO A METAL RISER MAY NOT BE SUBSTITUTED FOR THE WIRE MESH. A SLOTTED PLATE WELDED TO THE RISER MAY BE USED IN CONJUNCTION WITH THE WIRE MESH IF CALCULATIONS ARE PROVIDED TO SHOW SUFFICIENT CAPACITY OF THE INLET TO ACCEPT THE PEAK RUNOFF FOR A 2-YEAR STORM EVENT FROM THE TRIBUTARY DRAINAGE AREA. TOP OF PIPE SHALL BE AT LEAST 6 INCHES BELOW ADJACENT

SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 IN. THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

ROADWAY IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC. EARTHEN BERM SHALL BE

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS. STANDARD CONSTRUCTION DETAIL #4-20 STONE INLET PROTECTION AND BERM - TYPE M INLET



1. THOSE TREES WHICH ARE WITHIN TWENTY-FIVE (25) FEET OF ANY PROPOSED EXCAVATION OR GRADING OPERATION, OR IN ANY OTHER LOCATION DEEMED APPROPRIATE BY THE ENGINEER, SHALL BE PROTECTED BY INSTALLING AND MAINTAINING A FENCE AT THE DRIP LINE. 2. NO BOARDS OR OTHER MATERIAL SHALL BE NAILED TO TREES DURING CONSTRUCTION. 3. HEAVY EQUIPMENT OPERATORS SHALL AVOID DAMAGING EXISTING TREE TRUNKS FEET FROM TREE TRUNKS.

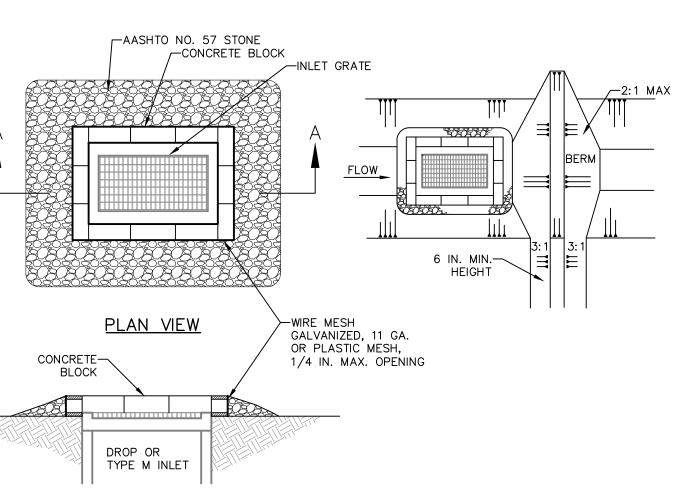
IMMEDIATELY 5. TREE LIMBS DAMAGED DURING CONSTRUCTION SHALL BE PROPERLY PRUNED AND TREATED IMMEDIATELY. 6. THE OPERATION OF HEAVY EQUIPMENT OVER ROOT SYSTEMS OF SUCH TREES SHALL BE MINIMIZED IN ORDER TO PREVENT SOIL

4. TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING CONSTRUCTION SHALL BE PROTECTED FROM FURTHER DAMAGE BY BEING TREATED

NOT TO SCALE

7. DAMAGED TREES SHALL BE FERTILIZED TO AID IN THEIR RECOVERY. 8. CONSTRUCTION DEBRIS SHALL NOT BE DISPOSED OF NEAR OR AROUND TREES.

TREE PROTECTION



SECTION A-A

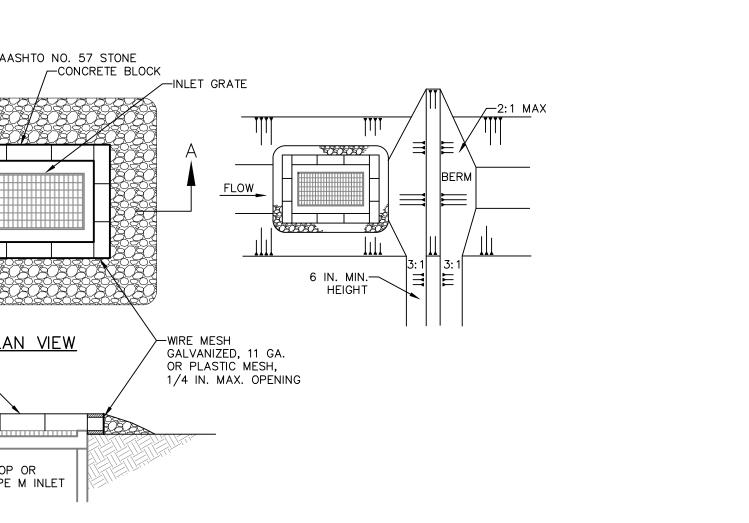
NOTES: MAXIMUM DRAINAGE AREA =1 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT. ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED

UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY. TOP OF BLOCK SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.

SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

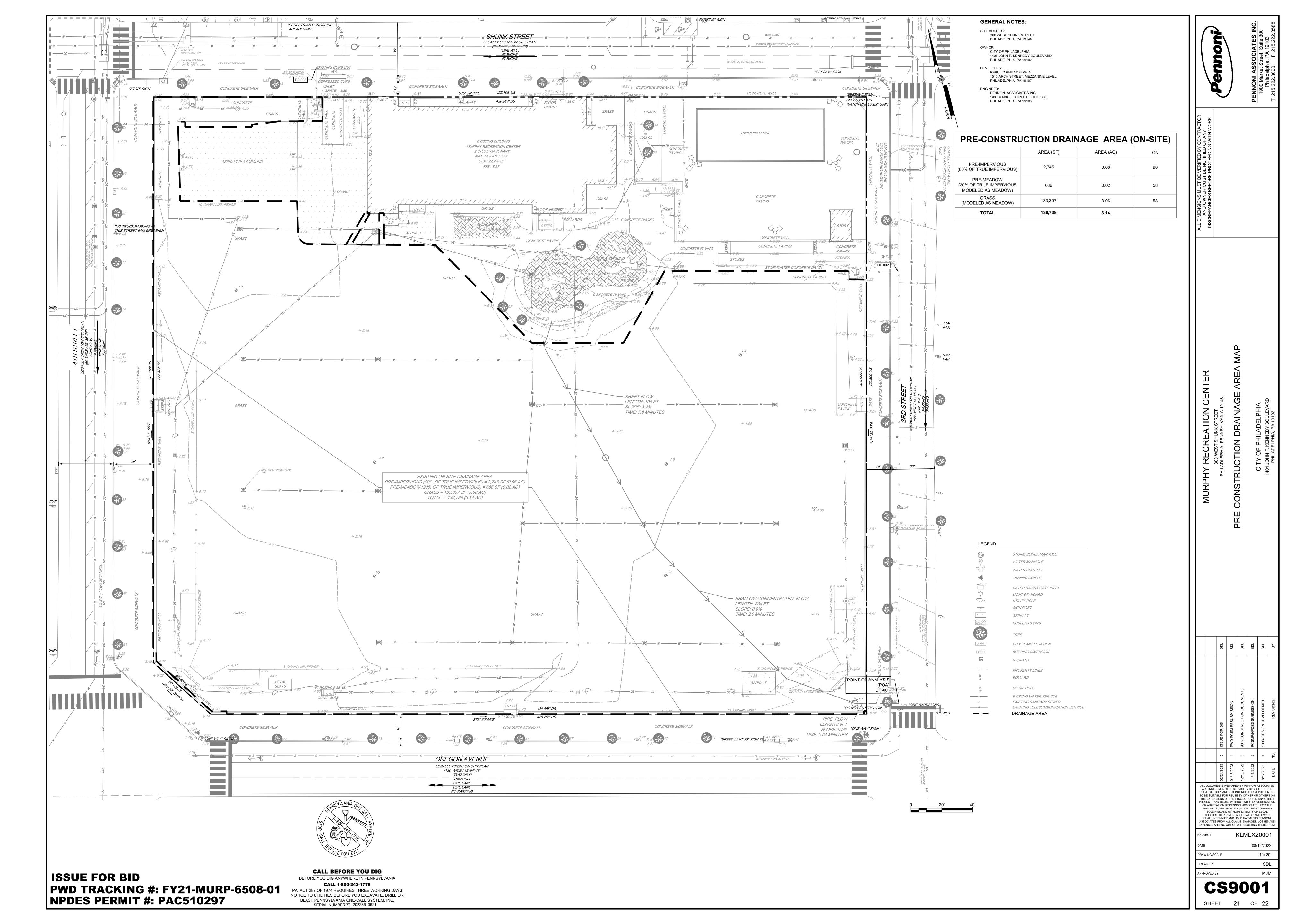
STANDARD CONSTRUCTION DETAIL #4-18 STONE AND CONCRETE BLOCK INLET PROTECTION - TYPE M INLET

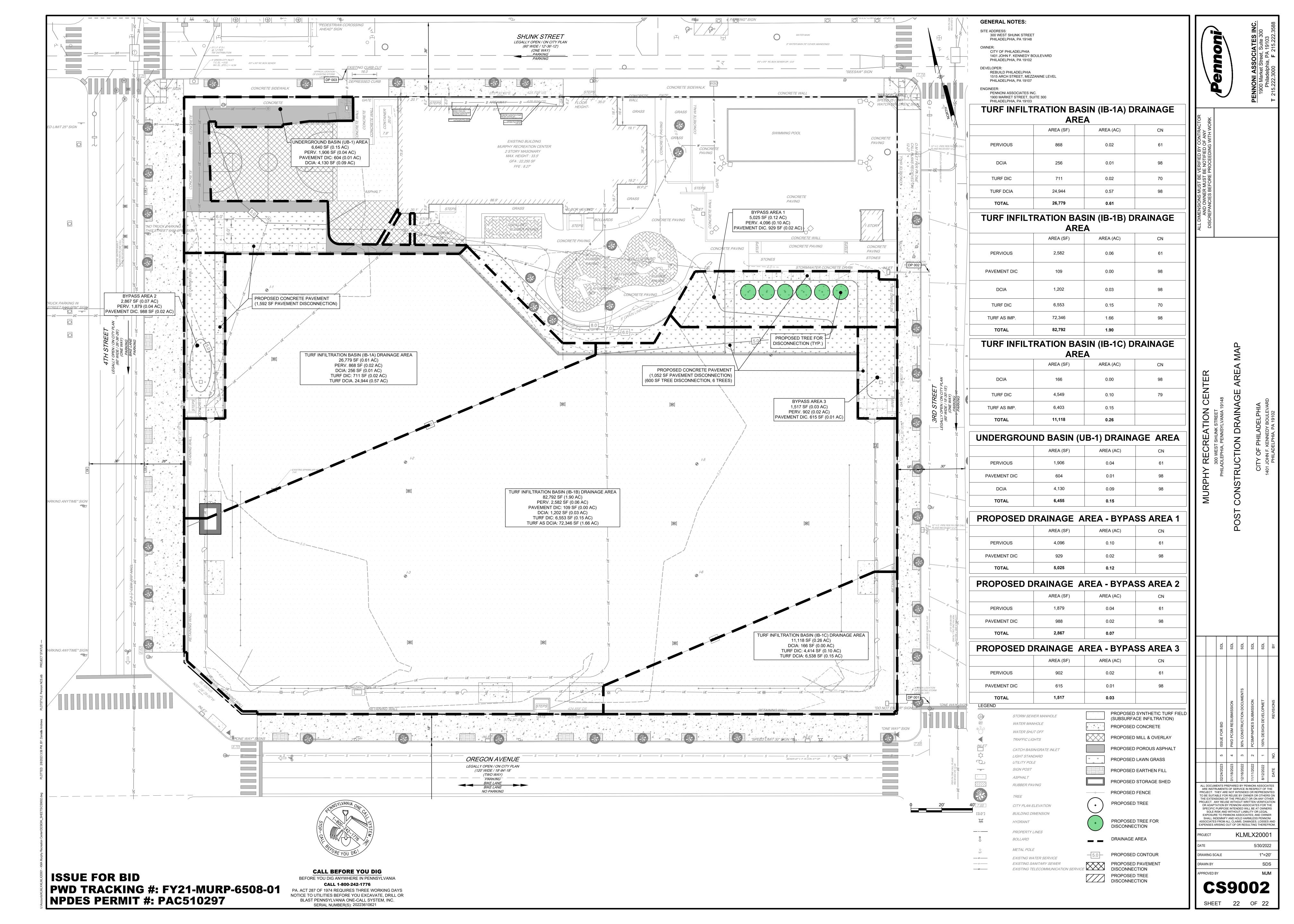


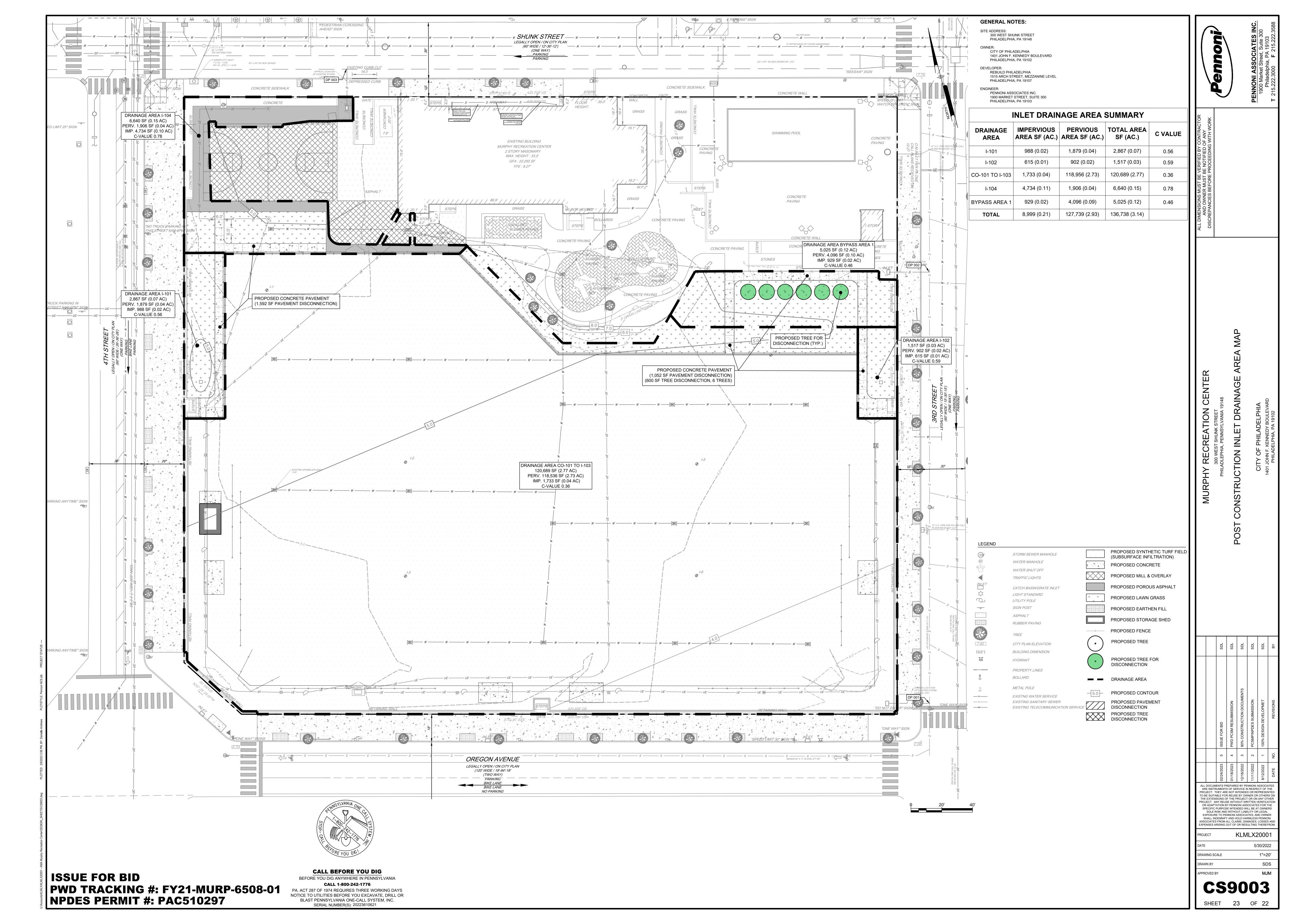
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTE TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS OF THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATIO OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AN EXPENSES ARISING OUT OF OR RESULTING THEREFROM KLMLX20001 PROJECT

8/12/2022

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- 1. VERIFY ALL SITE CONDITIONS, DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT AND CITY OF DISCREPANCIES THAT WOULD INTERFERE WITH THE SATISFACTORY COMPLETION OF THE WORK. OBTAIN CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK.
- 2. DO NOT SCALE DRAWINGS. DRAWINGS ARE DIAGRAMMATIC. THE WORK INDICATED ON THE DRAWINGS SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE THE
- 3. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, COORDINATION WITH OTHER TRADES, MEANS OF INSTALLATION AND WORK TO BE PERFORMED BY ITS
- 4. VERIFY ALL FINAL EQUIPMENT LOCATIONS WITH THE ARCHITECT OR THE CITY, INCLUDING, SWITCHES, CONTROLS, RECEPTACLES, HVAC ITEMS, TELEPHONES, DATA AND SECURITY DEVICES.
- 5. COORDINATION AMONG PRIME CONTRACTORS: UPON AWARD OF THE DEMOLITION CONTRACT, THE DEMOLITION CONTRACTOR SHALL COORDINATE THE DEMOLITION SCOPE OF WORK WITH ALL OTHER PRIME CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK ON THIS PROJECT. THIS COORDINATION SHALL INCLUDE THE DEMOLITION SCOPE OF WORK DOCUMENTED IN THE CONSTRUCTION DRAWINGS AND ANY AND ALL PROVISIONS AND CONDITIONS DOCUMENTED IN THE TECHNICAL SPECIFICATIONS. THE DEMOLITION CONTRACTOR IS TO NOTIFY THE ARCHITECT OF ANY DEVIATIONS OR DISCREPANCIES THAT DIFFER FROM THE CONDITIONS
- 6. MECHANICAL, PLUMBING AND ELECTRICAL DEMOLITION RESPONSIBILITY: ALL MECHANICAL, ELECTRICAL, PLUMBING, AND INFORMATION TECHNOLOGY DEMOLITION WORK NOTED ON THE DEMOLITION DRAWINGS SHALL BE DISCONNECTED AND REMOVED BY THE APPROPRIATE TRADE DISCIPLINE DEMOLITION SUBCONTRACTORS.
- 7. DEMOLITION COORDINATION WITH NEW WORK: COORDINATE REMOVAL OF ALL EXISTING FINISHES AND ITEMS WHICH INTERFERE WITH INSTALLATION OF NEW WORK INCLUDING THOSE NOT SHOWN ON THE ARCHITECTURAL DEMOLITION DRAWINGS WITH NEW WORK FOR ALL TRADES.
- 8. DEMOLITION CONTRACTOR'S SITE ASSESSMENT: THE DEMOLITION CONTRACTOR SHALL NOT CONSIDER DEMOLITION AND ALTERATION NOTES TO BE ALL INCLUSIVE. IT IS THE DEMOLITION CONTRACTOR'S RESPONSIBILITY TO INSPECT AND ASSESS EACH AREA AND TO FULFILL THE INTENT OF THE WORK INDICATED BY THE CONTRACT DOCUMENTS. THE DEMOLITION CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS WITHIN THE CONTRACT LIMITS. WHERE DEVIATIONS FROM THE CONTRACT DOCUMENTS ARE REQUIRED BY FIELD CONDITIONS, THE DEMOLITION CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

AREAWAY DEMO PLAN

- 9. DISCREPANCIES WITHIN DRAWINGS: ANY DISCREPANCIES WITHIN THE DRAWINGS, SPECIFICATIONS, CODES OR STANDARDS ARE TO BE BROUGHT TO THE ATTENTION OF THE PROFESSIONAL FOR CORRECTIVE ACTION BEFORE PROCEEDING. THE ACCURACY AND COMPLETENESS OF INFORMATION SHOWN ON THE DRAWINGS IS NOT GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND SUBMITTING RECORDS SUMMARIZING AS-BUILT CONDITIONS (HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS).
- 10. HIDDEN CONDITIONS: CONTRACTOR SHALL NOTIFY DESIGN PROFESSIONAL AT ONCE OF HIDDEN EXISTING CONDITIONS ENCOUNTERED DURING THE COURSE OF THE WORK WHICH MAY REQUIRE DESIGN MODIFICATIONS.
- 11. DISPOSITION OF FF&E ITEMS: PRIOR TO STARTING ANY WORK IN ANY PROJECT PHASES, THE DEMOLITION CONTRACTOR SHALL CONSULT WITH THE OWNER AND ARCHITECT TO CONFIRM THE DISPOSITION OF ALL EXISTING FIXTURES, FURNITURE, FURNISHINGS, CABINETS, MILLWORK, SERVICES AND ANY OTHER EQUIPMENT AND ITEMS TO BE REMOVED PRIOR TO THE START OF DEMOLITION. DEMOLITION CONTRACTOR IS TO REMOVE AND DISPOSE OF EXISTING FURNISHINGS, FIXTURES AND EQUIPMENT THE OWNER IS ABANDONING AND WISHES NOT TO RETAIN.
- 12. TEMPORARY CONSTRUCTION AND LIFE SAFETY ACCOMMODATIONS: DEMOLITION CONTRACTOR TO PROVIDE TEMPORARY BARRIERS, BARRICADES, LIGHTING, FIRE PROTECTION AND CODE COMPLIANT EXITING REQUIREMENTS INCLUDING BUT NOT LIMITED TO LIFE SAFETY SIGNAGE, EXIT SIGNAGE, FIRE ALARM DEVICES ETC. TO PROTECT PERSONNEL AND PROVIDE SAFE PASSAGE FOR
- 13. JOB SITE SAFETY: CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY AND PROTECTION OF WORK AREAS DURING CONSTRUCTION. ALL WORK IS TO BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND REGULATIONS. WORK SHALL BE DONE IN ACCORDANCE WITH PROJECT SPECIFICATIONS INCLUDING CURRENT APPLICABLE CONSTRUCTION STANDARDS. WHERE ANY STANDARD SEEMS IN CONFLICT WITH THESE DRAWINGS, NOTIFY THE PROFESSIONAL FOR DIRECTION BEFORE PROCEEDING. THE DEMOLITION DRAWINGS DO NOT INCLUDE THE NECESSARY PRECAUTIONS AND COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN ACCORDANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
- ^{14.} TEMPORARY PROTECTION OF EXISTING FEATURES TO REMAIN: DEMOLITION CONTRACTOR TO PROVIDE TEMPORARY SAFEGUARDS AND PROTECTION AS REQUIRED TO PROTECT EXISTING FINISHES AND CONSTRUCTION THAT ARE TO REMAIN IN PLACE DURING DEMOLITION AND CONSTRUCTION. THE CONTRACTOR SHALL REPLACE AND/OR RESTORE DAMAGED/DISTURBED CONSTRUCTION TO REMAIN THAT WAS DAMAGED BY THE DEMOLITION AND CONSTRUCTION PROCESS, AT NO ADDITIONAL COST TO THE OWNER.

