FLUVANNA COUNTY FIRE-BURN BUILDING **FLUVANNA COUNTY** CRA PROJECT No. 3461 5/16/2022

MEP ENGINEER

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STRUCTURAL ENGINEER

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MATERIALS

	UNDISTURBED EARTH
	CONTROLLED FILL
	CONCRETE
	GRANULAR FILL
	CONC MASONRY UNIT
	FACE MASONRY UNITS
	WOOD BLOCKING
	RIGID INSULATION
XXXXX	BATT INSULATION

ARCHITECTURAL DRAWING NO. DESIGNATIONS

	- INDICATES FL
A1.1 -	— INDICATES SH
	- INDICATES EL
A2.1 -	— INDICATES SH
	- INDICATES SE
A3.1 -	— INDICATES SH
	- INDICATES LA
A4.1	- INDICATES SH
	- INDICATES GE
A5.1	- INDICATES SH
	- INDICATES SC
A6.1	- INDICATES SH
	- INDICATES INT
14.1	- INDICATES SH
	- INDICATES FL
17.1	- INDICATES SH

INTERIOR STUD WALL TYPES

	 2-1/2" METAL STUDS 5/8" PREFINISHED GALVAN METAL WALL PANEL EACH SIDE ALTERNATIVE CONSTRUCT TO MODULAR TRAINING TO SUPPLIER MODULAR INTER PARTITION PANEL
S1	

GENERAL NOTES: WALL TYPES PANELS TO EXTEND TO UNDERSIDE OF DECK ABOVE UNLESS NOTED OTHERWISE. 3. SEE SECTIONS, STRUCTURAL DRAWINGS AND ELEVATIONS FOR FURTHER DETAIL OF WALL CONSTRUCTION.

LEGEND



SCH SECT SF SFCMU SFRM SH SIM SJ SPECS SQ SS STD STR SYN	SCHEDULE SECTION SQUARE FEET SPLIT FACE CONCRETE MASONRY UNIT SPRAY-APPLIED FIRE RESISTIVE MATERIAL SHEATHING SIMILAR SCORE JOINT SPECIFICATIONS SQUARE STAINLESS STEEL STANDARD STRUCTURAL SYNTHETIC
T TG THK TOM TOP TOS TYP	TREAD TEMPERED GLASS THICK(NESS) TOP OF MASONRY TOP OF PLANK TOP OF STEEL TYPICAL
UL UNO	UNDERWRITERS LABORATORIES UNLESS NOTED OTHERWISE
VCT VERT VIF	VINYL COMPOSITION TILE VERTICAL VERIFY IN FIELD
WP W/ WD WG	WATERPROOFING WITH WOOD WIRE GLASS

ARCHITECTURAL ABBREVIATIONS

ABBREVIATION SYMBOLS

AT CENTER LINE DIAMETER +/- PLUS OR MINUS

CODE INFORMATION

FLUVANNA COUNTY FIRE-BURN BUILDING FLUVANNA COUNTY, VIRGINIA

BUILDING CODE INFORMATION: APPLICABLE BUILDING CODES: 2015 VIRGINIA CONSTRUCTION CODE (VCC)

2009 ICC/ANSI A117.1 2010 ADA STANDARDS (ADA)

PROPOSED BUILDING: CONSTRUCTION CLASSIFICATION: TYPE IIB OCCUPANCY CLASSIFICATION: UTILITY AUTOMATIC SPRINKLER SYSTEM: NOT REQUIRED

PROPOSED BUILDING AREAS: FIRST FLOOR: 1.280 SQUARE FEET SECOND FLOOR: 861 SQUARE FEET 2,141 SQUARE FEET TOTAL:

ALLOWABLE BUILDING AREA: FLOOR: 8,500 GROSS SQUARE FEET PROPOSED BUILDING HEIGHT: HEIGHT: 27 FEET (ROOF PEAK) STORIES: 2 STORIES