- 15. CONCEALED TERMINATIONS FOR MECHANICAL, PLUMBING AND ELECTRICAL DEMOLITION WORK: DEMOLITION OF MECHANICAL, ELECTRICAL, PLUMBING, AND INFORMATION TECHNOLOGY SYSTEMS IN FINISHED SPACES SHALL BE PERFORMED SUCH THAT ALL EXISTING TERMINATIONS WILL BE CONCEALED BEHIND THE NEW CONSTRUCTION.
- 16. CUTTING AND PATCHING: PATCH DAMAGE TO EXISTING WALLS, COLUMNS, FLOORS AND CEILINGS THAT ARE TO REMAIN AS REQUIRED BY THE TECHNICAL SPECIFICATIONS. REPAIRS SHALL MATCH EXISTING ADJACENT SURFACES, MATERIALS AND FINISHES.
- 17. CODE RELATED REPAIR WORK AND APPROVAL: HOLES IN FIRE, SMOKE AND ACOUSTICALLY RATED WALLS RESULTING FROM DEMOLITION OR REMOVALS SHALL BE REPAIRED IN A MANNER CONSISTENT WITH THE ADJACENT FIRE RATED CONSTRUCTION AND SHALL BE CONSIDERED COMPLETED ONLY WHEN VIEWED AS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
- 18. ASBESTOS: IF THE CONTRACTOR ENCOUNTERS MATERIAL SUSPECTED TO BE ASBESTOS OR OTHER HAZARDOUS SUBSTANCE, THEY WILL NOTIFY THE OWNER'S REPRESENTATIVE BEFORE DISTURBING. OWNER WILL TEST, ENCAPSULATE, OR REMOVE ANY SUCH MATERIALS.
- 19. DEBRIS: CONTRACTOR SHALL REMOVE ALL ITEMS IDENTIFIED FOR REMOVAL ON THE DRAWINGS. ALL DEBRIS IS TO BE REMOVED FROM THE SITE AND DISPOSED BY THE CONTRACTOR AT AN APPROVED LOCATION.

SUBSTITUTIONS: ALL SPECIFIED PRODUCTS AND MATERIALS ARE THE BASES OF 20. DESIGN. PRODUCT SUBSTITUTIONS OF THE SAME QUALITY AND PERFORMANCE

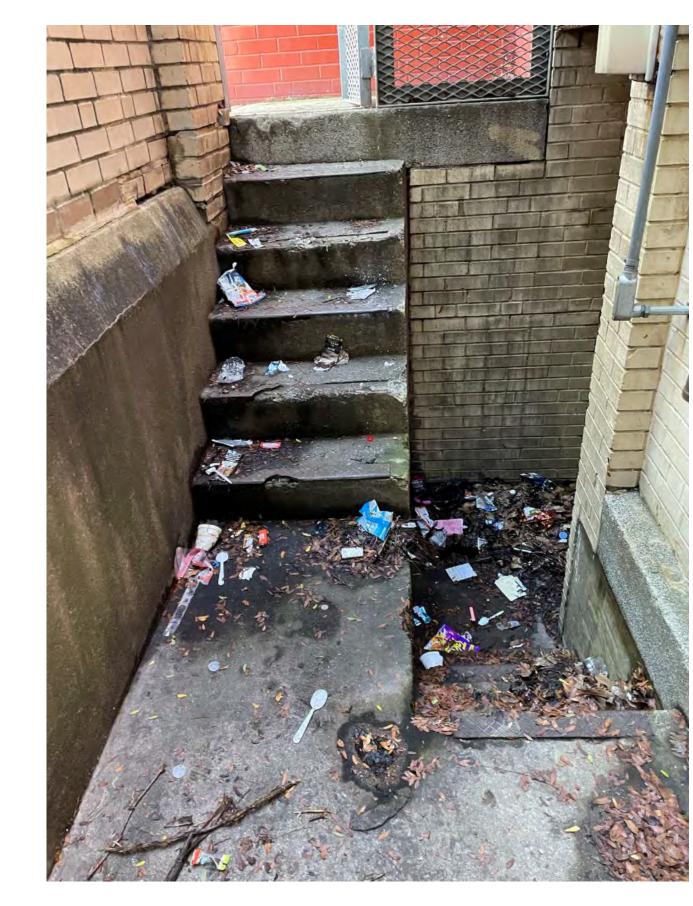
CHARACTERISTICS MAY BE ACCEPTED IF SUBMITTED TO THE ARCHITECT FOR

- 1 BUILDING CODE: NEW WORK SHALL BE DONE IN ACCORDANCE AND COMPLIANCE WITH THE 2018 INTERNATIONAL CODE COUNCIL'S (ICC) FAMILY OF CODES WITH LOCAL EXCEPTIONS, INCLUDING BUILDING CODE, EXISTING
- 22. <u>EXISTING BUILDING</u>: THE EXISTING BUILDING IS A MASONRY STRUCTURE BUILT CIRCA 1949; ORIGINAL AS-BUILT DRAWINGS OF THE BUILDING ARE NOT AVAILABLE. THE BUILDING IS CURRENTLY OCCUPIED AND IN USE. WORK THAT MAY DISRUPT THE DAILY OPERATIONS OF THE FACILITY SHOULD BE COORDINATED WITH THE USERS AND THE CITY BEFORE BEGINNING TO LIMIT DISRUPTIONS.

BUILDING CODE AND PLUMBING CODE.

- 23. WORK AREA: THE WORK AREA IS LIMITED TO THE AREAWAY. ACCESS TO THE BUILDING AND USE OF THE ADJACENT SIDEWALK MUST REMAIN OPEN DURING CONSTRUCTION. DUE TO THE LIMITED SPACE ON THE ADJACENT SIDEWALK, LAYDOWN AND STAGING AREAS SHOULD BE LOCATED BEHIND THE BUILDING AND COORDINATED WITH THE GENERAL CONTRACTOR.
- AREAWAY GRATING: THE EXISTING GRATING LOCATED ABOVE THE AREAWAY IS TO REMAIN IN PLACE DURING CONSTRUCTION. IF SECTIONS OF GRATING NEED TO BE REMOVED TO ACCESS THE AREAWAY, THE CONTRACTOR TO COORDINATE REMOVAL AND STORAGE WITH THE OWNER. ANY GRATING REMOVED DURING CONSTRUCTION SHOULD BE REINSTALLED BEFORE PROJECT COMPLETION.
- PAINT ALL GRATING, REGARDLESS OF IF IT REMAINED IN PLACE OR WAS REMOVED AND REINSTALLED, WITH A ZINC RICH PRIMER (RUST-OKEYN #7785 ZINC SELE), INTERMEDIATE COAT (LATEX, EXTERIOR, MATCH TOPCOAT) AND A TOPCOAT ("LATEX, EXTERIOR SEMI-GLOSS GLOSS LEVEL 5). PREPARE GRATING BEFORE PAINTING BASED ON PAIN MANUFACTURERS WRITTEN INSTRUCTIONS.
- 25. DRAINAGE: THE CONTRACTOR IS TO PROVIDE TEMPORARY DRAINAGE OF THE AREAWAY DURING CONSTRUCTION. DURING CONSTRUCTION, THE CONTRACTOR SHALL PLUG ANY DRAINAGE PIPING THAT IS TO REMAIN TO PREVENT DEBRIS FROM ENTERING. ANY PIPING THAT IS TO REMAIN AND BE REUSED SHOULD BE TESTED BY THE CONTRACTOR TO CONFIRM THAT THERE IS NO BLOCKAGE AND FUNCTIONS PROPERLY. AFTER CONSTRUCTION IS COMPLETE. THE CONTRACTOR SHALL TEST THE NEW AREAWAY DRAINS TO
- 26 SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

ENSURE THEY ARE UNCLOGGED AND FUNCTION PROPERLY.



EXISTING AREAWAY STEPS



6 EXISTING AREAWAY AT SIDEWALK



EXISTING WEST AREAWAY WALL

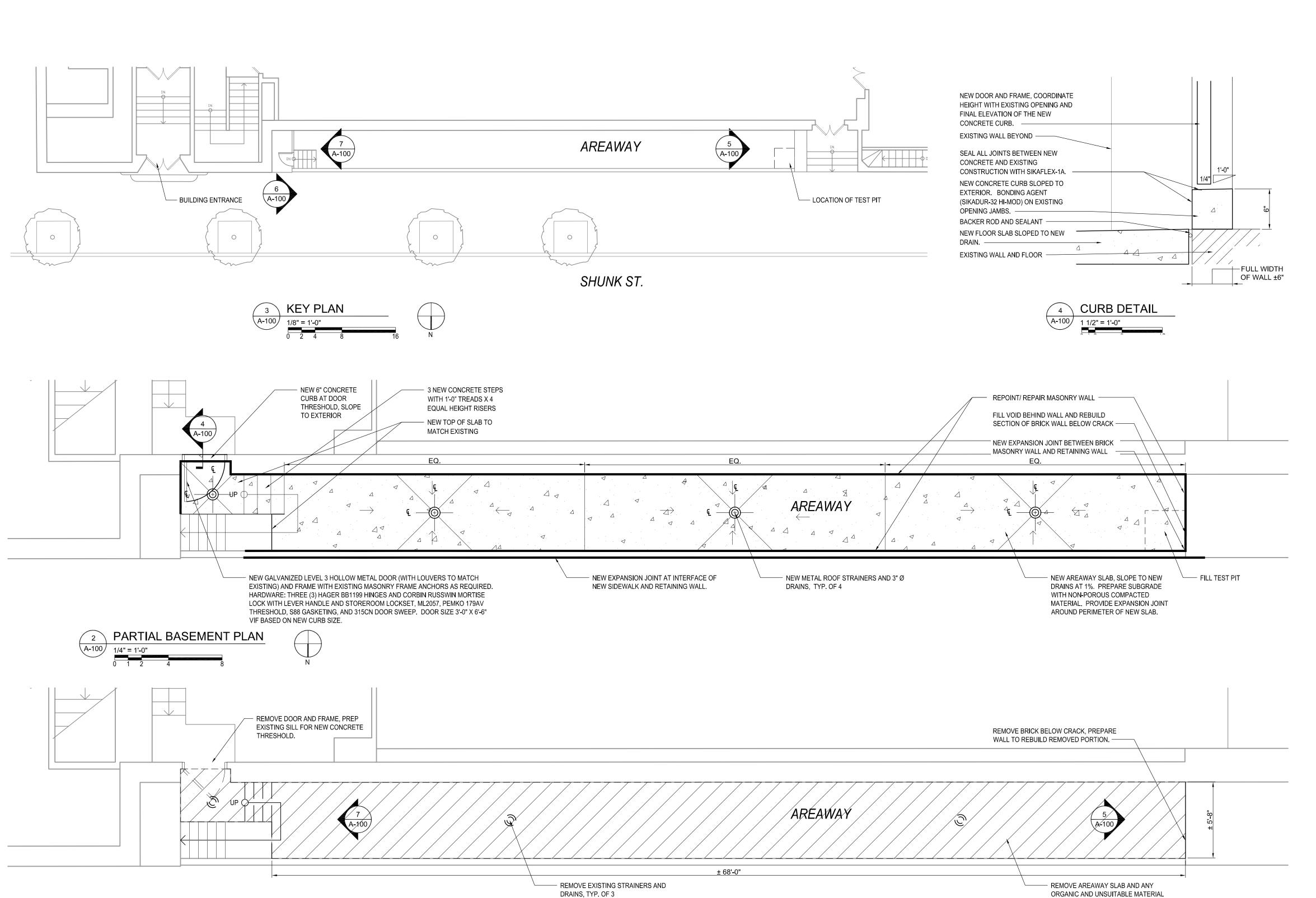
 REPOINT MASONRY WALL ABOVE. - INSTALL VERTICAL EXPANSION JOINT BETWEEN BRICK MASONRY END WALL AND RETAINING WALL. - REBUILD SECTION OF BRICK MASONRY WALL BELOW CRACK, FILL VOID ARCHITECTS ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE
WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY KELLY MAIELLO ARCHITECTS FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RIS MAIELLO ARCHITECTS: AND OWNER SHALL INDEMNIE AND HOLD HARMLESS KELLY MAIELLO ARCHITECTS FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSE ARISING OUT OF OR RESULTING THEREFROM.

REPOINT MASONRY WALL ABOVE

RETAINING WALL.

BEHIND WALL.

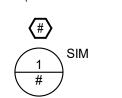
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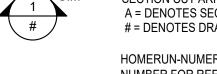
A-100





KEY NOTE

DETAIL BUBBLE: 1 = DENOTES DETAIL NUMBER # = DENOTES DRAWING NUMBER OF DETAIL LOCATION



SECTION CUT ARROW: A = DENOTES SECTION IDENTIFICATION # = DENOTES DRAWING NUMBER OF SECTION DETAIL

HOMERUN-NUMERAL WHERE USED INDICATES DESIGNATED PANEL AND CIRCUIT NUMBER FOR REFERENCE ONLY. WHERE CONDUIT IS NOT SPECIFIED USE AC OR MC CABLE FOR APPLICATION. △ 2#12. #12G. 3/4"C HOMERUN. UON 3#12, #12G, 3/4"C HOMERUN, UON 4#12, #12G, 3/4"C HOMERUN, UON AT 120V AND OVER 100' CIRCUIT LENGTH PROVIDE #10 MINIMUM. AT 277V AND OVER 200' CIRCUIT LENGTH PROVIDE #10 MINIMUM.

LIGHTING SYMBOLS

MUSCO LIGHTING CONTROL PANEL, SURFACE MOUNTED @ 24" AFG, UON

INDIVIDUAL RUNS OR FEEDERS ARE BEING COMBINED INTO ONE GROUP.

POLE MOUNTED FIELD LIGHTING FIXTURE, FOUR FIXTURE TYPE BY MUSCO POLE MOUNTED FIELD LIGHTING FIXTURE, EIGHT FIXTURE TYPE BY MUSCO

POLE MOUNTED FIELD LIGHTING FIXTURE. SEVEN FIXTURE TYPE BY MUSCO

POWER SYMBOLS

UNDERGROUND CONDUIT UNDERGROUND CONDUIT TURNING UP UNDERGROUND CONDUIT TURNING DOWN UNDERGROUND CONDUIT WITH CAP UNDERGROUND CONDUIT WITH BUSHING ABOVE GROUND CONDUIT ABOVE GROUND CONDUIT TURNING UP ABOVE GROUND CONDUIT TURNING DOWN ABOVE GROUND CONDUIT WITH CAP ABOVE GROUND CONDUIT WITH BUSHING IN-GROUND JUNCTION BOX

HANDHOLE

FLOOR MOUNTED METAL SUPPORT FRAME FOR ELECTRICAL ENCLOSURES

SURFACE MOUNTED

SINGLE LINE SYMBOLS

240/120V PANELBOARD



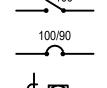
CONTACTOR

VOLTAGES, WINDINGS AND SIZE AS INDICATED



GROUND CONNECTION UNFUSED SWITCH

<SWITCH AMPS>



CIRCUIT BREAKER - MOLDED CASE TYPE <FRAME AMPS>/<TRIP AMPS>

CURRENT TRANSFORMER NUMBER AND RATIO AS INDICATED

DIGITAL MULTIMETER

ABBREVIATIONS

TWO POLE THREE POLE AMPERE FRAME ABOVE FINISHED FLOOR AMPERE INTERRUPTING CAPACITY AMPERE TRIP

AUTOMATIC TRANSFER SWITCH

AMERICAN WIRE GAUGE

BLDG BUILDING CONDUIT DEGREE CELSIUS CIRCUIT BREAKER CLOSED CIRCUIT TELEVISION CANDEL A CEILING MOUNT

CONT CONTINUATION COPPER DEGREE

DEG DIAMETER DISCONNECT DIVISION

ELECTRICAL CONTRACTOR ELEC ELECTRICAL EMERGENC) ELECTRICAL METALLIC TUBING

DEGREE FAHRENHEIT FACP FIRE ALARM CONTROL PANEL FIRE ALARM ANNUNCIATOR PANEL FATC FIRE ALARM TERMINATION CABINET (FBO) FURNISHED BY OTHERS FOOT CANDLE

FEEDER FLOOR **FULL LOAD AMPERES** FI FXIRI F FLEXIBLE METAL CONDUIT

GROUND FAULT INTERRUPTER GALVANIZED RIGID CONDUIT

HORSE POWER HERTZ ISOLATED GROUND INTERMEDIATE METAL CONDUIT

JUNCTION BOX KCMIL/MCM THOUSAND CIRCULAR MILS KILOVOLT KILOVOLT AMPERE KILOWAT

KILOWATT HOUR KWH LIGHTING

MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER MINERAL INSULATED, METAL-SHEATHED CABLE MOUNTED

NORMALLY CLOSED PULL BOX

POLYVINYL CHLORIDE CONDUIT POWER RECEPTACLE

RIGID METAL CONDUIT

PROVIDED BY FACTORY

SURGE PROTECTION DEVICE SPECIFICATION

PHASE

SWBD SWITCHBOARD SWGR SWITCHGEAR TRANSIENT VOLTAGE SURGE SUPPRESSION

TYPICAL UNLESS OTHERWISE NOTED UON UPS UNINTERRUPTED POWER SUPPLY VARIABLE FREQUENCY DRIVE WEATHERPROOF

TRANSFORMER

DELTA

XFMR

GENERAL COMPLIANCE - PA

SHALL COMPLY WITH THE LATEST ADOPTED VERSIONS OF THE STATE OF PENNSYLVANIA AND LOCAL CODES, AND STANDARDS LISTED BELOW BUT NOT

NFPA 72 NFPA 101 STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE NFPA 70E

INTERNATIONAL BUILDING CODE INTERNATION ENERGY CONSERVATION CODE NEC, NFPA 70 NATIONAL ELECTRICAL CODE NATIONAL FIRE ALARM AND SIGNALING CODE LIFE SAFETY CODE

GENERAL NOTES

1. SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES INDICATED ON THIS DRAWING ARE TYPICAL. DRAWINGS MAY NOT INDICATE ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING.

29. PREPARE FULLY DIMENSIONED FIELD SHEET METAL AND PIPING

INSTALLATION DRAWINGS (MIN. 1/4"=1'-0" SCALE). THESE DRAWINGS SHALL

THESE COORDINATION DRAWINGS. WHEN ALL WORK HAS BEEN PROPERLY

BE FORWARDED TO ALL CONTRACTORS. EACH CONTRACTOR SHALL

SHOWN ON THE COORDINATION DRAWINGS, AND ALL CONTRACTORS

AGREE THAT THEIR RESPECTIVE WORK CAN BE INSTALLED AND WILL

OF ABOVE COORDINATION PROCESS FOUND IN CONFLICT SHALL BE

30. INSTALLED SYSTEMS SHALL OPERATE UNDER ALL CONDITIONS OF LOAD

ARCHITECT, OR THE OWNER. OBJECTABLE SOUND OR VIBRATION

31. UPON COMPLETION OF ALL UNFINISHED OR FAULTY WORK NOTED IN

ENGINEER FINAL PUNCH LIST, SUBMIT TO THE ENGINEER IN WRITING A

BEEN COMPLETED AND ALL AS-BUILTS, MANUALS, ETC. HAVE BEEN

32. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLAB AND WALL

33. EFFECTIVELY PROTECT ALL MATERIAL AND EQUIPMENT FROM

ADDITIONAL LOST TO OWNER.

EQUIVALENT EQUIPMENT.

TO HIS WORK. PLUMBING CONTRACTOR SHALL SUBMIT SIZE AND

LETTER OF COMPLETION CERTIFYING THAT ALL PUNCH LIST ITEMS HAVE

OPENINGS, BEAM PENETRATIONS AND CORING DRILLING AS IT RELATES

LOCATION OF ALL SLAB AND WALL OPENINGS AND BEAM PENETRATIONS

AND COR DRILLING TO THE STRUCTURAL ENGINEER FOR REVIEW AND

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

34. REFERENCED MANUFACTURES DENOTES A MINIMUM ACCEPTABLE LEVEL

35. 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

OF QUALITY AND IS NOT INTENDED TO PREVENT SUBMISSION OF

WRAPPED WITH A PLENUM RATED PIPE WRAPPING MATERIAL.

MANNER BY THE CONTRACTOR AT HIS EXPENSE.

ENDORSING THE DRAWING(S). ANY WORK DONE PRIOR TO COMPLETION

REMOVED AND REPLACED AT THE RESPECTIVE CONTRACTOR'S EXPENSE.

WITHOUT SOUND OR VIBRATION THAT IS OBJECTABLE TO THE ENGINEER,

CONDITIONS DUE TO WORKMANSHIP SHALL BE CORRECTED IN APPROVED

PROPERLY FIT TOGETHER, THEY SHALL SO ACKNOWLEDGE BY

SUBSEQUENTLY IN SUCCESSION DELINEATE HIS RESPECTIVE WORK ON

2. GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL

3. THE TERM "PROVIDE" MEANS "FURNISH AND INSTALL" 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.

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

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 WOULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.

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 ULLISTED 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

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.

DESIGN AND PERFORMANCE OF COMPONENTS AND METHODS SPECIFIED HEREIN

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. 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. 27. 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. 28. 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.

GENERAL ELECTRICAL NOTES

1. USE EXISTING PANELS FOR NEW CIRCUITS AS REQUIRED. PROVIDE NEW CIRCUIT BREAKERS IN EXISTING SPACES. BREAKERS SHALL BE OF THE SAME MAKE AND TYPE AS THE EXISTING. A TYPED DIRECTORY CARD SHALL BE PROVIDED IN EACH PANEL WITH ADDED CIRCUITS TO INDICATE THE LOADS ACTUALLY SERVED.

2. ELECTRICAL CONTRACTOR TO CONFIRM ALL ELECTRICAL CONNECTION REQUIREMENTS, CODE COMPLIANT DISCONNECTING MEANS, INSTALLATION LOCATIONS AND INTERCONNECTION REQUIREMENTS FOR APPROVED MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR AND OWNER PRIOR TO PURCHASE AND START OF WORK.

3. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL **EQUIPMENT AND FOLLOWING ALL DIRECTIONS AND INSTRUCTIONS** SHOWN HEREIN.

4. ELECTRICAL CONTRACTOR SHALL INSPECT ALL OWNER SUPPLIED EQUIPMENT AND REPORT DEFECTIVE CONDITIONS TO OWNER PRIOR TO ELECTRICAL INSTALLATION

5. ALL DEVICES OR EQUIPMENT SHOWN IN SYMBOL FORM SHALL BE WIRED TO ITS RESPECTIVE PANEL.

6. ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE LATEST RECOGNIZED EDITION OF THE INTERNATIONAL BUILDING CODE REGARDING "ELECTRICAL OUTLET BOXES" AND ARTICLE 711. 7. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ALL

ELECTRICAL JUNCTION BOXES, EQUIPMENT, PANELS, ETC. WITH THE PANEL OR FEEDER NAME AND CIRCUIT NUMBER. THIS IDENTIFICATION SHALL CONSIST OF A PERMANENT BLACK MARKER LEGIBLY MARKED OF JUNCTION BOXES OR AN ENGRAVED PLASTIC NAME PLATE ON EQUIPMENT. ALL FINISHED AREA OUTLET PLATES SHALL BE LABELED WITH LABEL TAPE. ALL EQUIPMENT, DEVICES AND CIRCUITS SHALL BE LABELED ACCORDING TO OWNER REQUIREMENTS.

8. NEW BRANCH CIRCUIT BREAKERS SHALL BE AS INDICATED ON THE SINGLE LINE DIAGRAM AND PANEL SCHEDULES.

9. PANEL BOARD DIRECTORIES SHALL BE TYPED, AND UPDATED INDICATING CIRCUITING AND DEVICE DESCRIPTION AS SHOWN ON DRAWINGS.

10. GROUNDING SHALL BE IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 250. PROVIDE GROUND WIRES AS REQUIRED AND RESIZE CONDUIT IF NECESSARY.

11. TWO OR THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP TYPE.

SINGLE POLE BREAKERS WITH YOKED HANDLE WILL NOT BE PERMITTED. 12. THE ELECTRICAL CONTRACTOR SHALL NOT UTILIZE A "COMMON NEUTRAL" ON MULTIPLE BRANCH CIRCUITS. EACH SUCH CIRCUIT SHALL BE RUN WITH ITS OWN DEDICATED NEUTRAL WIRE.

13. THERMAL OVERLOAD PROTECTION SHALL BE IN COMPLIANCE WITH MOTOR MANUFACTURER'S SPECIFICATIONS.

14. WHERE CIRCUIT BREAKERS OR FUSES ARE APPLIED IN COMPLIANCE WITH THE SERIES COMBINATION RATINGS MARKED ON THE EQUIPMENT BY THE MANUFACTURER, THE EQUIPMENT ENCLOSURE(S) SHALL BE LEGIBLY MARKED IN THE FIELD TO INDICATE THE EQUIPMENT HAS BEEN APPLIED WITH A SERIES COMBINATION DEVICE RATING. THE MARKING SHALL BE READILY VISIBLE AND CONFORM TO ARTICLE 110.22 OF THE NATIONAL ELECTRICAL CODE.

15. PROVIDE NECESSARY COMMON GROUNDS BETWEEN THE ELECTRICAL SERVICE, TELEPHONE SERVICE, UNDERGROUND METALLIC PIPING, CONDUIT, AND FOUNDATION/FOOTING REBAR PER NEC ARTICLES 250.50 &

16. ELECTRICAL CONTRACTOR SHALL COORDINATE PLACEMENT OF ALL ELECTRICAL DEVICES WITH ENGINEER AND OWNER PRIOR TO ROUGH-IN

17. WHERE WIRE AND CABLE ROUTING IS NOT SHOWN, AND DESTINATION ONLY IS INDICATED, CONTRACTOR SHALL DETERMINE EXACT ROUTING AND LENGTHS REQUIRED. A SHOP DRAWING OF PROPOSED INSTALLATION SHALL BE SUPPLIED TO OWNER AND OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

18. FEEDER AND BRANCH CIRCUIT WIRING SHALL BE COPPER, 600 VOLT CONDUCTOR INSULATION TYPE THHN/THWN. THE MINIMUM SIZE 600 VOLT CONDUCTOR SHALL BE #12 AWG AND 75°C FOR POWER AND LIGHTING BRANCH CIRCUIT WIRING. ALL CIRCUIT WIRING SIZES #10 AWG OR LARGER SHALL BE STRANDED AND SMALLER CONDUCTORS SHALL BE SOLID. BRANCH CIRCUITS 100 TO 200 FEET IN LENGTH UTILIZING #12 AWG WIRE SHALL BE INCREASED TO #10 AWG TO THE CENTER OF THE CIRCUIT LOAD AND #12 WIRE TO THE REMAINING DEVICES BEYOND THE LOAD

19. CONTRACTOR SHALL ARRANGE ALL NEW CIRCUITS IN PANELS SO AS TO BALANCE THE LOAD ON ALL PHASES.

20. ALL WIRING, CONNECTIONS AND DEVICES SHALL BE PROVIDED TO COMPLY WITH THE GROUNDING REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND THE DRAWINGS UNLESS NOTED OTHERWISE. ALL EXPOSED NON-CURRENT CARRYING ELECTRICAL EQUIPMENT METALLIC PARTS. RACEWAY SYSTEMS AND WIRING SYSTEM GROUNDING CONDUCTORS SYSTEM SHALL BE GROUNDED.

21. PROVIDE A SEPARATE, GREEN-COLORED, INSULATED EQUIPMENT GROUNDING CONDUCTOR WITHIN EACH FEEDER AND BRANCH CIRCUIT RACEWAY. THIS CONDUCTOR SHALL BE SEPARATE FROM THE ELECTRICAL SYSTEM NEUTRAL CONDUCTOR. TERMINATE EACH END OF THIS GROUNDING CONDUCTOR ON A U.L. LISTED LUG, BUS OR BUSHING. THE GROUNDING CONDUCTOR SIZE SHALL BE IN ACCORDANCE WITH NEC.

22. ALL METALLIC CONNECTORS AND FITTINGS SHALL BE NON-CORRODING. SUCH AS ALUMINUM, STAINLESS STEEL OR GALVANIZED.

23. BENDS SHALL NOT DAMAGE THE RACEWAY OR SIGNIFICANTLY CHANGE THE INTERNAL DIAMETER OF RACEWAYS (NO KINKS).

24. SUPPORT CONDUCTORS IN VERTICAL CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS.

25. INSTALL ALL WIRING MATERIALS IN A NEAT WORKMANLIKE MANNER. USE GOOD TRADE PRACTICES AS REQUIRED BY CHAPTER 3 OF THE NEC. 26. SUPPORT CONDUIT USING STEEL OR MALLEABLE IRON STRAPS, LAY-IN ADJUSTABLE HANGERS. CLEVIS HANGERS AND SPLIT-HANGERS. HANGER

SPACING SHALL BE 10' MAXIMUM. USE APPROVED BEAM CLAMPS FOR CONNECTION TO STRUCTURAL MEMBERS. 27. PROVIDE PULL AND JUNCTION BOXES WHERE REQUIRED BY CODE AND WHERE NECESSARY TO FACILITATE THE INSTALLATION OF WIRING IN ADDITION TO THOSE SHOWN ON THE DRAWINGS. BENDS IN CONDUITS

BETWEEN PULL BOXES SHALL NOT EXCEED THE EQUIVALENT OF FOUR 90

28. WHEN FIELD CUTTING IS REQUIRED, THE CONDUIT SHALL BE CUT SQUARE AND DEBURRED.

DEGREE BENDS.

29. ALL CONDUITS SHALL BE FREE OF ANY OBSTRUCTIONS BEFORE WIRE IS

30. UNLESS OTHERWISE INDICATED, GROUND ALL EXPOSED NONCURRENT-CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS, EQUIPMENT STRUCTURES AND THE NEUTRAL OF ALL WIRING SYSTEMS IN ACCORDANCE WITH THE NEC, STATE, AND OTHER APPLICABLE LAWS AND REGULATIONS.

31. WHERE CONDUIT, CABLES, DUCTWORK, OR PIPING PASSES THROUGH FIRE RATED WALLS, THE PENETRATION SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS ULLISTED 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.

32. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING AS IT RELATES TO HIS WORK. DO NOT CUT NOR CORE THROUGH STRUCTURAL MEMBERS.

33. ELECTRICAL CONTRACTOR SHALL DO ALL REQUIRED CUTTING, BORING AND PATCHING FOR HIS WORK. ALL OPENINGS SHALL BE SEALED UPON COMPLETION OF INSTALLATION TO PREVENT SPREAD OF FIRE, SMOKE OR

34. ALL HOLES OR VOIDS CREATED TO ROUTE CONDUIT OR METAL CLAD CABLE THROUGH FIRE-RATED FLOORS, CEILINGS, AND WALLS SHALL BE PROTECTED WITH A 3-HOUR RATED. APPROVED FIRESTOP SYSTEM EQUAL TO 3M FIRE BARRIER CAULK, PUTTY, STRIP AND SHEET FORM, CAPABLE OF EXPANDING UP TO 8 TO 10 TIMES WHEN EXPOSED TO A TEMPERATURE OF 250 DEGREES FAHRENHEIT AND ABOVE. FIRESTOP SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH ASME E814 (U.L. 1479) AND NEC ARTICLE

35. UPON COMPLETION OF THE WORK, THE ENTIRE WIRING SYSTEM SHALL BE FREE FROM GROUNDS, SHORT CIRCUITS, OPENS, OVERLOADS AND IMPROPER VOLTAGES.

36. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32 DEGREES FAHRENHEIT (0 DEGREES CELSIUS). PROVIDE CABLE SUPPORTS FOR WIRE IN RISER CONDUITS AS REQUIRED BY CODE.

37. WIRE COLOR CODING TO BE PER CODE.

COVER SHEET DRAWING LIST

ELECTRICAL **ELECTRICAL INDEX SHEET** ELECTRICAL SPECIFICATIONS ELECTRICAL DEMOLITION SITE PLAN ELECTRICAL PROPOSED SITE PLAN ELECTRICAL SCHEDULES

ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTI TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS OF THE EXTENSIONS OF THE PROJECT OR ON ANY OTHE PROJECT. ANY REUSE WITHOUT WRITTEN
VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDEI
WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILI OR LEGAL EXPOSURE TO PENNONI ASSOCIATE; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGE:
LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM. KLMLX20001

02/24/2023

AS NOTED

RAWN BY

RAWING SCALE

DATE: 02/24/2023

ELECTRICAL DETAILS & DIAGRAMS

ISSUE FOR BID

ELECTRICAL SPECIFICATIONS

- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, LATEST EDITION, AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.
- B. ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIAL WHICH VIOLATES ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
- C. INVESTIGATE EACH SPACE THROUGH WHICH EQUIPMENT MUST BE MOVED. WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH AVAILABLE RESTRICTIVE SPACES. ASCERTAIN FROM BUILDING OWNER AND TENANT AT WHAT TIMES OF DAY EQUIPMENT MAY BE MOVED THROUGH ALL AREAS.
- D. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS. BUT CHANGES. WHICH INVOLVE EXTRA COST, SHALL NOT BE MADE WITHOUT APPROVAL.
- E. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING. EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
- F. PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AS REQUIRED.
- G. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK DURING OVERTIME HOURS AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
- H. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.
- I. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- J. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES. HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. THE CONTRACTOR IS RESPONSIBLE TO INDICATE ANY DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO SUBMITTAL OF BID. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS SHALL NOT BE MADE FOR LABOR: FOUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. THE ON-SITE INSPECTION SHALL VERIFY EXISTING CONDUIT (SIZES, CLEARANCES, ETC) AND
- K. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND
- L. ANY AND ALL EXPENSES INCURRED BY THESE EQUIPMENT MANUFACTURERS' REPRESENTATIVES RELATED TO THIS PROJECT. SHALL BE BORNE BY THE ELECTRICAL CONTRACTOR.
- M. THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL

SCOPE OF WORK

- A. SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS. EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMITY WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.
- B. ALL DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, MODIFIED, SUPPLEMENTED OR SPECIFIED
- C. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES BY OWNER INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.
- D. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.

SHOP DRAWINGS

- A. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT, CONTRACTOR SHALL PROVIDE COMPLETE SETS OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, INDICATING CAPACITY, DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND
- B. INDICATE ON EACH SHOP DRAWINGS SUBMITTED:
- a. PROJECT NAME AND LOCATION b. NAME OF ARCHITECT AND ENGINEER c. ITEM IDENTIFICATION
- d. APPROVAL STAMP OF PRIME CONTRACTOR
- C. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:
- b. FUSES c. CIRCUIT BREAKERS

a. SWITCHES

- d. PANELBOARDS (INCLUDING DIMENSIONS, SCHEDULES, AND CATALOG CUTS)
- e. RACEWAYS f. WIRE AND CABLE
- LIGHTING FIXTURES h. LIGHTING CONTROLS
- 4. AS-BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS
- A. UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.
- B. THESE INSTRUCTIONS SHALL BE TYPED ON 8.5"x11" PAPER AND BOUND IN THREE RING BINDERS WITH CLEAR ACETATE COVERS. CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE COPY TO THE ENGINEER.
- TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER. D. REPRODUCIBLE "AS-BUILT" DRAWINGS SHALL BE PREPARED IN THE

C. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND

FORM OF RED LINE MARKUPS.

- 5. GENERAL PROVISIONS FOR ELECTRICAL WORK
- A. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.
- B. DEFINITIONS
- a. "PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
- b. "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
- c. "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
- d. "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS. CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
- e. "WIRING": RACEWAY, FITTINGS, WIRE, BOXES AND RELATED ITEMS.
- "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.
- g. "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.

h. "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE.

- DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT. C. GENERAL
 - a. PANEL JUNCTION AND PULL BOXES SHALL BE LOCATED CLEAR OF OTHER TRADES. SUPPORT BOXES FROM BUILDING STRUCTURE. INDEPENDENT OF CONDUIT. PROVIDE FLOOR-TO-CEILING CHANNELS FOR MOUNTING ON DRYWALL AND LIGHTWEIGHT CONSTRUCTION. OUTLET BOXES FOR FIXTURES RECESSED IN HUNG CEILINGS SHALL BE ACCESSIBLE THROUGH OPENING CREATED BY REMOVAL OF FIXTURE. SECURE TO BLACK IRON SUPPORT. MOTOR TERMINAL BOXES: COORDINATE WITH MOTOR BRANCH CIRCUIT AND WIRING; ADD BOX VOLUME WHERE REQUIRED.
- b. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EQUIPMENT WITH ARCHITECTURAL DRAWINGS. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS, AND MECHANICAL EQUIPMENT, VARIATIONS IN FIRE PROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING HUNG CEILINGS, AND THE LIKE, AND CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSES TO THE
- c. THE CONTRACTOR SHALL FURNISH AND INSTALL WIRING FOR EQUIPMENT FURNISHED BY OTHERS, AS SHOWN ON DRAWINGS. COORDINATE WITH ALL OTHER TRADES OR DETAILS FOR INSTALLATION. THE TERM "WIRING" AS USED HERE-IN, INCLUDES, BUT IS NOT LIMITED TO, FURNISHING AND INSTALLING CONDUIT, WIRE, JUNCTION BOXES, DISCONNECTS AND MAKING CONNECTIONS. CONTRACTOR SHALL CHECK ARCHITECTURAL MECHANICAL. AND PLUMBING DRAWINGS AND SPECIFICATIONS FOR EQUIPMENT TO BE INSTALLED BY OTHERS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER WIRING AND NECESSARY ELECTRICAL ADJUSTMENTS TO EQUIPMENT TO CONFORM TO SPECIFIED REQUIREMENTS OF THE EQUIPMENT

D. QUALITY ASSURANCE

- a. QUALITY AND GAUGE OF MATERIALS: NEW, BEST OF THEIR RESPECTIVE KINDS. FREE FROM DEFECTS AND LISTED BY UNDERWRITERS LABORATORIES, INC., OR OTHER NATIONALLY APPROVED TESTING AGENCY AND BEARING THEIR LABEL. MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.
- b. ON COMPLETION OF THE WORK, THE ENTIRE WIRING SYSTEM SHALL BE ENTIRELY FREE FROM GROUNDS, SHORT CIRCUITS. OPENS, OVERLOADS AND IMPROPER VOLTAGES AND THOROUGH TEST SHALL BE MADE. FURNISH ALL LABOR AND MATERIALS AND
- c. GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.
- E. PRODUCT DELIVERY, STORAGE AND HANDLING
- a. MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE SPACES.