ALLOWABLE BUILDING HEIGHT: HEIGHT: UNSPECIFIED STORIES: 2 STORIES

	DRAWING LIST
SHEET	
NO.	SHEET NAME
GENERAL	
CS.1	COVER SHEET
CS.2	GENERAL INFORMATION
CIVIL	
C1.0	COVER SHEET
C1.1	GENERAL NOTES AND ABBREVIATIONS
C1.2	EROSION AND SEDIMENT CONTROL NOTES
C1.3	EROSION AND SEDIMENT CONTROL NARRATIVE
C2.0	TOPOGRAPHY SURVEY
C3.0	DEMOLITION AND PHASE 1 E&S PLAN
C4.0	SITE LAYOUT AND UTILITY PLAN
C4.1	WATER AND STORM PROFILES
C5.0	GRADING AND PHASE 2 E&S PLAN
C5.1	PRE- & POST - DEVELOPMENT HYDROLOGY PLAN
C5.2	STORMWATER MANAGEMENT CALCS & DETAILS
C6.0	EROSION AND SEDIMENT CONTROL DETAILS
C6.1	DETAILS
C6.2	DETAILS
ARCHITEC	
A1.1	FIRST & SECOND FLOOR PLAN
A1.2	
A1.3	
AZ.1	
A3.1	
A3.2	
A4.1	LARGE SCALE PLANS
A4.Z	
AD. 1	
<u>Α5.2</u> Δ6.1	DOOR SCHEDULE FRAME AND DOOR TYPES, DOOR AND WINDOW DETAILS
<u>AU. 1</u>	DOOR SCHEDOLE, I TAME AND DOOR THES, DOOR AND WINDOW DETAILS
STRUCTU	RAL
S0.1	GENERAL STRUCTURAL NOTES
S1.1	FOUNDATION AND FRAMING PLANS
S2.1	FOUNDATION DETAILS
S3.1	FRAMING DETAILS
S3.2	FRAMING SECTIONS
S4.1	BRACED FRAMES
FIRE PRO	TECTION
FP1.1	FIRST AND SECOND FLOOR PLANS
ELECTRIC	AL
E0.1	ELECTRICAL - LEGEND
E0.2	ELECTRICAL - SPECIFICATIONS
<u>=0.2</u> F0.3	FLECTRICAL - SPECIFICATIONS
<u></u> F2_1	FLECTRICAL - FLOOR PLANS
<u>–– </u>	FLECTRICAL - RISERS



SITE SUMMARY				
CONTACT:	CYNDI TOLER PURCHASING (COUNTY OF FL 132 MAIN ST. PALMYRA, VA	22963		
TELEPHONE NO: EMAIL:	434—591—1930 ctoler@fluvann	acounty.org		
SITE ADDRESS:	5725 JAMES N FLUVANNA CO	IADISON HIGHWAY UNTY, VIRGINIA		
ENGINEER:	DRAPER ADEN 110 AVON STR CHARLOTTESVI	ASSOCIATES REET LLE, VA 22902		
CONTACT: TELEPHONE NO. EMAIL:	CAROLYN A. H 434-295-070 CHOWARD@DAA	IOWARD, P.E. 10 A.COM		
PARCEL NO:		TM 51-A-129		
SITE COVERAGE:		PROPOSED BUILDING AND ROAD 4% COVERAGE (0.39 AC./9.82 AC.)		
TOTAL SITE AREA (PARCEL AREA):	9.82 AC		
DISTURBED AREA:		0.98 AC		
EXISTING IMPERVIOU	IS AREA:	5,207 SF		
IMPERVIOUS AREA:		35,864 SF		
PRESENT ZONING:		I-1 (INDUSTRIAL, LIMITED)		
PRESENT USE:		COMMUNITY CENTER, PARKING, AND AMENITIES		
PROPOSED USE:		FIRE TRAINING BUILDING AND ACCESS ROAD		
MAX. HEIGHT OF BUILDING:		60 FEET (A PUBLIC OR SEMI-PUBLIC BUILDING MAY BE ERECTED TO A HEIGHT OF SIXTY FEET (60') FROM GRADE PROVIDED THAT REQUIRED FRONT, SIDE AND REAR YARD EACH SHALL BE INCREASED ONE FOOT (1') FOR EACH FOOT IN HEIGHT OVER FORTY-FIVE FEET (45').)		
BUILDING SETBACK:		BUILDINGS AND ACCESSORY USES SHALL BE LOCATED NOT LESS THAN ONE HUNDRED FEET (100') FROM ANY STREET RIGHT-OF-WAY. ALL PARKING LOTS SHALL BE LOCATED NOT LESS THAN FIFTY FEET (50') FROM ANY STREET RIGHT OF WAY.ALL PARKING LOTS SHALL BE LOCATED NOT LESS THAN TWENTY-FIVE FEET (25') FROM ANY STREET RIGHT OF WAY.		
YARD SETBACK:		WHEN PERMITTED USES ADJOIN AGRICULTURAL, RESIDENTIAL, OR BUSINESS DISTRICTS THE MINIMUM YARD REQUIREMENTS SHALL BE FIFTY FEET (50'). ALL PARKING LOTS SHALL BE LOCATED NOT LESS THAN TWENTY-FIVE FEET (25') FROM ANY RESIDENTIAL OR AGRICULTURAL DISTRICT.		