F. MATERIALS

- a. NAMEPLATES: PROVIDE BLACK LAMICOID SHEET WITH 3/4" WHITE LETTERING, FASTENED WITH EPOXY CEMENT FOR EACH DISCONNECT SWITCH, CIRCUIT BREAKER, PANEL, CABINET TRANSFORMER, ENCLOSURE, MOTOR CONTROLLER AND THE LIKE NAMEPLATES SHALL DESCRIBE THE NAME AND NUMBER OF EACH
- b. CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR PULLBOX WITH A WHITE LINEN TAG, INDICATING POINT OF ORIGIN AND TERMINATION OF THE CIRCUIT.
- c. INSERTS AND SUPPORTS
- INSERTS: STEEL, SLOTTED TYPE, FACTORY PAINTED.

1. SINGLE ROD: SIMILAR TO GRINNELL FIG. 281.

- 2. MULTI-ROD: SIMILAR TO FEE AND MASON SERIES 9000 WITH END CAPS AND CLOSURE STRIPS. CLIP FORM NAILS FLUSH WITH INSERTS. 4. MAXIMUM LOADING 75% OF RATING.
- SUPPORTS FROM BUILDING CONSTRUCTION: INSERTS, BEAM CLAMPS, STEEL FISHPLATES (IN CONCRETE FILL ONLY), CANTILEVER BRACKETS OR OTHER MEANS. SUBMIT FOR
- GROUPED LINES AND SERVICES: TRAPEZE HANGERS OF BOLTED ANGLES OR CHANNELS.
- WHERE BUILDING CONSTRUCTION IS INADEQUATE: PROVIDE ADDITIONAL FRAMING. SUBMIT FOR REVIEW.

G. PAINT SHALL BE THE BEST GRADE FOR ITS PURPOSE. DELIVER IN

ORIGINAL SEALED CONTAINERS AND APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COLORS SHALL BE AS SELECTED BY ARCHITECT OR ENGINEER. UTILIZE GALVANIZED IRON PRIMER ON PANEL AND PULL BOXES, AFTER FABRICATION. UTILIZE HOT DIPPED GALVANIZED OR DIPPED IN ZINC CHROMATE FOR: OUTLET BOXES, JUNCTION BOXES, CONDUIT HANGERS, RODS, INSERTS AND SUPPORTS. RED LEAD OR ZINC CHROMATE WITH FINISH TO MATCH SURROUNDINGS SHALL BE USED FOR MARRED SURFACES OF STEEL EQUIPMENT AND RACEWAYS. A FIELD-APPLIED ZINC CHROMATE

PRIME COAT SHALL BE UTILIZED FOR STEEL OR IRONWORK.

- H. BRUSH AND CLEAN WORK PRIOR TO CONCEALING, PAINTING AND ACCEPTANCE. PAINTED EXPOSED WORK SOILED OR DAMAGED; CLEAN AND REPAIR TO MATCH ADJOINING WORK BEFORE FINAL ACCEPTANCE. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF MATERIAL AND EQUIPMENT.
- 6. LOW-VOLTAGE DISTRIBUTION EQUIPMENT
- A. ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE
- B. DISCONNECT SWITCHES SHALL BE FUSED OR NON-FUSED AS NOTED. VOLTAGE SHALL BE AS REQUIRED. SWITCHES SHALL BE HEAVY DUTY, EXCEPT AS NOTED, AND HORSEPOWER RATED FOR MOTOR LOADS. TOGGLE TYPE SWITCHES SHALL BE NON-FUSED. LOAD BREAK, HAVING MAXIMUM RATINGS OF 20A AT 600V AND 30A AT 240V. TWO-POLE SWITCHES SHALL BE SIMILAR TO EATON ARROW HART #6808F. THREE-POLE SWITCHES SHALL BE SIMILAR TO EATON ARROW HART #7810F.
- a. KNIFE-BLADE TYPE SWITCHES SHALL BE LOAD BREAK, QUICK-MAKE-QUICK-BREAK, UL CLASS R UP TO 600A. MAXIMUM RATING EXCEPT AS NOTED SHALL BE 800A. ARC QUENCHERS SHALL BE PROVIDED. SWITCHES SHALL BE SIMILAR TO GENERAL ELECTRIC QMR. ALL SWITCH ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED.
- C. FUSES: DUAL ELEMENT FUSES FOR MOTOR LOADS SHALL BE TIME DELAY HAVING A MAXIMUM RATING OF 600A AT REQUIRED VOLTAGE. 200kAIC FUSES SHALL BE SIMILAR TO LIMITRON FUSETRON FRN OR FRS (UL CLASS R). CURRENT LIMITING FUSES SHALL BE UTILIZED FOR OTHER LOADS. 200kAIC SHALL BE SIMILAR TO LIMITRON KTN, KTS, OR KTU (UL CLASS R UP TO 600A; CLASS L OVER 600A). ALL FUSES SHALL BE PROVIDED BY SAME MANUFACTURER. PROVIDE 1 SPARE MATCHING FUSE FOR EACH SET OF 3.

- D. CIRCUIT BREAKERS: MOLDED CASE BREAKERS SHALL BE THERMAL MAGNETIC, QUICK-MAKE-QUICK-BREAK, BOLT-ON TYPE, MANUALLY OPERATED WITH INSULATED TRIP-FREE HANDLE. MULTI-POLE TYPE BREAKERS SHALL CONTAIN INTERNAL TRIP BAR. TERMINALS SHALL BE SUITABLE FOR COPPER OR ALUMINUM CABLE. FURNISH AUXILIARY DEVICES WHERE REQUIRED FOR SHUNT TRIPPING, OPEN AND CLOSE MOTOR OPERATOR AND ALARM INDICATION. ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, AS NOTED. CIRCUIT BREAKERS TO BE INSTALLED IN EXISTING PANEL BOARDS, SHALL BE OF THE SAME MANUFACTURER, TYPE AND A.I.C. RATING AS PRESENTLY IN USE. FRAMES, IC AND INTERCHANGEABLE TRIPS SHALL BE AS FOLLOWS,
- a. 120V, 100A FRAME: 10,000A, 1 POLE b. 240V, 100A FRAME: 18,000A, 2 AND 3 POLES c. 240V, 200A FRAME: 50,000A, 2 AND 3 POLES d. 277V, 100A FRAME: 14,000A, 1 POLE

e. 480V, 100A FRAME: 20,000A, 2 AND 3 POLES

UNLESS OTHERWISE NOTED:

- E. DISTRIBUTION PANELS: SWITCHING UNITS SHALL BE 3 PHASE, 4 WIRE CIRCUIT-BREAKER TYPE UNLESS OTHERWISE NOTED ON PANEL SCHEDULES. BUS BARS SHALL BE HARD DRAWN COPPER, MINIMUM 98% CONDUCTIVITY, SILVER OR TIN-PLATED JOINTS. CABINETS SHALL BE GALVANIZED SHEET STEEL BACK BOX, WITH DOOR AND TRIM AND LAPPED AND WELDED CORNERS. HARDWARE SHALL BE CHROME-PLATED WITH FLUSH LOCK/LATCH HANDLE ASSEMBLY (UP TO 48" HIGH DOORS) OR VAULT HANDLE, LOCK AND 3-POINT CATCH (LARGER THAN 48" HIGH DOORS). HINGES SHALL BE SEMI-CONCEALED. 5-KNUCKLE STEEL WITH NONFERROUS PINS, 180° OPENING, LOCATED A MAXIMUM 26" ON CENTERS. PROVIDE DOOR-IN-DOOR CONSTRUCTION. MINIMUM GUTTER SPACES FOR LIGHTING PANELS SHALL BE 5-3/4" SIDES, TOP AND BOTTOM. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC, TRANSPARENT COVER, A TYPEWRITTEN LIST INDICATING FEEDER CABLE AND CONDUIT SIZE, CIRCUIT NUMBERS,
- F. TRANSFORMERS SHALL BE OPEN-VENTILATED; DRY TYPE, CLASS H INSULATION, 115°C TEMPERATURE RISE AND WINDINGS SHALL BE COPPER. PRIMARY AND SECONDARY VOLTAGES SHALL BE NOTED. PRIMARY TAPS (6 - 2-1/2% TAPS, 2 ABOVE AND 4 BELOW RATED VOLTAGE) SHALL BE PROVIDED. ADJUST FOR REQUIRED VOLTAGE. PROVIDE K RATING AND SHIELDING AS SHOWN ON DRAWINGS.

OUTLETS SUPPLIED AND THEIR LOCATIONS SHALL BE PROVIDED.

- G. BALANCE THE LOAD OVER PHASES WHEN NEW CIRCUITS ARE ADDED TO NEW OR EXISTING PANELS. PROVIDE MULTI-CABLE LUGS WHERE REQUIRED. DOUBLE LUGGING SHALL NOT BE PERMITTED. MOUNTING HEIGHT SHALL BE A MAXIMUM OF 6'-6" FROM FLOOR TO TOP SWITCH UNIT. UPDATE DIRECTORIES ON EXISTING PANELBOARDS WHERE CIRCUITING IS CHANGED.
- H. TESTS: OPEN AND CLOSE LOAD BREAK SWITCHING DEVICES UNDER
- 8. SURGE PROTECTION DEVICES
- A. THE INDIVIDUAL SURGE PROTECTION DEVICE (SPD) UNITS SHALL BE UL LISTED UNDER UL1449 STANDARD FOR TRANSIENT VOLTAGE SURGE SUPPRESSIONS AND THE SURGE RATINGS AND SHORT CIRCUIT CAPACITY RATING SHALL BE PERMANENTLY AFFIXED TO THE COVER OF SPD. THE UNIT SHALL ALSO BE COMPLEMENTARY LISTED TO UL 1283 STANDARD FOR EMI/RFI FACILITY FILTERS.
- B. SYSTEM DESCRIPTION
- a. THE SPD/FILTER SHALL BE CONSTRUCTED USING MULTIPLE SURGE CURRENT DIVERSION ARRAYS OF METAL OXIDE VARISTORS (MOV). MATCHED TO 1% VARIANCE. THE ARRAY SHALL CONSIST OF MULTIPLE GAP-LESS METAL OXIDE VARISTORS, WITH EACH MOV INDIVIDUALLY FUSED. THE ARRAYS SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER, WHICH ENSURES MOV SURGE CURRENT SHARING. NO GAS TUBES, SILICON AVALANCHE DIODES OR SELENIUM PLATES/RECTIFIERS SHALL BE USED. THE STATUS OF EACH ARRAY SHALL BE CONTINUOUSLY MONITORED AND A GREEN LED SHALL BE ILLUMINATED IF THE ARRAY IS IN FULL WORKING ORDER. ALL PROTECTION MODES, INCLUDING N-G SHALL BE CLOSELY MONITORED AND INTERNALLY FUSED, FOR COMPLIANCE TO NEC ARTICLE 110.9, 110.10 AND 280.22.
- C. BASIS OF DESIGN (MINIMUM RATING TO BE 40 KA L-L, 40 KA L-G, 40
- a. LIEBERT CATALOG NOS.
- ACV 208110 FOR 208V, 3Φ, 3W+G ACV 120Y111RKE FOR 208Y/120V, 3Φ, 4W+G • ACV 480110 FOR 480V, 3Φ, 3W+G ACV 277Y111RKE FOR 480Y/277V, 3Φ, 4W+G

D. WARRANTY

- a. THE MANUFACTURER SHALL PROVIDE A LIMITED FIVE YEAR WARRANTY FROM THE DATE OF SHIPPING AGAINST FAILURE WHEN INSTALLED IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTION, UL LISTING REQUIREMENTS, AND ANY APPLICABLE NATIONAL OR LOCAL ELECTRICAL CODES. MANUFACTURER SHALL MAKE AVAILABLE FOR CONSULTATION, (LOCAL, NATIONAL) ENGINEERING SERVICE SUPPORT.
- E. MANUFACTURER
- a. LIEBERT ACV SERIES OR APPROVED EQUAL BY CURRENT TECHNOLOGY OR INNOVATIVE TECHNOLOGY.

F. ACCESSORIES

a. UNIT STATUS INDICATORS THE UNIT SHALL HAVE AN INTEGRAL STATUS CIRCUIT THAT MONITORS THE OPERATIONAL STATUS OF ALL MODES OF PROTECTION, INCLUDING LINE TO NEUTRAL, LINE TO GROUND AND NEUTRAL TO GROUND. NO MANUAL TESTING IS REQUIRED TO CONFIRM THE INTEGRITY OF THE SUPPRESSION AND FILTER

SYSTEMS. IF THE SYSTEM DOES FAIL, THE GREEN LED LIGHT

GROUNDING

- A. AN EQUIPMENT-GROUNDING CONDUCTOR, COMMONLY DESCRIBED AS A "GREEN WIRE" SHALL BE PROVIDED FOR ALL BRANCH CIRCUITS PROTECTED BY OVERCURRENT DEVICES EXCEPT FOR LIGHTING BRANCH CIRCUITS. "GREEN GROUND" WIRE SHALL ALSO BE PROVIDED
- FOR FLEXIBLE CONDUIT AND MOTOR CIRCUITS B. PROVIDE RACEWAYS CONTINUITY TESTS OF RESISTANCE OF FEEDER CONDUITS FROM SERVICE TO POINT OF FINAL DISTRIBUTION USING 1

RACEWAYS WITH GROUND CONDUCTOR, AND IN FLEXIBLE CONDUIT

WILL GO OUT AND THE RED LED LIGHT WILL BE LIT.

CONDUCTOR RETURN. MAXIMUM RESISTANCE SHALL BE 25 OHMS. C. MAINTAIN GROUNDING CONTINUITY OF INTERRUPTED METALLIC

FOR FEEDERS AND MOTOR TERMINAL CONNECTIONS 10. RACEWAYS

- A. CONDUIT & FITTINGS
- a. RIGID METAL CONDUIT (RMC/RGS): FULL-WEIGHT PIPE, GALVANIZED STEEL, THREADED PERMITTED FOR FEEDERS AND BRANCH CIRCUITS. PAINT

MALE THREADS OF FIELD-THREADED CONDUIT WITH

- GRAPHITE-BASE PIPE COMPOUND AND BUTT CONDUIT ENDS. TOUCH UP MARRED SURFACES AND FIELD-CUT THREADS, CRC-COLD GALVANIZED. FITTINGS: NONSPLIT, THREADED, STEEL OR MALLEABLE IRON.
- ZINC DIE CAST NOT PERMITTED
- b. ELECTROMETALLIC TUBING (EMT): THIN WALL PIPE, GALVANIZED, THREADLESS.
- PERMITTED FOR BRANCH CIRCUITS ONLY IN DRY LOCATIONS DRY WALLS, HUNG CEILINGS, HOLLOW BLOCK WALLS AND FURRED SPACES. EMT SHALL NOT BE PERMITTED IN RAISED FLOORS.
- FITTINGS: COMPRESSION TYPE 2" AND UNDER. SET SCREW TYPE 2-1/2" AND LARGER. GALVANIZED RIGID STEEL ELBOWS. 2" OR LARGER.
- c. FLEXIBLE METAL CONDUIT(FMC): CONTINUOUS SINGLE STRIP, GALVANIZED.
- PERMITTED FOR SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICAL. FROM OUTLET BOX TO RECESSED LIGHTING FIXTURE: PROVIDE MINIMUM 4' AND MAXIMUM 6' LENGTHS. FOR FINAL CONNECTION TO MOTOR TERMINAL BOX, TRANSFORMER AND OTHER VIBRATING EQUIPMENT: PROVIDE WITH POLYVINYL SHEATHING AND GROUND CONDUCTOR. MINIMUM LENGTH: 18' WITH SLACK. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END. FOR EXPANSION JOINT CROSSINGS, CROSS AT RIGHT ANGLES AND ANCHOR ENDS.
- d. SCHEDULE 40 PVC (RNC):

FITTINGS: ANGLE WEDGE TYPE WITH INSULATED THROAT

 PERMITTED FOR FEEDERS AND BRANCH CIRCUITS, IN WET LOCATIONS, UNDERGROUND. RNC SHALL NOT BE PERMITTED IN EXPOSED APPLICATIONS.

- B. ACCESSORIES
- a. BUSHINGS: METALLIC INSULATED TYPE.
- b. EXPANSION FITTINGS SHALL BE INSTALLED AT RIGHT ANGLES WITH CLIP JOINT CENTERED IN EXPANSION JOINT. PROVIDE A LENGTH OF RUN IN ACCORDANCE MANUFACTURER'S RECOMMENDATIONS. PRESET FITTINGS SHALL ALLOW FOR TEMPERATURE VARIATION.
- C. BOXES
- a. OUTLET BOXES: EXCEPT AS OTHERWISE REQUIRED BY CONSTRUCTION, DEVICES OR WIRING, BOXES SHALL BE STAMPED STEEL, 4" SQUARE OR OCTAGON FOR FIXTURES. BOXES ABOVE CEILING SHALL BE 1-1/2" DEEP. BOXES IN CEILING OR SLAB SHALL BE 3" DEEP. BOXES IN WALL FOR FIXTURES SHALL BE 2-3/4" DEEP. BOXES IN WALL FOR RECEPTACLES AND SWITCHES SHALL BE 1-1/2" DEEP. FURNISH WITH RAISED COVERS AND FIXTURE STUDS WHERE REQUIRED.
- WITHOUT FIXTURE OR DEVICE: FURNISH BLANK COVER. OFFSET BACK-TO-BACK OUTLETS WITH MINIMUM 6" SEPARATION.
- ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. OUTLET BOXES SHALL BE SET SQUARE AND TRUE WITH BUILDING FINISH. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRON OR GROUT IN WITH MASONRY. PROVIDE BARRIERS BETWEEN SWITCHES CONNECTED TO DIFFERENT PHASES FOR VOLTAGES EXCEEDING 150V TO GROUND.
- b. JUNCTION AND PULL BOXES: GALVANIZED SHEET STEEL WITH SCREW-ON COVERS, EXCEPT AS NOTED. FURNISH WITH INSULATED SUPPORTS FOR CABLES. LOCATIONS SHALL BE AS NOTED OR REQUIRED AND ACCESSIBLE.
- c. PANEL, JUNCTION AND PULL BOXES SHALL BE LOCATED CLEAR OF OTHER TRADES. CONCEAL JUNCTION AND PULL BOXES IN FINISHED SPACES. WHERE NECESSARY, REROUTE RACEWAYS OR MAKE OTHER ARRANGEMENTS FOR CONCEALMENT. BOXES SHALL BE ACCESSIBLE. SUPPORT BOXES FROM BUILDING STRUCTURE. INDEPENDENT OF CONDUIT. PROVIDE FLOOR-TO-CEILING CHANNELS FOR MOUNTING ON DRYWALL AND LIGHTWEIGHT CONSTRUCTION. OUTLET BOXES FOR FIXTURES RECESSED IN HUNG CEILINGS SHALL BE ACCESSIBLE THROUGH OPENING CREATED BY REMOVAL OF FIXTURE. SECURE TO BLACK IRON OR GALVANIZED STEEL CHANNEL SUPPORT. MOTOR TERMINAL BOXES: COORDINATE WITH MOTOR BRANCH CIRCUIT CONDUIT AND WIRING; ADD BOX VOLUME WHERE REQUIRED.
- D. SUPPORT
- a. PROVIDE RACEWAY SUPPORT UTILIZING CEILING TRAPEZE STRAPHANGERS, OR WALL BRACKETS. PROVIDE U-BOLTS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND CONNECTED TO ACCEPTABLE SUPPORTS. PROVIDE RISER CLAMPS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND RESTING ON SLAB.
- b. FOR THROUGH-THE-FLOOR SYSTEMS, UTILIZE AN ASSEMBLY SIMILAR TO HUBBELL FIRE RATED POKE-THROUGH-FLOOR BOX SYSTEM. FOR ABOVE FLOOR FITTINGS, TELEPHONE SHALL BE BUSHED HOLE AND POWER SHALL BE DUPLEX RECEPTACLE OR OTHER AS NOTED. PROVIDE SEPARATION BARRIER BETWEEN POWER AND TELEPHONE COMPARTMENTS. PROVIDE JUNCTION BOX ON UNDERSIDE OF FLOOR. PACK FITTING TO RESTORE FIRE
- c. FOR HUNG CEILING OUTLETS, RUN IN HUNG CEILING AND CONNECT TO CEILING SUPPORT CHANNELS. IN MASONRY AND POURED CONCRETE, RUN VERTICALLY ONLY.