ORK UNION FIRE NING BUILDING SITE

FLUVANNA COUNTY, VIRGINIA

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VICINITY MAP 1"=2000' PROJECT DESCRIPTION THIS PROJECT CONSISTS OF A FIRE TRAINING BUILDING AND SITE IMPROVEMENTS, INCLUDING A BUILDING PAD AND A PAVED DRIVE TO THE SITE.

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MAY 16, 2022

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DAA PROJECT #18060133-010303

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NOTE: CONTRACTOR TO CONTACT MISS UTILITY (811) IN ADVANCE OF PLANNED WORK. ADVANCE TIME PERIOD SHALL BE IN ACCORDANCE WITH CURRENT MISS UTILITY GUIDELINES (www.missutilityofvirginia.com).



QUALITY REVIEWER

GENERAL NOTES

- 1. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM FLUVANNA COUNTY.
- 2. AS DISTURBANCE IS LESS THAN 1.0 AC, A VSMP PERMIT IS NOT REQUIRED.
- 3. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND AT HIS EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
- 4. ALL GRADING, PAVING MATERIALS, AND DRAINAGE STRUCTURES SHALL CONSTRUCTED IN ACCORDANCE WITH VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, EXCEPT WHERE NEEDED OTHERWISE.
- 5. THE LOCATION OF EXISTING SEWER, WATER OR GAS LINES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS, IF THERE APPEARS TO BE A CONFLICT, OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS. FOR ASSISTANCE IN LOCATING EXISTING UTILITIES CALL "MISS UTILITY", 1-800-552-7001.
- 6. ALL WATER CONSTRUCTION AND MATERIALS SHALL CONFORM WITH THE LATEST STANDARDS AND SPECIFICATIONS OF FORK UNION SANITATION DISTRICT.
- 7. DAMAGE TO UTILITIES (INCLUDING UNDERGROUND) OR PROPERTY OF OTHERS BY CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS BY CONTRACTOR AT NO COST TO OWNER.
- 8. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO LIKE-NEW CONDITION.
- 9. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
- 10. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED.
- 11. ALL PROPOSED UTILITIES ARE TO BE INSTALLED UNDERGROUND INCLUDING ELECTRIC, TELEPHONE AND CATV.
- 12. ALL UNDERGROUND UTILITIES (WATER, SANITARY SEWER, ELECTRICITY, TELEPHONE, ETC.) SHALL BE INSTALLED AND TESTED SATISFACTORILY PRIOR TO COMMENCING ANY PAVING OPERATIONS WHERE SUCH UTILITIES ARE WITHIN THE LIMITS OF PAVEMENT.
- 13. THE CONTRACTOR SHALL NOTIFY FLUVANNA COUNTY AT LEAST 24 HOURS PRIOR TO STARTING WORK ON THIS PROJECT.
- 14. ALL GROUND COVER AND LANDSCAPING SHALL BE PROPERLY MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. DEAD PLANT MATERIALS SHALL BE REMOVED IN A REASONABLE TIME AND REPLACED DURING THE NORMAL PLANTING SEASON.
- 15. UNLESS OTHERWISE NOTED, ALL CONCRETE PIPE SHALL BE REINFORCED CONCRETE PIPE, CLASS III.
- 16. ALL EXCAVATION FOR UNDERGROUND PIPE INSTALLATION MUST COMPLY WITH OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY (29 CFR PART 1926).
- 17. VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. ALSO VERIFY ALL DIMENSIONS. SITE CONDITIONS. AND MATERIAL SPECIFICATIONS AND NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
- 18. DEVIATIONS FROM, OR CHANGES TO THESE PLANS WILL NOT BE ALLOWED, UNLESS OTHERWISE APPROVED BY THE OWNER & ENGINEER.
- 19. MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO THE PLANS IF NECESSARY. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT. TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER EXISTING UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. REPAIR AT YOUR OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION. IF A UTILITY IS DAMAGED DURING CONSTRUCTION, STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.
- 20. PROPERLY SECURE THE CONSTRUCTION AREA AT ALL TIMES AGAINST UNAUTHORIZED ENTRY AND ADEQUATELY PROTECT EQUIPMENT, MATERIALS, AND COMPLETED WORK FROM THEFT AND VANDALISM. THE OWNER IS NOT RESPONSIBLE FOR THE LOSS OF ANY MATERIAL STORED AT THE SITE.
- 21. ALL TURF AREAS THAT ARE IMPACTED OR DISTURBED BY VEHICLES, EQUIPMENT, OR ACTIVITY SHALL BE REPAIRED, REGRADED, AND RESEEDED TO THE SATISFACTION OF THE OWNER. ANY AREAS COMPACTED BY CONSTRUCTION TRAFFIC SHALL BE TILLED PRIOR TO SEEDING.
- 22. PERFORM ALL WORK USING DIMENSIONS SHOWN ON THESE PLANS. DO NOT USE SCALES, RULERS, DIVIDERS, MAP WHEELS OR OTHER MEASURING DEVICES TO DETERMINE SPATIAL RELATIONSHIPS ON THESE DRAWINGS.
- 23. ALL UNSUITABLE MATERIAL AS DETERMINED BY OWNER'S INSPECTOR SHALL BE REMOVED FROM THE CONSTRUCTION LIMITS OF PAVED AREAS.
- 24. CONCRETE DRAINAGE STRUCTURES MAY BE EITHER PRECAST OR CAST-IN-PLACE. ALL SHALL BE VDOT STANDARD (PER SECTION 100 OF THE ROAD AND BRIDGE STANDARDS.) ALL CONCRETE STRUCTURES SHALL HAVE IS-1 SHAPING IN ACCORDANCE TO VDOT STANDARDS.
- 25. ALL STORM SEWER SHALL BE DUAL WALL HDPE PIPE WITH SMOOTH INTERIOR AND CORRUGATED EXTERIOR WALLS MEETING AASHTO M252, TYPE S FOR 4" THROUGH 10" AND AASHTO M294, TYPE S FOR 12" THROUGH 60" OR PVC CORRUGATED SEWER PIPE WITH SMOOTH INTERIOR MEETING ASTM F949 OR REINFORCED CONCRETE PIPE, EXCEPT AS NOTED. MINIMUM COVER IN PAVED AREAS SHALL BE 2.0'.
- 26. ALL STORM SEWER SHALL HAVE A MINIMUM OF 6" AGGREGATE BEDDING MATERIAL.
- 27. THE PIPING SHOULD BE AWWA C900 WITH BELL AND SPIGOT ENDS, BEING THAT THIS IS A TRAINING FACILITY, MEGALUG MECHANICAL RESTRAINTS AT EACH PIPE JOINT TO PROTECT AGAINST WATER HAMMER. ALL FITTINGS (TEES, ELBOWS, END CAPS, HYDRANTS, VALVES, ETC.) SHOULD BE DUCTILE IRON WITH MEGALUG MECHANICAL RESTRAINTS. THRUST BLOCKS SHOULD BE PLACED (NOT POURED) BEHIND ALL TEES, ELBOWS, LINE ENDINGS, AND HYDRANT CONNECTIONS.
- 28. BURIED GATE VALVES SHOULD BE NON-RISING-STEM TO PROTECT AGAINST DEBRIS