11. WIRE & CABLE

- A. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES. SIZE REFERENCE SHALL BE AWG EXCEPT AS NOTED.
- B. CONDUCTORS SHALL BE COPPER, ASTM STANDARD SOLID (#10 AND SMALLER) OR STRANDED (#8 AND LARGER). GENERAL USE CABLING SHALL BE #12 MINIMUM.
- a. CONTROL AND ALARM CABLING, EXCEPT AS NOTED, SHALL BE #14 MINIMUM. AT 120V AND OVER 200' CIRCUIT LENGTH PROVIDE #12
- b. OTHER VOLTAGES AND PHASES: ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP. INCREASE RACEWAY SIZES FOR LARGER WIRE AS REQUIRED.

. INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM

- AND IPCEA STANDARDS. a. TYPE THW, THWN SHALL BE UTILIZED FOR BRANCH CIRCUITS
- b. TYPE THHN, THHW, THW-2 SHALL BE UTILIZED FOR FEEDERS EXCEPT AS NOTED.

c. TYPE SFF-2 SHALL BE UTILIZED FOR BRANCH CIRCUITS LOCATED IN

WIRING CHANNELS OF CONTINUOUS FLUORESCENT FIXTURES AND

- IN AMBIENT TEMPERATURES OVER 90°C. d. FOR UNGROUNDED ISOLATED BRANCH CIRCUITS PROVIDE CROSS-
- LINKED POLYETHYLENE INSULATION (TYPE XHHW). e. PRE-MANUFACTURED HOSPITAL GRADE ARMORED CABLE (ACTHH) SHALL BE UTILIZED FOR ALL NORMAL BRANCH CIRCUITS IN DRY HOLLOW STUD WALL LOCATIONS. ABOVE ACCESSIBLE CEILING AND WHERE PERMITTED BY ARTICLE 320 & 517 OF THE NATIONAL ELECTRICAL CODE ONLY. MINIMUM CONDUCTOR SIZE SHALL BE # 12 AWG COPPER WITH INTEGRAL GREEN INSULATED CONTINUOUS GROUND CONDUCTOR AND BARE BONDING CONDUCTOR IN
- DIRECT CONTACT WITH THE OUTER METAL JACKET. D. THE INSULATION OF ALL CONDUCTORS SHALL BE 90°C RATED
- THERMOPLASTIC WITH COLOR CODING AS FOLLOWS: a. 120/208V SYSTEM

EXCEPT AS NOTED.

- BLACK FOR A PHASE RED FOR B PHASE BLUE FOR C PHASE
- b. 277/480V SYSTEM
- BROWN FOR A PHASE ORANGE FOR B PHASE YELLOW FOR C PHASE
- c. NEUTRAL WIRE SHALL UTILIZE WHITE OUTER COVERING THROUGHOUT. EQUIPMENT GROUND WIRE SHALL UTILIZE GREEN OUTER COVERING THROUGHOUT.
- WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION TO OVERLAP CONDUCTORS WITH 6" OF COLOR TAPING IN ACCESSIBLE
- LOCATIONS. E. ALL EMERGENCY BRANCH CIRCUIT WIRE SHALL BE RUN IN CONDUIT.
- F. PROVIDE FLAMEPROOF LINEN OR FIBER TAGS IN ACCESSIBLE LOCATIONS. FOR FEEDERS INDICATE FEEDER NUMBER, SIZE, PHASE AND POINTS OF ORIGIN AND TERMINATIONS. FOR CONTROL AND ALARM WIRING INDICATE TYPE (CONTROL OR ALARM), SIZE OF WIRE, AND POINTS OF ORIGIN AND TERMINATIONS.
- G. TERMINATIONS, SPLICES AND TAPS UNDER 600V: COPPER CONDUCTORS #10 AND SMALLER SHALL UTILIZE COMPRESSION-TYPE OF TWIST-ON SPRING-LOADED CONNECTORS AND CLEAR NYLON-INSULATED COVERING. COPPER CONDUCTORS #8 AND LARGER SHALL UTILIZE MECHANICAL BOLTED PRESSURE OR HYDRAULIC COMPRESSION TYPE USING MANUFACTURER'S RECOMMENDED TOOLING. CABLE LUGS AND CONNECTORS SHALL UTILIZE COMPRESSION TYPE OF SAME METAL AS CONDUCTOR. PROVIDE TO MATCH CABLE, WITH MARKING INDICATING SIZE AND TYPE. COPPER LUG CONNECTIONS TO BUS BARS: USE ANTI-SEIZE COMPOUND ON
- H. NOT MORE THAN 3 LIGHTING OR CONVENIENCE OUTLET CIRCUITS SHALL BE INSTALLED IN ONE CONDUIT UNLESS OTHERWISE INDICATED. PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS OF 120/208V AND 277/480V SYSTEMS, EXCEPT 460V MOTOR BRANCH CIRCUIT WIRING AND RELATED 120V CONTROL WIRING. THERMOPLASTIC WIRES SHALL NOT BE INSTALLED IN COMPUTER AREA RAISED FLOORS.

12. CONTROL WIRING

DEVICES FURNISHED WITH EQUIPMENT. B. CONTROL WIRING LESS THAN 120V FOR MOTORS, ALARMS FOR EQUIPMENT FURNISHED UNDER MECHANICAL/PLUMBING WILL BE PROVIDED UNDER DIVISION 15 CONTRACT.

A. PROVIDE ALL CONTROL WIRING FOR MOTORS AND EQUIPMENT

FURNISHED UNDER ALL CONTRACTS AND AS SPECIFICALLY SHOWN ON

THE DRAWINGS, EXCEPT AS NOTED FOR MECHANICAL/PLUMBING

EQUIPMENT. INCLUDE MOUNTING AND WIRING OF ALL CONTROL

13. DEVICES

- A. LOCAL SWITCHES
- a. CONVENTIONAL QUITE SINGLE-POLE TOGGLE TYPE, RATED AT 20 AMP, 120/277V AC. PROVIDE SIMILAR TO: P&S #20AC1, COOPER #2221, HUBBELL #CS1221
- b. CONVENTIONAL QUITE THREE-POLE TOGGLE TYPE, RATED AT 20 AMP, 120/277V AC. PROVIDE SIMILAR TO:
- P&S, #20AC3, COOPER #2223, HUBBELL #CS1223 c. THE OWNER OR ARCHITECT SHALL SELECT TOGGLE COLOR.
- B. MANUAL MOTOR STARTERS
- a. FLUSH MOUNTED TYPE WITH INTEGRAL THERMAL OVERLOAD PROTECTION AND PILOT LIGHT. FOR SINGLE POLE, PROVIDE SIMILAR TO: P&S #20AC2-HP, LEVITON #MS302, HUBBELL #HBL7832D
- a. CONVENTIONAL DUPLEX CONVENIENCE 125V, 2 POLE, 3 WIRE, 20A WITH U GROUND SLOT GROUNDED, EXCEPT AS NOTED. PROVIDE P&S #5352, HUBBELL #CR5352, LEVITON #5352, COOPER #5352
- b. GROUND FAULT INTERRUPTER WITH SELF-PROTECTION AND LED INDICATOR LIGHT. PROVIDE SIMILAR TO: P&S #2091, HUBBELL #GF20IL, LEVITON #8898-HGI c. ARCHITECT SHALL SELECT FACE COLOR AND ORIENTATION.

DEVICES USED ON EMERGENCY BRANCH CIRCUITS SHALL BE

d. DEVICE SHALL MEET OR EXCEED

RED FACE ONLY

C. INSERTION RECEPTACLES

- UL FEDERAL SPECIFICATION WC-596 LISTING. NEMA WD-1 AND WD-6
- e. SPECIAL RECEPTACLES
- PROVIDE SPECIAL RECEPTACLES REQUIRED TO MATCH PROVIDED, EXISTING AND NEW EQUIPMENT PLUGS. D. DEVICE PLATES

THE TRADE CONTRACTOR SHALL BE RESPONSIBLE TO

a. BRUSHED 302 STAINLESS STEEL WITH ENGRAVED CIRCUIT

IDENTIFICATION PLATE WHEN USED TOGETHER WITH EMERGENCY BRANCH CIRCUIT DEVICE. REFER TO

SPECIFICATION SECTION 5-A-9. b. REINFORCED THERMOPLASTIC BY SAME MANUFACTURER OF

14. LIGHTING FIXTURES

DEVICES.

- A. MANUFACTURE AND INSTALL LIGHTING FIXTURES IN ACCORDANCE WITH NEC ARTICLE 410.
- B. PROVIDE ALL LIGHTING FIXTURES, CONTROLS AND ACCESSORIES FOR A COMPLETE SYSTEM.
- C. MUSCO LIGHTING IS THE BASIS OF DESIGN.

- A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION SPECIFICATION SECTIONS, APPLY TO WORK OF THIS SECTION.
- B. PROVIDE ALL REQUIRED FIRE STOPPING. WORK INCLUDES FIRE-STOPPING PENETRATIONS OF FIRE-RESISTANCE RATED FLOORS. WALLS AND PARTITIONS IN NEW CONSTRUCTION, AS WELL AS PRE EXISTING PENETRATIONS IN RENOVATION AREAS OF EXISTING
- C. PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT DATA FOR EACH FIRE-STOPPING PRODUCE REQUIRED, INCLUDING INSTRUCTIONS FOR SUBSTRATE PREPARATION AND FIRE-STOPPING INSTALLATION.
- D. FIRE RESISTANT JOINT SEALERS: PROVIDE MANUFACTURER'S STANDARD FIRE-STOPPING SEALANT WITH ACCESSORY MATERIALS. HAVING FIRE RESISTANCE RATINGS INDICATED AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES PER ASTM E814 BY UNDERWRITERS LABORATORY, INC. OR OTHER TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

a. ONE-PART FIRE-STOPPING SEALANT: ONE PART LATEX BASED

PRODUCTS/MANUFACTURERS INCLUDE THE FOLLOWING:

INTUMESCENT SEALANT FORMULATED FOR USE IN A THROUGH-PENETRATION FIRE-STOP SYSTEM FOR SEALING OPENINGS AROUND CABLES, CONDUIT, PIPES AND SIMILAR PENETRATIONS

THROUGH WALLS AND FLOORS. ACCEPTABLE

E. MATERIALS - PROVIDE THE FOLLOWING:

SPEC SEAL LC150 SERIES HILTI FS ONE

CIRCUIT CONDITIONS.

A. BEFORE MAKING TESTS, COMPLETE ALL CONNECTIONS AT PANELS, FIXTURES AND OTHER EQUIPMENT. INSTALL FUSES AND HAVE ALL WIRING CONTINUOUS FROM SERVICE EQUIPMENT TO UTILIZATION

OUTLETS. CORRECT ALL UNDESIRABLE GROUND, OPEN AND SHORT

- B. PROVIDE SOURCE OF TEMPORARY POWER FOR MAKING TESTS IF NORMAL BUILDING POWER IS NOT AVAILABLE AT THE TIME.
- C. TAKE AND RECORD THE FOLLOWING READINGS ON SYSTEMS 600V

a. PERFORM CONTINUITY AND INSULATION TESTS. MEGGER TESTS

- OF ALL FEEDER CIRCUIT CONDUCTORS, GROUND CONDUCTORS, AND CONDUIT GROUND. MEGGER TEST 10% OF BRANCH CIRCUITS AND ALL MOTOR BRANCH CIRCUITS OVER 25 HP. b. AMMETER READINGS ON ALL PHASES AND NEUTRAL OF EACH
- FEEDER TO INDICATE BALANCE. c. AMMETER READINGS ON ALL PHASES OF EACH POLYPHASE MOTOR. INCLUDE NAMEPLATE FULL LOAD CURRENT OF EACH MOTOR ON DATA SHEET.
- ACCORDANCE WITH DATA SHOWN ON THE DRAWINGS AND/OR MANUFACTURER'S RECOMMENDED SETTING.

D. SEND FINAL CERTIFIED TEST REPORTS AND CERTIFICATIONS TO THE

d. CERTIFY THAT ALL OVERLOAD DEVICES HAVE BEEN SET IN

ARCHITECT FOR APPROVAL AND TRANSMITTAL TO THE OWNER. 17. DEMONSTRATION OF COMPLETE ELECTRICAL SYSTEMS

A. SUBMIT WRITTEN CERTIFICATION THAT ELECTRICAL SYSTEMS ARE

COMPLETE AND OPERATIONAL. SUBMIT CERTIFICATION WITH

a. AT THE TIME OF FINAL REVIEW OF ELECTRICAL WORK,

CONTRACTOR'S REQUEST FOR FINAL REVIEW.

DEMONSTRATE THE OPERATION OF ELECTRICAL SYSTEMS. FURNISH LABOR. APPARATUS AND EQUIPMENT FOR SYSTEMS' DEMONSTRATION. THE VARIOUS TEST SHALL BE WITNESSED BY AND THE OWNER OR HIS REPRESENTATIVE. B. THE CONTRACTOR SHALL FURNISH ALL TEST EQUIPMENT. MATERIALS, LABOR, AND TEMPORARY POWER HOOK-UPS TO PERFORM START-UP AND ALL TESTS AS REQUIRED TO OBTAIN FINAL

REPRESENTATIVE. ALL TEST PROCEDURES SHALL CONFORM TO

THIS SPECIFICATION AND APPLICABLE STANDARDS THE ANSI, IEEE,

NEMA, OSHA, NEPA, ETC C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTS AND TEST RECORD. TESTING SHALL BE PERFORMED BY AND UNDER THE IMMEDIATE SUPERVISION OF THE CONTRACTOR. TEST RECORD SHALL BE KEPT FOR EACH PIECE OF EQUIPMENT. COPIES SHALL BE FURNISHED TO THE ENGINEER FOR REVIEW AND/OR APPROVAL.

D. A VISUAL INSPECTION OF ALL ELECTRICAL EQUIPMENT, TO CHECK

WITH SPECIFICATION, ETC., SHALL BE MADE PRIOR TO ACTUAL

CONNECTION, PROPER GROUNDING, MATCHING NAMEPLATE CHARTS

FOR THE FOREIGN MATERIAL. TIGHTNESS OR WIRING AND

FIELD ACCEPTANCE FROM OWNER. ALL TESTS SHALL BE

CONDUCTED IN THE PRESENCE OF THE OWNER OR HIS

E. A COMPLETE OPERATIONAL TEST SHALL BE MADE ON THE REVISED LIFE SAFETY FIRE ALARM SYSTEM. THE CONTRACTOR SHALL CONSULT WITH THE EQUIPMENT VENDORS AND THEN SUBMIT FOR APPROVAL A STEP-BY-STEP PROCEDURE DESCRIBING THE METHOD OF MAKING THE TESTS. THE EQUIPMENT TO BE UTILIZED AND THE FEATURE TO BE CHECKED BY THE TEST. ALL INTERLOCKS AND PROTECTIVE FEATURES SHALL BE CHECKED OUT.

18. SPECIAL ENGINEERING SERVICES

- A. IN THE INSTANCE OF COMPLEX OR SPECIALIZED ELECTRICAL SYSTEMS SUCH AS EMERGENCY SYSTEM FIRE ALARM OR SIMILAR MISCELLANEOUS SYSTEMS, THE INSTALLATION, FINAL CONNECTIONS AND TESTING OF SUCH SYSTEMS SHALL BE MADE UNDER THE DIRECT SUPERVISION OF COMPETENT AUTHORIZED SERVICE ENGINEERS WHO SHALL BE IN THE EMPLOY OF THE RESPECTIVE EQUIPMENT MANUFACTURER.
- B. ANY AND ALL EXPENSES INCURRED BY THESE EQUIPMENT MANUFACTURERS' REPRESENTATIVES RELATED TO THIS PROJECT, SHALL BE BORNE BY THE ELECTRICAL CONTRACTOR.

19. DESIGN MODIFICATIONS

A. THE DRAWINGS SHOW ELECTRICAL SYSTEMS, WHICH SUPPLY CONTROL, AND/OR MONITOR SYSTEMS SPECIFIED ELSEWHERE. THE ELECTRICAL SYSTEM SHOWN HAS BEEN BASED ON SPECIFIC MANUFACTURERS DATA OR INFORMATION CONVEYED TO THE ELECTRICAL DESIGNER. WHERE ANY AGREEMENT OR CHANGE IS MADE TO SUPPLY EQUIPMENT OF LARGER CAPACITY OR DIFFERENT ELECTRICAL CHARACTERISTICS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE ELECTRICAL SYSTEM TO AFFECT SUCH CHANGES WITHIN THE INTENT OF THESE SPECIFICATIONS AND TO INFORM THE ENGINEER. IN WRITING, OF SUCH CHANGE. FOR EXAMPLE, IF HVAC COMPRESSORS AND/OR MOTORS ARE ALLOWED TO BE CHANGED TO 230V RATHER THAN THE ORIGINALLY SPECIFIED 208 VOLTS, BOOSTING OR BUCKING TRANSFORMERS SHALL BE SUPPLIED, INSTALLED, AND WIRED TO ACCOMMODATE THE CHANGE AT NO ADDITIONAL COST.

OR LEGAL EXPOSURE TO PENNONI ASSOCIATE; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGE LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM. KLMLX20001 02/24/2023 RAWING SCALE AS NOTED

ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTI

TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS
THE EXTENSIONS OF THE PROJECT OR ON ANY OTH

PROJECT. ANY REUSE WITHOUT WRITTEN
VERIFICATION OR ADAPTATION BY PENNONI

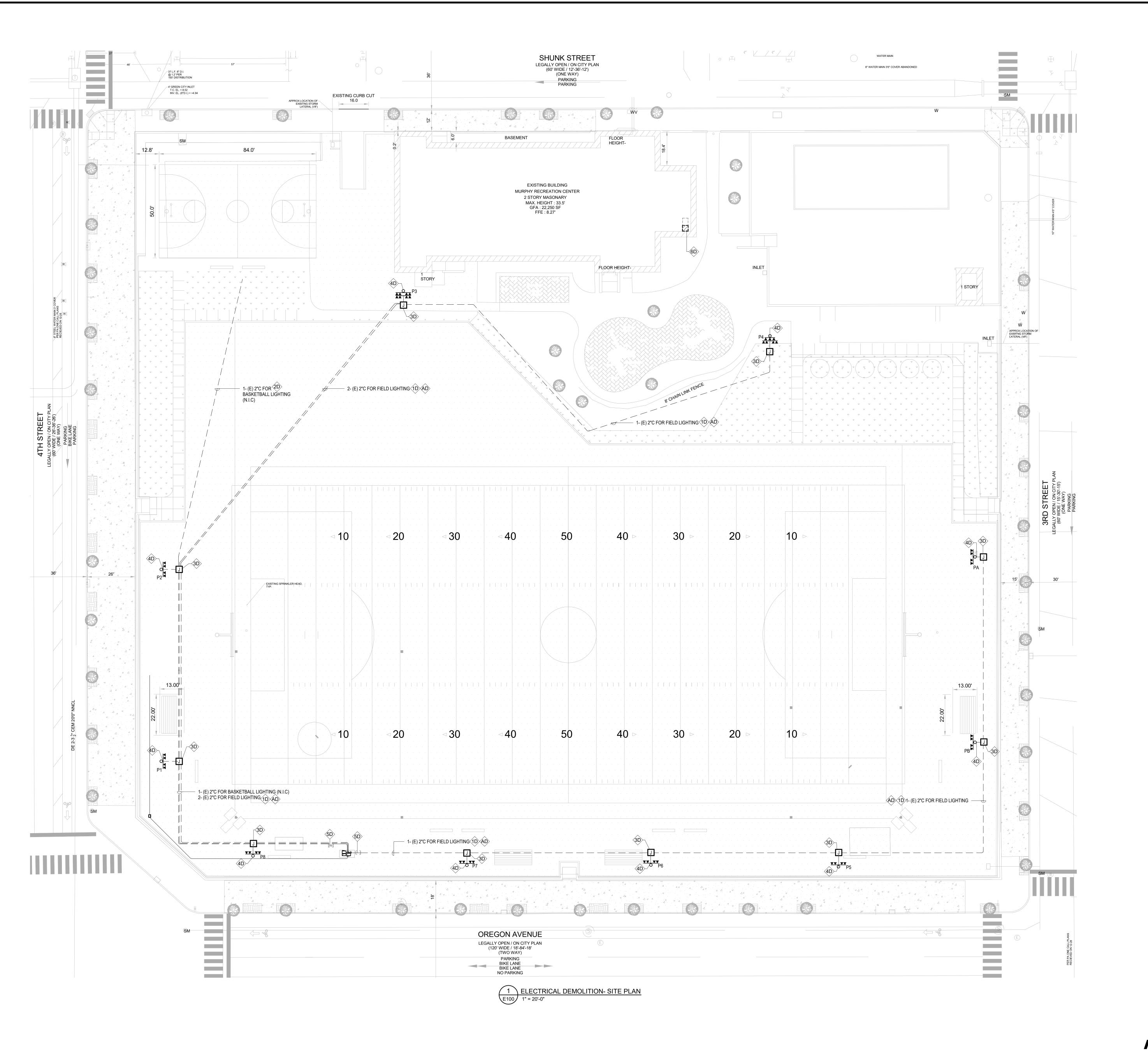
ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDEI
WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILI

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RAWN BY

DATE: 02/24/2023

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GENERAL NOTES

 DISCONNECT POWER PRIOR TO PERFORMING WORK IN ACCORDANCE WITH NFPA 70E.

2. COORDINATE WORK WITH ALL OTHER TRADES PERFORMING

WORK ON THE SITE.

DEMOLITION NOTES

- 1D EXISTING 2" CONDUITS FOR FIELD LIGHTING TO REMAIN FOR USE IN NEW WORK PHASE. REMOVE ALL CABLE FOR FIELD LIGHTING FROM THE EXISTING CONDUIT. CABLE FOR EXISTING VANDAL LIGHTS TO REMAIN IN EXISTING CONDUIT.
- 2D EXISTING 2" CONDUIT AND CABLE FOR BASKETBALL LIGHTING TO REMAIN. BASKETBALL COURT LIGHTING AND ALL ASSOCIATED EQUIPMENT ARE NOT IN CONTRACT (N.I.C).
- 3D REMOVE EXISTING 8-12" OF FILL AND EXPOSE EXISTING JUNCTION BOXES LABELED "ELECTRIC" LOCATED AT EACH LIGHT POLE FOR USE IN NEW WORK PHASE.
- 4D DISCONNECT AND REMOVE ALL FIELD LIGHT FIXTURES FROM POLE. EXISTING VANDAL LIGHTS AND CABLE TO REMAIN. EXISTING POLE AND ALL ASSOCIATED EQUIPMENT TO REMAIN FOR REUSE IN NEW WORK PHASE.
- 5D EXPOSE CONDUIT IN AREA AND REMOVE FOR HANDHOLE INSTALLATION IN NEW WORK PHASE.
- 6D PRIOR TO THE START OF DEMOLITION WORK, TRACE OUT ALL EXISTING LIGHTING CONTROLS. VANDAL LIGHTING CONTROLS AND BASKETBALL LIGHTING CONTROLS TO REMAIN. CONFIRM 200A CONTACTOR FROM MDP SERVICES ONLY THE FIELD LIGHTS ON THE 10 EXISTING POLES. REMOVE FIELD LIGHTING CONTROLLER.

ALT DEMOLITION NOTES

AD ALTERNATE A - DETERM FIELD LIGHTING WIRES AND REMOVE FROM POLE, ABANDON WIRES IN EXISTING 2" CONDUIT. CABLE FOR EXISTING VANDAL LIGHTS TO REMAIN IN EXISTING 2" CONDUIT.

GENERAL 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 UNFORSEEN 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 POWER SOURCE.
- 3. DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. PATCH, REPAIR OR BUILDING SURFACES TO THEIR ORIGINAL CONDITION. ALL PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP, AND FINISH, AND SHALL ACCURATELY MATCH ALL SURROUNDING
- 4. ALL EXISTING SYSTEMS WHICH BECOME EXPOSED DURING THE ALTERATION WORK SHALL BE REMOVED AND REROUTED CONCEALED BEHING FINISHED SURFACES.
- 5. NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECT DEOMLITION AND PHASING SCHEDULE TSO THAT REMOCAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS. FOLLOW CLOSELY THE ARCHITECT'S DEMOLITION AND PHASING SCHEDULE AND PROCEED IN THE SPECIFIED SEQUENCE.
- 6. 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 LEGAL MANNER BY THE ELECTRICAL CONTRACTOR, AS DIRECTED BY THE OWNER. ITEMS SALVAGED SHALL BE CAREFULLY REMOVED AND STORED AT LOCATIONS DIRECTED BY THE OWNER.
- 7. 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 WTH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF THE OWNER. NOTIFICATION MUST BE GIVEN AT LEAST 5 DAYS PRIOR TO SHUT DOWN. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN
- 8. OPERATION OF EXISITNG FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN A NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE F WIRING CONTINUITY AS REQUIRED.
- 9. ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVERTIME, IF REQUIRED, TO ASSURE THAT SUSTEMS 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 CONTRACT SPECIFICATION.
- 11. SURVEY AND RECORD THE CONDITION OF THE 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
- 12. EXISTING WORK THAT IS TO BE REMOVED SHALL BE LEGALLY DISPOSED OF. ALL WORK TO BE DISPOSED OF SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE.
- 13. IF WORK REQUIRES THE INTERRUPTION OF FIRE ALARM AND FIRE PROTECTION SYSTEMS, ARRANGE WITH OWNER TO CONDUCT A FIRE WATCH WHILE THESE SYSTEMS ARE OUT OF SERVICE.

CONSULT WITH THE FIRE MARSHALL PRIOR TO FIRE WATCH.

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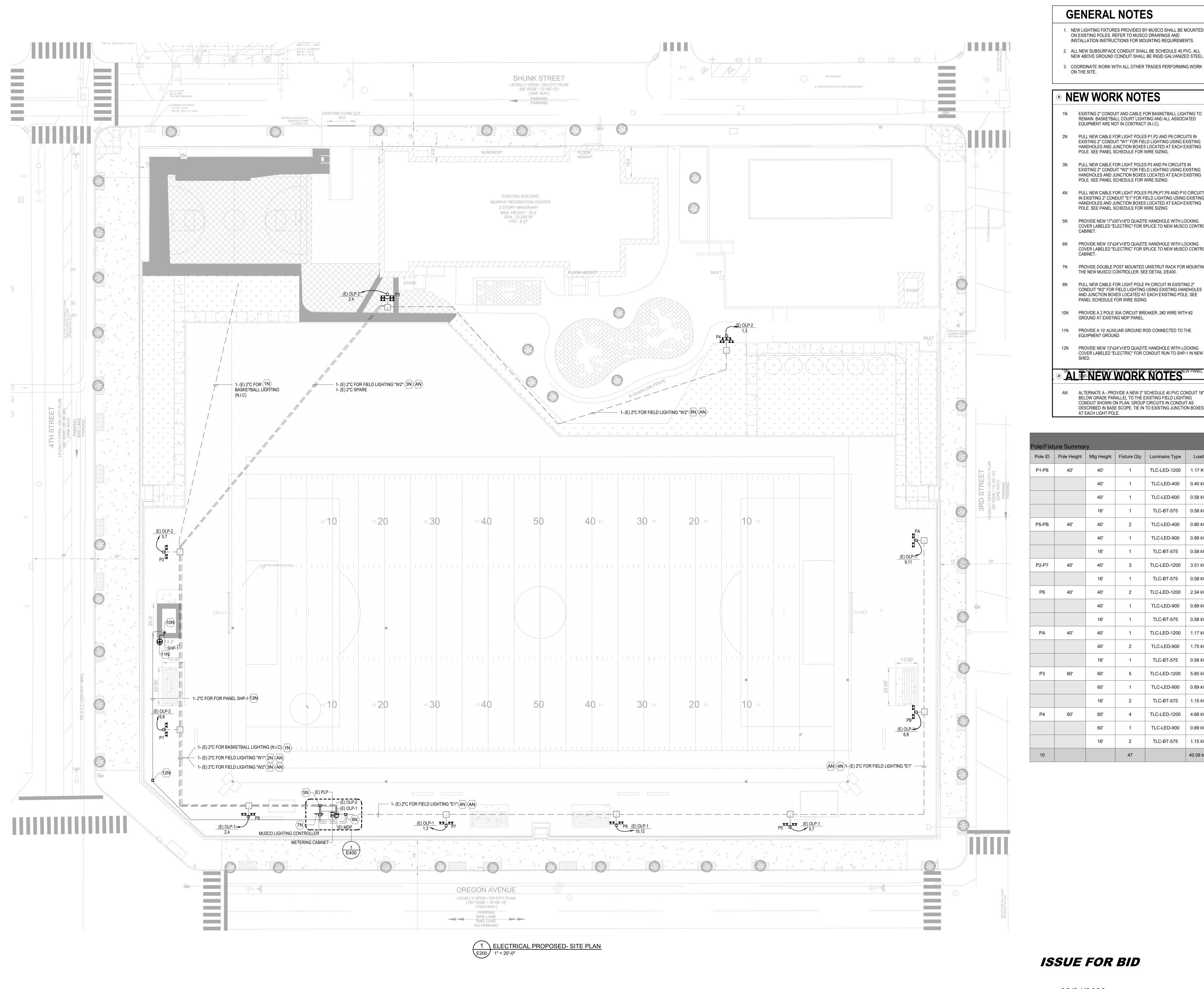
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS (THE EXTENSIONS OF THE PROJECT OR ON ANY OTHE PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI

PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM. KLMLX20001 02/24/2023 AS NOTED DRAWING SCALE

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ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDEI WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILI

OR LEGAL EXPOSURE TO PENNONI ASSOCIATE; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS



GENERAL NOTES

1. NEW LIGHTING FIXTURES PROVIDED BY MUSCO SHALL BE MOUNTED ON EXISTING POLES. REFER TO MUSCO DRAWINGS AND

INSTALLATION INSTRUCTIONS FOR MOUNTING REQUIREMENTS. 2. ALL NEW SUBSURFACE CONDUIT SHALL BE SCHEDULE 40 PVC, ALL NEW ABOVE GROUND CONDUIT SHALL BE RIGID GALVANIZED STEEL.

3. COORDINATE WORK WITH ALL OTHER TRADES PERFORMING WORK

NEW WORK NOTES

- 1N EXISTING 2" CONDUIT AND CABLE FOR BASKETBALL LIGHTING TO REMAIN. BASKETBALL COURT LIGHTING AND ALL ASSOCIATED EQUIPMENT ARE NOT IN CONTRACT (N.I.C).
- 2N PULL NEW CABLE FOR LIGHT POLES P1,P2 AND P8 CIRCUITS IN EXISTING 2" CONDUIT "W1" FOR FIELD LIGHTING USING EXISTING
- 3N PULL NEW CABLE FOR LIGHT POLES P3 AND P4 CIRCUITS IN EXISTING 2" CONDUIT "W2" FOR FIELD LIGHTING USING EXISTING HANDHOLES AND JUNCTION BOXES LOCATED AT EACH EXISTING POLE. SEE PANEL SCHEDULE FOR WIRE SIZING
- 4N PULL NEW CABLE FOR LIGHT POLES P5,P6,P7,P9 AND P10 CIRCUITS IN EXISTING 2" CONDUIT "E1" FOR FIELD LIGHTING USING EXISTING HANDHOLES AND JUNCTION BOXES LOCATED AT EACH EXISTING POLE. SEE PANEL SCHEDULE FOR WIRE SIZING
- 5N PROVIDE NEW 17"x30"x18"D QUAZITE HANDHOLE WITH LOCKING COVER LABELED "ELECTRIC" FOR SPLICE TO NEW MUSCO CONTROL
- 6N PROVIDE NEW 13"x24"x18"D QUAZITE HANDHOLE WITH LOCKING COVER LABELED "ELECTRIC" FOR SPLICE TO NEW MUSCO CONTROL
- 7N PROVIDE DOUBLE POST MOUNTED UNISTRUT RACK FOR MOUNTING THE NEW MUSCO CONTROLLER. SEE DETAIL 2/E400.
- 8N PULL NEW CABLE FOR LIGHT POLE P4 CIRCUIT IN EXISTING 2" CONDUIT "W2" FOR FIELD LIGHTING USING EXISTING HANDHOLES AND JUNCTION BOXES LOCATED AT EACH EXISTING POLE. SEE PANEL SCHEDULE FOR WIRE SIZING
- 10N PROVIDE A 2 POLE 30A CIRCUIT BREAKER, 2#2 WIRE WITH #2 GROUND AT EXISTING MDP PANEL.
- 11N PROVIDE A 10' AUXILIAR GROUND ROD CONNECTED TO THE EQUIPMENT GROUND.
- 12N PROVIDE NEW 13"x24"x18"D QUAZITE HANDHOLE WITH LOCKING COVER LABELED "ELECTRIC" FOR CONDUIT RUN TO SHP-1 IN NEW

ALSP-NEW WORK NOTES

AN ALTERNATE A - PROVIDE A NEW 2" SCHEDULE 40 PVC CONDUIT 18" BELOW GRADE PARALLEL TO THE EXISTING FIELD LIGHTING CONDUIT SHOWN ON PLAN. GROUP CIRCUITS IN CONDUIT AS DESCRIBED IN BASE SCOPE. TIE IN TO EXISTING JUNCTION BOXES AT EACH LIGHT POLE.

Pole/Fixt	ure Summa	ry			
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load
P1-P8	40'	40'	1	TLC-LED-1200	1.17 Kw
		40'	1	TLC-LED-400	0.40 kW
		40'	1	TLC-LED-600	0.58 kW
		16'	1	TLC-BT-575	0.58 kW
P5-PB	40'	40'	2	TLC-LED-400	0.80 kW
		40'	1	TLC-LED-900	0.89 kW
		16'	1	TLC-BT-575	0.58 kW
P2-P7	40'	40'	3	TLC-LED-1200	3.51 kW
		16'	1	TLC-BT-575	0.58 kW
P6	40'	40'	2	TLC-LED-1200	2.34 kW
		40'	1	TLC-LED-900	0.89 kW
		16'	1	TLC-BT-575	0.58 kW
PA	40'	40'	1	TLC-LED-1200	1.17 kW
		40'	2	TLC-LED-900	1.75 kW
		16'	1	TLC-BT-575	0.58 kW
P3	60'	60'	5	TLC-LED-1200	5.85 kW
		60'	1	TLC-LED-900	0.89 kW
		16'	2	TLC-BT-575	1.15 kW
P4	60'	60'	4	TLC-LED-1200	4.68 kW
		60'	1	TLC-LED-900	0.89 kW
		16'	2	TLC-BT-575	1.15 kW
10			47		40.09 kW

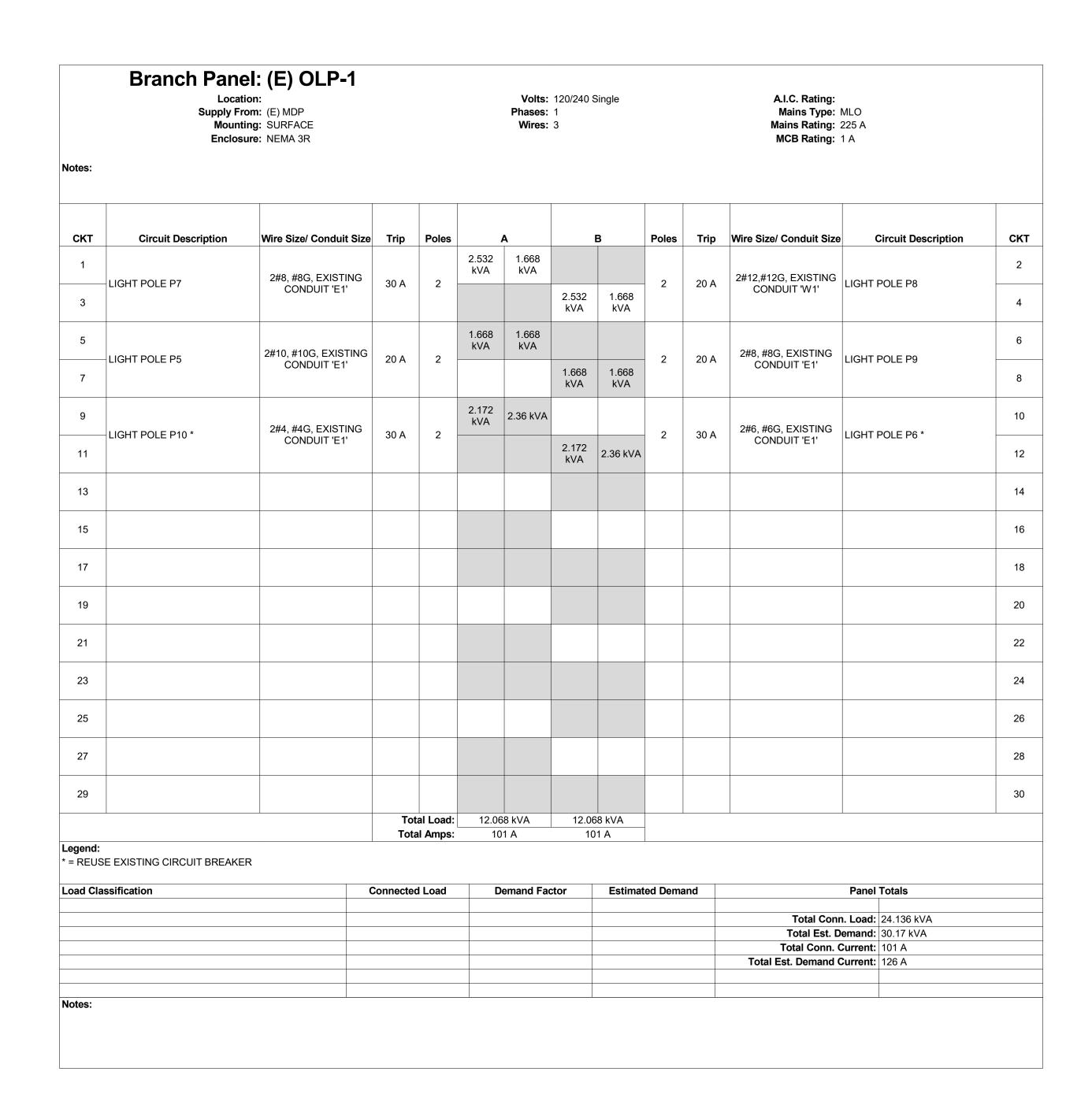
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OR LEGAL EXPOSURE TO PENNONI ASSOCIATE: AND OR LEGAL EXPOSURE TO PENNONI ASSOCIATE; AND
OWNER SHALL INDEMNIFY AND HOLD HARMLESS
PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES,
LOSSES AND EXPENSES ARISING OUT OF OR
RESULTING THEREFROM.

KLMLX20001 AS NOTED DRAWING SCALE

E200



	Branch Panel: (E) MDP Location: Supply From: Mounting: SURFACE Enclosure:		Volts: 120/240 Phases: 1 Wires: 3	Single		A.I.C. Rating: Mains Type: MLO Mains Rating: 400 A MCB Rating:			
otes: XISTIN	NG PANEL MDP SCHEDULE PROVIDED FOR INFORMA	ATION ONI	_Y.						
СКТ	Circuit Description	Trip	Poles	t Schedule Circui Notes	t Schedule Circu Notes	it Poles	Trip	Circuit Description	СКТ
1									2
3									4
5									6
7									8
9									10
11	CUD 4	20.4	2				400 4	DANEL DLD	12
13	- SHP-1	30 A	2			2	100 A	PANEL PLP	14
15	DANEL OLD 4	450.4	0				450 A	PANEL OLP-2	16
17	- PANEL OLP-1	150 A	2			2	150 A	PAINEL ULP-2	18

	Locat Supply Fr Mount Enclos			Phases: Wires:		Jingle			A.I.C. Rating: Mains Type: MLO Mains Rating: 225 A MCB Rating: 1 A			
Notes:												
СКТ	Circuit Description	Wire Size/ Conduit Siz	ze Trip	Poles		Ą		В	Poles	Trip	Wire Size/ Conduit Size Circuit Description	Ск
1 L	IGHT POLE P4	2#1, #4G, EXISTING	50 A	2	4.152 kVA	4.872 kVA			2	60 A	2#2, #4G, EXISTING LIGHT POLE P3	2
3		CONDUIT 'W2'					4.152 kVA	4.872 kVA			CONDUIT 'W2'	4
5	IGHT POLE P2 *	2#8, #8G, EXISTING	30 A	2	2.532 kVA	1.668 kVA			2	20 A	2#10, #10G, EXISTING LIGHT POLE P1	6
7	IGITI FOLL F2	CONDUIT 'W1'	30 A	2			2.532 kVA	1.668 kVA	2	20 A	CONDUIT 'W1'	8
9						0 kVA			1	20 A	2#12, #12G, 1"C MUSCO CONTROL PANEL	1
11												1
13												1
15												1
17												1
19												2
21												2
23												2
25												2
27												2
29												3
				al Load:		4 kVA 0 A		24 kVA 0 A				
_egend: = REUSE I	EXISTING CIRCUIT BREAKE	:R										
oad Class	ification		Connecte 0 kV		D	emand Fac	ctor		ted Dema 0 kVA	nd	Panel Totals	
other			U KV.	-		076			UKVA		Total Conn. Load: 26.448 kVA Total Est. Demand: 33.06 kVA Total Conn. Current: 110 A Total Est. Demand Current: 138 A	

	Branch Panel: (E) PLP Location: Supply From: (E) MDP Mounting: Enclosure:		Volts: 120/240 Single Phases: 1 Wires: 3							A.I.C. Rating: Mains Type: MLO Mains Rating: 100 A MCB Rating:				
tes: ISTIN	es: STING PANEL PLP SCHEDULE PROVIDED FOR INFORMATION ONLY.													
KT	Circuit Description	Trip	Poles		e Circuit tes		e Circuit tes	Schedul No	e Circuit tes	Poles	Trip	Circuit Description	скт	
1	/EVV/ANDALLICHTS	20.4									20.4	(E) VANDALLICHTS	2	
3	(E) VANDAL LIGHTS	30 A	2							2	20 A	(E) VANDAL LIGHTS	4	
5	(E) OUTLETS	20 A	1							1	20 A	CONTROL	6	
7	SPARE	20 A	1							1	20 A	SPARE	8	
9													10	
1	(E) BASKETBALL LIGHTS	30 A	2							2	20 A	SPARE	12	
3		05:										A SPARE	14	
15	(E) BASKETBALL LIGHTS	30 A	2							2	20 A		16	
7	SPACE											SPACE	18	
9	SPACE											SPACE	20	

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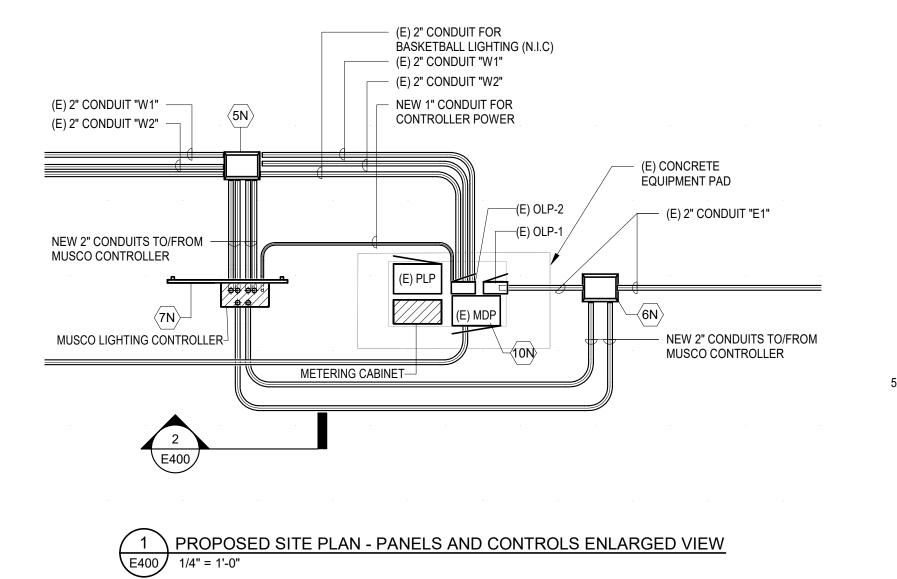
DRAWING SCALE

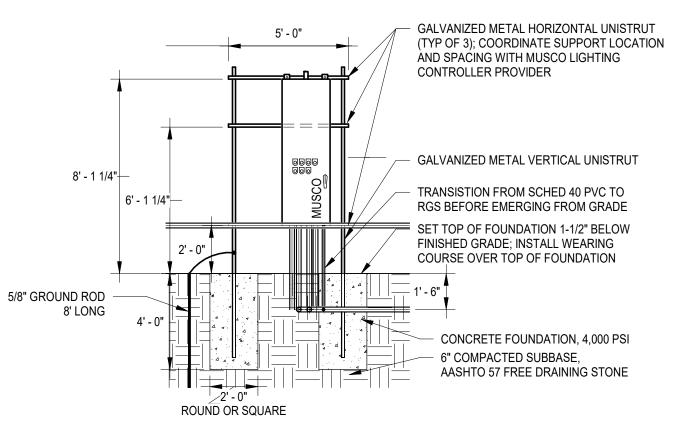
AS NOTED

E300

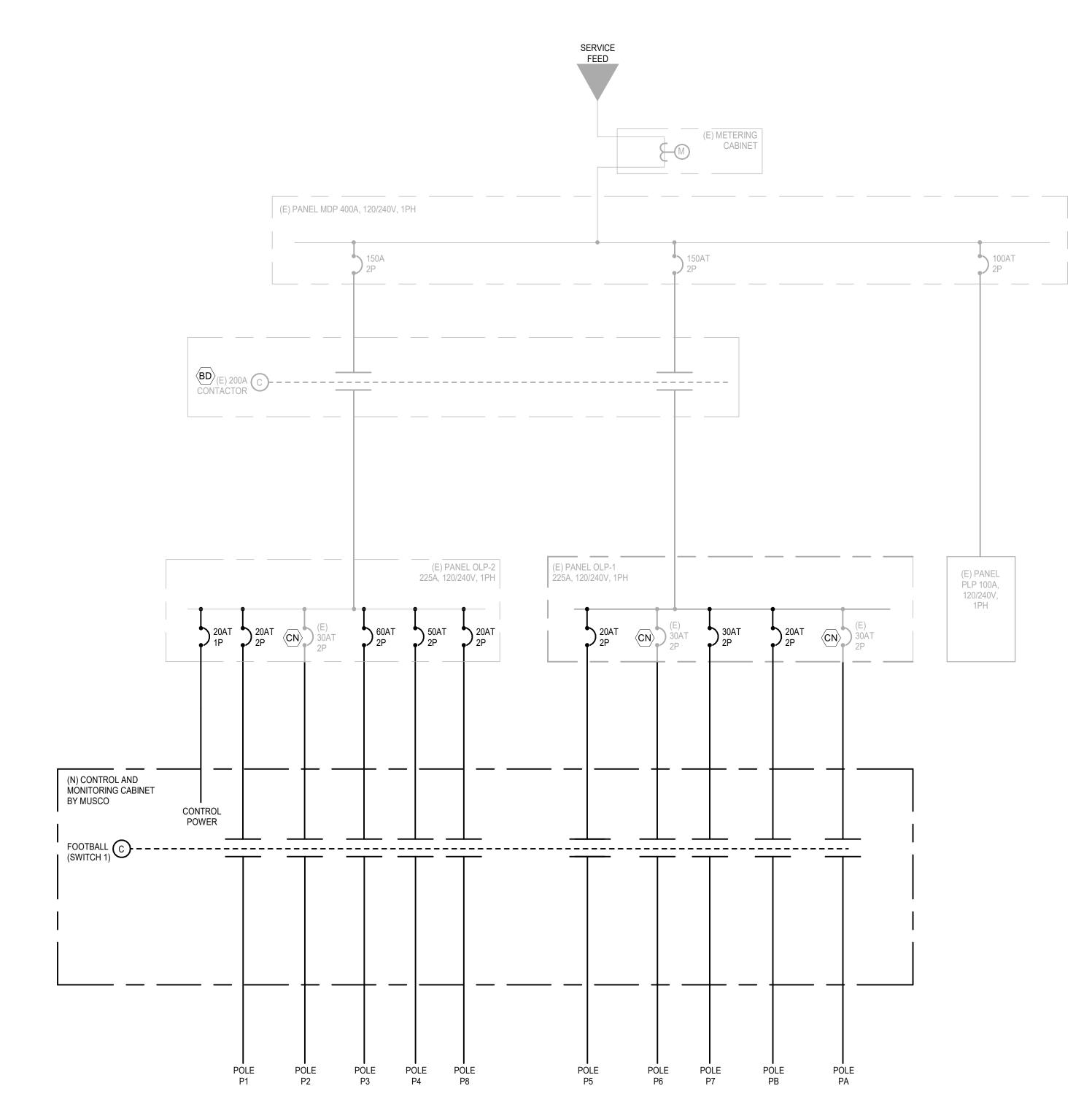
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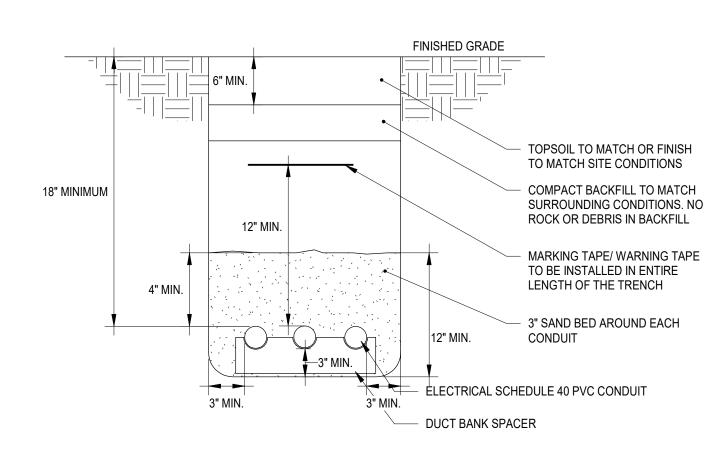








3 ELECTRICAL PROPOSED - SINGLE LINE DIAGRAM
E400 12" = 1'-0"



4 ALTERNATE A - CONDUIT DUCT BANK

NOTES:

- 1. CONDUIT SIZES AND QUANTITIES IN THIS DETAIL ARE GENERAL. REFER TO
- PLANS FOR SPECIFIC REQUIREMENTS. REPAIR ALL SETTLEMENT.
- 3. BACKFILL TRENCH IN 6" LAYERS COMPACTED TO 90% DENSITY. SHALL BE FREE FROM LOOSE DEBRIS CINDERS, VEGATATIONS OR STONES LARGER
- 4. NO MATERIAL LARGER THAN 1" SHALL BE PLACED WITHIN 6" OF CONDUIT. 5. IF REQUIRED DEPTH CANNOT BE ACCHIEVED A CONCRETE PROTECTION
- COVER OF CONDUIT MAY BE USED. 6. MAINTAIN 12" VERTICAL OR HORIZONTAL SEPARATION BETWEEN CONDUIT AND ANY OTHER UTILITIES LIKE STORM WATER.

NEW WORK NOTES

- 5N PROVIDE NEW 17"x30"x18"D QUAZITE HANDHOLE WITH LOCKING COVER LABELED "ELECTRIC" FOR SPLICE TO NEW MUSCO CONTROL
- 6N PROVIDE NEW 13"x24"x18"D QUAZITE HANDHOLE WITH LOCKING COVER LABELED "ELECTRIC" FOR SPLICE TO NEW MUSCO CONTROL
- 7N PROVIDE DOUBLE POST MOUNTED UNISTRUT RACK FOR MOUNTING
- 10N PROVIDE A 2 POLE 30A CIRCUIT BREAKER, 2#2 WIRE WITH #2 GROUND AT EXISTING MDP PANEL.

THE NEW MUSCO CONTROLLER. SEE DETAIL 2/E400.

ALT NEW WORK NOTES

- BD ALTERNATE B REMOVE EXISTING 200A CONTACTOR AND EXISTING CONTROL IN THE MAINTENANCE OFFICE AND ABANDON WIRE. REMOVE OLP-1 AND OLP-2 FEEDER WIRE AND REPLACE WITH NEW.
- CN ALTERNATE C PROVIDE ALL NEW BREAKERS FOR ALL NEW CIRCUITS IN OLP-1 AND OLP-2.

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- 1. ALL CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE 2018, AND TO ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS INCLUDING, BUT NOT LIMITED TO ALL APPLICABLE OSHA AND ADA
- 2. BEFORE ANY CONSTRUCTION WORK IS STARTED, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE PERTINENT AGENCIES.
- 3. DURING DEMOLITION AND CONSTRUCTION, OPERATIONS SHALL BE PERFORMED IN SUCH A MANNER THAT THE AREAWAY SHALL BE WELL DRAINED AT ALL TIMES. SUFFICIENT MEASURES SHALL BE PERFORMED DURING THE PROGRESS OF THE 23. GENERAL TESTING AND INSPECTIONS AS DELINEATED IN THE SPECIFICATIONS WORK SO THAT NO WATER, AT ANY TIME, IS ALLOWED TO COLLECT WITHIN THE
- 4. THE CONTRACTOR SHALL PROVIDE AND CONTINUOUSLY OPERATE AND MAINTAIN ALL TEMPORARY DEWATERING, DRAINAGE AND PUMPING SYSTEMS REQUIRED TO
- SATISFACTORILY PERFORM ALL WORK UNDER THE CONTRACT.
- 6. WHERE ALTERATIONS INVOLVE ANY EXISTING STRUCTURE, THE CONTRACTOR SHALL DESIGN AND CONSTRUCT TEMPORARY SUPPORT AND PROTECTION SYSTEMS DESIGNED TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE EXISTING 25. SPECIAL INSPECTIONS, INCLUDING SITE OBSERVATION OF THE STRUCTURAL
- 7. DESIGN AND CONSTRUCTION OF ANY TEMPORARY OR PERMANENT SUPPORT AND PROTECTION SYSTEMS REQUIRED DURING ANY CONSTRUCTION WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL ENGINEER TO DESIGN SUCH SYSTEMS.
- 8. CONSTRUCTION PROCEDURES, INCLUDING, BUT NOT LIMITED TO MEANS, METHODS, COORDINATION AND SAFETY ARE THE SOLE RESPONSIBILITY OF THE
- 9. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFICATION OF ALL EXISTING CONDITIONS AND ALL DIMENSIONS, INCLUDING VERIFYING CONTROLLING CONDITIONS, CONSTRUCTION DATA, UTILITIES AND ALL EXISTING INFORMATION INDICATED ON THE CONTRACT DOCUMENTS. UNLESS OTHERWISE NOTED, ALL LAYOUT, LINE AND GRADE IS THE RESPONSIBILITY OF THE CONTRACTOR. NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION, FABRICATION OR PROCUREMENT OF
- 10. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR ALL PERSONS AND PROPERTY IN, AROUND AND ADJACENT TO THE CONSTRUCTION AREA. ADEQUATE BARRIERS SHALL BE PROVIDED TO EXERCISE CONTROL OF SAFE TRAFFIC FLOWS, AS WELL AS SAFE INGRESS AND EGRESS OF BUILDING AND SITE. FIRE EXITS, DRIVEWAYS AND FIRE LANES SHALL AT NO TIME BE BLOCKED. CORDON ALL AREAS AROUND OR ADJACENT TO CONDITIONS WHICH REPRESENT A HAZARD TO PERSONS OR PROPERTY.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PATCHING AND REPAIRS RESULTING FROM DEMOLITION OPERATIONS OR ANY INCIDENTAL DAMAGE TO ADJACENT PROPERTY DURING CONSTRUCTION. ALL PATCHING AND REPAIR WORK SHALL MATCH ADJACENT MATERIALS AND FINISHES.
- 12. THE CONTRACTOR SHALL PREPARE ONE SET OF MARKED DRAWINGS WITH AS-BUILT INFORMATION FOR RETURN TO THE OWNER.
- 13. ALL COSTS OF INVESTIGATION, REDESIGN AND DOCUMENTATION DUE TO CONTRACTOR IMPROPER INSTALLATION OF STRUCTURAL ELEMENTS OR OTHER ITEMS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- 14. ALL COSTS OF REVISIONS REQUESTED FOR THE CONTRACTOR'S CONVENIENCE SHALL BE AT THE CONTRACTOR'S EXPENSE.
- 15. THE CONTRACTOR SHALL COORDINATE AND WORK ALL DRAWINGS TOGETHER. 16. CONTRACTOR TO REFER TO THE ARCHITECTURAL DRAWINGS FOR DETAILS
- RELATED TO DRAINAGE, INSULATION AND WATERPROOFING. 17. DO NOT SCALE DRAWINGS.
- 18. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED 4 TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE
- 19. ALL MATERIALS SHALL BE STORED TO PROTECT THEM FROM EXPOSURE TO THE 5. THE CONTRACTOR IS RESPONSIBLE FOR THE PRODUCTION OF DESIGN AND ELEMENTS.
- 20. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY REMOVAL AND REPLACEMENT OF EXTERIOR OBSTRUCTIONS, INCLUDING BUT NOT LIMITED TO, EXTERIOR LIGHTING AND ASSOCIATED CONDUIT AS REQUIRED FOR COMPLETION

- OF CONSTRUCTION. RE-ROUTE AS REQUIRED. ANY REPLACEMENT OF ELECTRICAL FEATURES TO BE IN ACCORDANCE WITH THE LATEST VERSION OF THE NATIONAL 6. ALL SHEETING, SHORING AND BRACING SYSTEMS SHALL BE DESIGNED BY A ELECTRICAL CODE.
- 21. MINOR DETAILS OR INCIDENTAL ITEMS NOT SHOWN OR SPECIFIED, BUT WORK INDICATED SHALL BE PROVIDED AS REQUIRED.
- 22. ACCEPTANCE OF CONSTRUCTION CONFORMANCE TO THE APPLICABLE STANDARDS AND CODES IS THE RESPONSIBILITY OF THE OWNER. TO MAINTAIN ADEQUATE FIELD QUALITY CONTROL, FULL-TIME CONSTRUCTION INSPECTION IS RECOMMENDED. CONSTRUCTION UNDERTAKEN WITHOUT SUCH INSPECTION SHALL BE AT THE OWNER'S RISK.
- AND THESE GENERAL NOTES SHALL BE THE REPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE, AS INDICATED, FOR CERTAIN SPECIFIC TESTS AND INSPECTIONS. EACH RESPECTIVE PARTY SHALL ENGAGE A TESTING AND INSPECTION AGENCY TO PROVIDE THE REQUIRED TESTING AND INSPECTION SERVICES.
- 5. ALL CONSTRUCTION WORK IS TO BE PERFORMED BY QUALIFIED, EXPERIENCED 24. THE OWNER OR THE OWNER'S CONSTRUCTION REPRESENTATIVE RESERVES THE RIGHT TO INSPECT ANY PORTION OF THE WORK AND REQUEST CORRECTION TO THE OWNER'S SATISFACTION FOR ALL WORK NOT COMPLETED IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS.
 - ASPECTS OF THE PROJECT, SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER. INSPECTION OR SITE OBSERVATION OF WORK BY THE SPECIAL INSPECTOR DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF CONFORMING TO THE DRAWINGS AND SPECIFICATIONS FOR ALL CONSTRUCTION.
 - 26. INDICATIONS OF SUBSTRATES AND CONFIGURATIONS OF CONCEALED ITEMS AND MATERIALS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR ANY VARIANCE BETWEEN THE ACTUAL CONDITIONS AND THOSE REPRESENTED ON THE DRAWINGS
 - 27. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS INDICATED ON THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH A PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND THE MODIFICATION HAS BEEN REVIEWED BY THE ENGINEER AND APPROVED BY THE ARCHITECT 28. ANY DISCREPANCIES BETWEEN THE GENERAL NOTES, SPECIFICATIONS, DRAWINGS, CODES OR STANDARDS SHOULD BE BROUGHT TO THE ATTENTION OF THE
 - ENGINEER FOR DIRECTION PRIOR TO PROCEEDING WITH CONSTRUCTION, FABRICATION OR PROCUREMENT OF MATERIALS 29. UTMOST CARE SHALL BE EXRCISED AT ALL TIMES WHEN WORKING ON EXISTING STRUCTURAL MEMBERS, TO AVOID IMPARING THE CARRYING CAPACITY OF THE
 - 30. SECTIONS AND DETAILS SHOWN, WHILE DRAWN FOR SPECIFIC LOCATIONS, ARE INTENDED TO ESTABLISH THE GENERAL TYPES OF DETAILS TO BE USED
 - 2.0 <u>SHEETING, SHORING AND BRACING SYSTEMS</u>
 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE 7-16, AMERICAN SOCIETY OF CIVIL ENGINEERS.
 - DETAILED SIGNED AND SEALED SHOP DRAWINGS OF ALL SUPPORT AND PROTECTION SYSTEMS SHALL BE PREPARED INDICATING ALL WORK TO BE
 - WITH THE CONTRACT REQUIREMENTS. SHEETING, SHORING AND BRACING SYSTEMS SHALL BE UNDERTAKEN BY SPECIALTY SUBCONTRACTORS SPECIALIZING IN SUCH SYSTEMS AND HAVING EXPERIENCE IN DESIGNING AND INSTALLING SUCH SYSTEMS UNDER SIMILAR CONDITIONS. THE SPECIALTY SUBCONTRACTORS SHALL FURNISH EVIDENCE OF THE SUCCESSFUL DESIGN AND INSTALLATION OF SIMILAR SYSTEMS COVERING A
 - FIVE YEAR PERIOD. RESPONSIBILITY FOR THE ENGINEERING. DESIGN AND IMPLEMENTATION OF ANY SHEETING, SHORING OR BRACING SYSTEMS, RESTS SOLELY WITH THE CONTRACTOR AND HIS ENGINEER.
 - ERECTION DRAWINGS FOR ALL SHEETING, SHORING AND BRACING SYSTEMS. SUCH DRAWINGS SHALL BEAR THE SEAL OF THE PROFESSIONAL ENGINEER WHO MIX DESIGNS AND MATERIAL CERTIFICATIONS FOR REVIEW PRIOR TO PLACING IS EXPERIENCED IN THIS TYPE AND IS REGISTERED WITH THE PROJECT'S JURISDICTION. ALL RISKS OF ERRORS AND OMISSIONS SHALL BE ASSUMED BY

- PROFESSIONAL ENGINEER, REGISTERED IN THE PROJECT'S JURISDICTION, WITH A MINIMUM OF THREE YEARS OF EXPERIENCE IN DESIGNING SUCH SYSTEMS. NECESSARY FOR A COMPLETE AND PROPER INSTALLATION OF ANY PART OF THE 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY DOCUMENTING ALL
 - SHORING OR BRACING SYSTEM. REMOVAL OF ANY TEMPORARY SHEETING AND SHORING SYSTEMS SHALL NOT BE LESS THAN TO A DEPTH OF THREE (3) FEET BELOW GRADE. ANY SHEETING AND SHORING SYSTEMS TO REMAIN SHALL BE DOCUMENTED AS SUCH ON THE AS-BUILT DRAWINGS.
 - 9. ALL SHEETING, SHORING AND BRACING SYSTEMS SHALL BE DESIGNED TO RESIST THE LATERAL EARTH AND HYDROSTATIC PRESSURES, WIND LOADS, VERTICAL LOADS, SURCHARGES AND ANY OTHER LOADS THAT ARE EXPECTED TO OCCUR DURING THE SERVICE LIFE OF THE SYSTEM. THE SYSTEM SHALL ALSO BE DESIGNED FOR DEFLECTIONS IN ORDER TO PREVENT DAMAGE TO EXISTING ADJACENT STRUCTURES, PAVEMENTS AND UTILITIES. THE ENGINEER RESPONSIBLE FOR THE DESIGN OF SUCH SYSTEMS SHALL REVIEW ALL

INFORMATION INCLUDED IN THE GEOTECHNICAL REPORT.

10. THROUGHOUT CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING SYSTEM PERFORMANCE, INCLUDING SURVEYS OF DEFLECTIONS. 11. PRIOR TO THE START OF CONSTRUCTION RELATED ACTIVITIES, THE CONTRACTOR SHALL PREPARE METHODS AND DESIGNS IN ACCORDANCE WITH THE PROJECT REQUIREMENTS AND SUBMIT SEALED DRAWINGS SHOWING PROPOSED DETAILS SUFFICIENT FOR THE CONSTRUCTION OF THE SYSTEMS. REVIEW OF THE SUBMITTALS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR THE ADEQUACY OF THE SYSTEM NOR FOR THE RESPONSIBILITY OF PROVIDING

CAST-IN-PLACE CONCRETE

SAFE WORKING CONDITIONS.

- CONCRETE SHALL BE DETAILED AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING CODES AND STANDARDS (EXCEPT WHERE OTHERWISE NOTED):
- A. ACI MANUAL OF CONCRETE PRACTICE PARTS 1 THROUGH 5;
- B. ACI-301, SPECIFICATIONS FOR STRUCTURAL CONCRETE; B. ACI-318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;
- C. ACI-347, RECOMMENDED PRACTICE FOR CONCRETE FORMWORK; D. ACI-315, MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED
- CONCRETE STRUCTURES; ACI-613, RECOMMENDED PRACTICE FOR SELECTING PROPORTIONS FOR
- ACI-614, RECOMMENDED PRACTICE FOR MEASURING, MIXING AND PLACING
- ACI-305, RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (IF APPLICABLE);
- H. ACI-306, RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (IF APPLICABLE);
- MANUAL OF STANDARD PRACTICE, 28TH EDITION, CONCRETE REINFORCING 2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING DIMENSIONS OF ALL
- PERFORMED. SUBMIT THE SHOP DRAWINGS AND CALCULATIONS IN ACCORDANCE 3. SUPPORTS AND/OR TIES SHALL BE PROVIDED FOR ALL REINFORCEMENT TO SECURELY MAINTAIN THE PROPER POSITION OF THE REINFORCEMENT DURING CONCRETE PLACEMENT. STEEL REINFORCING BARS SHALL BE TIED SECURELY AT INTERSECTIONS WITH 18-GAUGE ANNEALED WIRE AND HELD INTO POSITION WITH SPACERS, CHAIRS OR OTHER APPROVED SUPPORTS. CHAIRS OR OTHER
 - MAXIMUM SPACING OF FOUR (4) FEET. 4. REINFORCING STEEL CLEAR COVER (PER ACI-318) SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
 - A. ALL NEW CONCRETE:
 - #5 BARS AND SMALLER: 2 INCHES. 5. SUBMIT TO ENGINEER REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL AND ANY CONCRETE. PRODUCT DATA SHEETS INDICATING CONFORMANCE ARE REQUIRED FOR ALL ADMIXTURES, EPOXIES, GROUTS AND SEALANTS.

SUPPORTS UNDER TOP AND BOTTOM SLAB STEEL SHALL BE LOCATED AT A

- 6. LAP SPLICES FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH ACI-318 4. PROVIDE AND INSTALL TEMPORARY BRACING AS REQUIRED TO MAINTAIN THE (MINIMUM OF 48 BAR DIAMETERS). LAP SPLICES FOR WWR SHALL BE TWO (2) FULL WIRE GRID SPACES AT SPLICES AND SHALL BE WIRED TOGETHER. 7. BONDING AGENT SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST
- CONDITIONS PRIOR TO THE INSTALLATION AND/OR REMOVAL OF ANY SHEETING, 8. EPOXY ADHESIVE SHALL BE USED WHERE DOWELS ARE TO BE INSTALLED INTO EXISTING CONCRETE. EPOXY ADHESIVE SHALL CONFORM TO ASTMC881, TYPE V,
 - SECURELY POSITION ALL EMBEDDED MATERIALS TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT. PAINT ALL EXPOSED STEEL SURFACES. ALUMINUM SURFACES SCHEDULED TO BE EMBEDDED IN CONCRETE SHALL BE COATED PRIOR TO EMBEDMENT WITH AN AGENT THAT WILL PREVENT CHEMICAL
 - REACTION OF ALUMINUM AND CONCRETE. 10. CHAMFER ALL EXPOSED CONCRETE CORNERS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
 - 11. THE CONTRACTOR SHALL PROVIDE A BROOM FINISH FOR THE TOP SURFACES OF ALL CONCRETE STAIRS, RAMPS AND SIDEWALKS UNLESS OTHERWISE NOTED 12. EARLY DRYING OUT OF CONCRETE, ESPECIALLY DURING THE FIRST 24 HOURS, 2. SPECIAL INSPECTIONS ARE REQUIRED TO VERIFY COMPLIANCE WITH SHALL BE CAREFULLY GUARDED AGAINST. ALL SURFACES SHALL BE MOIST CURED IMMEDIATELY FOLLOWING CONCRETE PLACEMENT. CONCRETE IS TO BE
 - THE FIRST SEVEN DAYS. 13. THROUGHOUT CONSTRUCTION, THE CONCRETE WORK SHALL BE ADEQUATELY PROTECTED AGAINST DAMAGE DUE TO EXCESSIVE LOADING, CONSTRUCTION EQUIPMENT, MATERIALS OR METHODS, ICE, RAIN, SNOW, EXCESSIVE HEAT, AND FREEZING TEMPERATURES.

MAINTAINED ABOVE 50 DEGREES F AND IN A MOIST CONDITION FOR AT LEAST

- HOURS IN ADVANCE OF ANY INTENTIONS TO PLACE CONCRETE SO THAT ALL REINFORCEMENT MAY BE CHECKED. PLACEMENT OF CONCRETE SHALL NOT START UNTIL THE PLACEMENT OF REINFORCING HAS BEEN APPROVED BY THE TESTING AND INSPECTION AGENCY. IF THE CONTRACTOR DOES NOT PROVIDE THE OWNER THE OPPORTUNITY TO INSPECT THE REBAR INSTALLATION PRIOR TO 7. SPECIAL INSPECTIONS FOR THIS PROJECT ARE PER IBC 2018, CHAPTER 17 CONCRETE PLACEMENT, THE OWNER SHALL HAVE THE RIGHT TO REJECT THE
- 15. TESTING AND INSPECTION AGENCY IS TO BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF ANY INTENTIONS TO PLACE CONCRETE SO THAT ALL REINFORCEMENT MAY BE CHECKED. PLACEMENT OF CONCRETE SHALL NOT START UNTIL THE PLACEMENT OF REINFORCING HAS BEEN APPROVED BY THE TESTING AND INSPECTION AGENCY.
- 16. SHOP DRAWINGS FOR FABRICATION OF STEEL REINFORCEMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCING WITH FABRICATION. REVIEW OF SHOP DRAWINGS IS INTENDED FOR THE PURPOSE OF REVIEWING THE GENERAL CONFORMANCE OF THE REINFORCING STEEL TO THE OVERALL STRUCTURAL DESIGN INDICATED ON THE CONTRACT DOCUMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK ALL DIMENSIONS AND ELEVATIONS AS A PART OF THE SHOP DRAWING REVIEW PROCESS PRIOR TO SUBMITTAL TO THE ENGINEER FOR REVIEW.
- 17. SHOP DRAWINGS SHALL CLEARLY INDICATE ALL COORDINATED REQUIRED QUANTITIES AND DIMENSIONS OF ALL HORIZONTAL AND VERTICAL REINFORCEMENT, INCLUDING LAP SPLICE LENGTHS AND BAR BENDING DIAGRAMS THE SHOP DRAWINGS SHALL INCLUDE ELEVATIONS FOR EACH WALL, INDICATING ALL DOWELS INTO FOOTINGS, REINFORCEMENT AROUND OPENINGS, SLEEVES AND
- MASONRY SHALL BE DETAILED AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING CODES AND STANDARDS (EXCEPT WHERE
- A. BUILDING CODE FOR MASONRY STRUCTURES (TMS 402-16, THE MASONRY
- B. SPECIFICATION FOR MASONRY STRUCTURES (TMS 602-16, THE MASONRY
- 2. ALL BRICK MASONRY UNITS SHALL BE GRADE SW IN ACCORDANCE ASTM C216, WITH A MINIMUM COMPRESSIVE STRENGTH OF 3.000 PSI. BOND BRICK MASONRY UNITS TOGETHER WITH TYPE N OR O MORTAR COMPLYING WITH ASTM
- 3. GROUT SHALL BE ASTM C476, WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS = 2,500 PSI.

- CONTRACTOR. TEMPORARY BRACING SHALL BE PROVIDED WHENEVER NECESSARY TO SUPPORT ALL LOADS TO WHICH THE STRUCTURE MAY BE
- THE TOPS OF ALL UNFINISHED MASONRY SHALL BE TEMPORARILY PROTECTED IN A SECURE FASHION FROM THE WEATHER.
- 6. SUBMIT GROUT MIX DESIGN CERTIFICATIONS TO THE ENGINEER FOR REVIEW. 7. PROVIDE PRECONSTRUCTION TESTING OF BRICK AND MORTAR, NEW BRICK MASONRY AND MORTAR MATERIALS TO MATCH EXISTING.

5.0 <u>TESTING AND INSPECTIONS</u>

- 1. SPECIAL INSPECTIONS AND TESTING ARE REQUIRED OF ALL CONSTRUCTION DELINEATED ON THE STRUCTURAL DRAWINGS AND SPECIFICATIONS. THE OWNER
- REQUIREMENTS SPECIFIED OR INDICATED. THESE SERVICES DO NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLIANCE WITH THE CONTRACT
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE SPECIAL INSPECTOR WITH ACCESS TO THE APPROVED PLANS, SHOP DRAWINGS AND SUBMITTALS AS WELL AS ACCESS TO THE LOCATION TO BE INSPECTED.
- TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. AND ARE AS FOLLOWS:
- ANCHOR BOLT INSPECTION
- CONCRETE SAMPLING AND TESTING
- PLACEMENT INSPECTION OF CONCRETE
- PROPORTIONS OF MATERIALS CONSTRUCTION OF MORTAR JOINTS
- POST INSTALLED MASONRY ANCHORS

STABILITY OF ALL MASONRY DURING CONSTRUCTION AND UNTIL ERECTION OF ATTACHED STRUCTURAL FRAMING IS COMPLETED. DESIGN AND INSTALLATION OF ANY TEMPORARY BRACING REQUIRED IS SOLELY THE RESPONSIBILITY OF THE SUBJECTED, INCLUDING, BUT NOT LIMITED TO: CONSTRUCTION, BACKFILL AND

SHALL EMPLOY A TESTING AND INSPECTION AGENCY.

3. THE CONTRACTOR SHALL SIGN THE SPECIAL INSPECTION DUTIES AND

RESPONSIBILITIES AGREEMENT FORM. 14. OWNER'S CONSTRUCTION REPRESENTATIVE IS TO BE NOTIFIED A MINIMUM OF 48 5. THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTION AGENCY 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PROVIDE A SCHEDULE OF SPECIAL INSPECTIONS PRIOR

A. CONCRETE CONSTRUCTION

FORMWORK INSPECTION

PLACEMENT INSPECTION OF REINFORCEMENT

 POST—INSTALLED ANCHORS VERIFY MIX DESIGN

 CURING TECHNIQUES B. MASONRY CONSTRUCTION

 STRUCTURAL WALL INSPECTION VERIFY MATERIALS

SAMPLING AND TESTING OF MORTAR

INT IGINEER IMPANY

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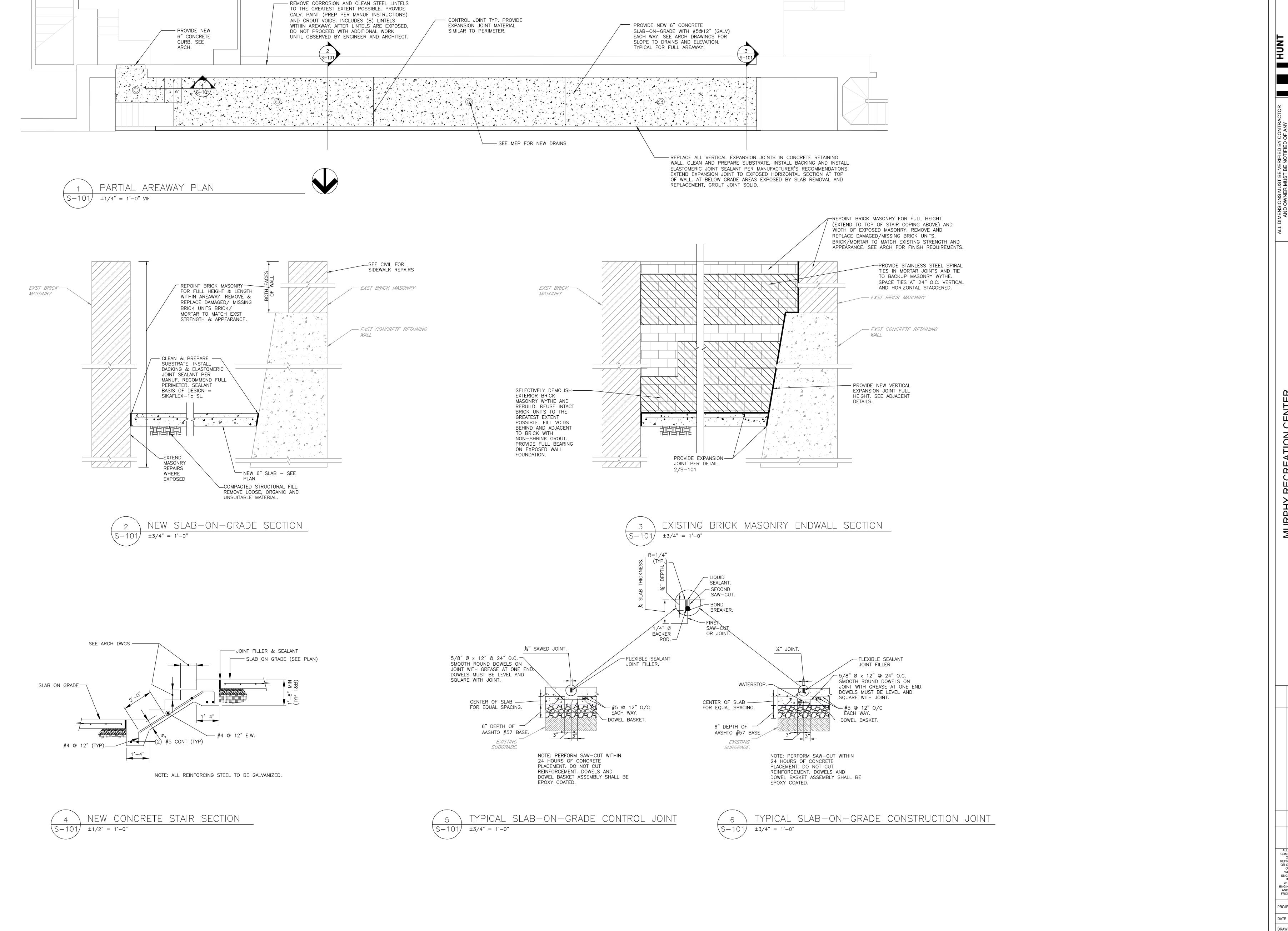
ENGINEERING COMPANY: AND OWNER SHALL INDEMNI FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSE ARISING OUT OF OR RESULTING THEREFROM.

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COMPANY ARE INSTRUMENTS OF SERVICE IN RESPEC OF THE PROJECT. THEY ARE NOT INTENDED OF REPRESENTED TO BE SUITABLE FOR REUSE BY OWN OR OTHERS ON THE EXTENSIONS OF THE PROJECT O ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY HUN INTENDED WILL BE AT OWNERS SOLE RISK AND

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INTENDED WILL BE AT OWNERS SOLE RISK AND ENGINEERING COMPANY; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS HUNT ENGINEERING COMPANY FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

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