GE <u>EXISTING</u>

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N∕A ★
N/A

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ENERAL	LEGEND

	PROPOSED
CONTOURS GROUND ELEVATION TREE LINE	FG TC 1528.3 1528.3
DECIDUOUS TREE	N/A
FENCE	x
PROPERTY LINE/ROW	
IRON ROD FOUND	N/A
IRON ROD SET	N/A
MONUMENT FOUND	N/A
MONUMENT SET BUILDING SETBACK -	N/A
100 YEAR FLOOD ZONE LIMITS OF CONSTRUCTION	N/A LOD
	N/A
BUILDING	
DEMOLITION KEY	1
BOLLARD	Ó
BOREHOLE	.
STORM SEWER	
STORM CLEANOUT	•
STORM MANHOLE	•
STORM DRAINAGE INLET	
STORM STRUCTURE KEY	$\langle 1 \rangle$
WATER	W
GATE VALVE	M
LIGHT POLE	•- <u> </u>

ΔRRR	EVIATIONS AND	GALV.	GALVANIZED
		GS	GROUND SHOT
SYMB	SOLS	ID	INSIDE DIAMETER
	<u> </u>	INV.	INVERT
		JT.	JOINT
STWDULS		LAT	LATERAL
ର	ΔΤ	LB	POUND
5 ī		LBS	POUNDS
2	PROPERTY LINE	LF	LINEAR FOOT (FEET)
カ	DIAMETER	MAT'L.	MATERIAL
5	DEGREE	MAX.	MAXIMUM
		MFR.	MANUFACTURER
ABBREVIA [.]	TIONS	MH	MANHOLE
		MIN.	MINIMUM
Ą	AREA	M.J.	MECHANICALLY JOINED
AC	ACRE(S)	0.0.	ON CENTER
AWWA	AMERÌCÁN WATER WORKS		DADOEL DOOK
	ASSOCIATION	PB	PARCEL BOUK
3C	BOTTOM OF CURB		PRUPERIT LINE
BLDG.	BUILDING		POUNDS FER SQUARE INCH
BOTT.	BOTTOM		
CF	CUBIC FEET	R	
CG	CURB AND GUTTER	RCP	REINFORCED CONCRETE PIPE
C.I.	CAST IRON	RD	ROOF DRAIN
	CURB INLET	REO'D	REQUIRED
CIP	CAST IN PLACE		
CU	CONSTRUCTION JOINT	S	
CLR.		SAN	SANITARY
U.U.		SF	SOLIARE FOOT (FEET)
CONC.		SPEC	SPECIFICATION
		SPECS	SPECIFICATIONS
	CUBIC TARD(S)	SQ.	SQUARE
J.D.		STM	STORM
ו.כ. ור		STD.	STANDARD
וכ אור		SW	SIDEWALK
217. 29		SWM	STORM WATER MANAGEMENT
-A	FACH	SY	SQUARE YARD(S)
=, F. F.	FACH FACE	ТС	TOP OF CURB
ELEV.	ELEVATION	TDC	TURNED DOWN CURB
EOP	EDGE OF PAVEMENT	TEMP.	TEMPORARY
EX.	EXISTING	TYP.	TYPICAL
EXP.	EXPANSION	UNO	UNLESS NOTED OTHERWISE
E.W.	EACH WAY	VAR.	VARIABLE
-C	FACE OF CURB	VDOT	VIRGINIA DEPARTMENT OF
FF	FINISHED FLOOR		IRANSPORTATION
FL	FLOW LINE	VESCH	VIRGINIA ERUSION AND
-T	FOOT (FEET)		SEDIMENT CONTROL HANDBOOK
GA	GAUGE	WV	
			WELDED WIKE FABRIC

CAROLYN A Lic. No. 5/ 6/	OF Howard F 42775 22 L
Draper Adem Associates Engineering • Surveying • Environmental Services	110 Avon Street• Richmond, VA• Raleigh, NCCharlottesville, VA 22902• Blacksburg, VA• Fayetteville, NC434-295-0700 Fax: 434-295-2105• Hampton Roads, VA• Northern Virginiawww.daa.com• Virginia Beach, VA
GENERAL NOTES AND ABBREVATIONS	BUILDING SITE FLUVANNA COUNTY, VIRGINIA
DESIGNED BY: DRAWN BY: CHECKED BY: SCALE: NON DATE: MAY 16 PROJECT NUMBER: 18060133 C1	DAA MJR CAH NE , 2022 -010301 .1

<u>STATE</u>	MINIMUM STANDARDS FOR EROSION CONTROL		THAT DOES NOT ADVERSELY A
<u>GENER</u> / ES-1	UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT		ORDER TO MINIMIZE EROSION
	STANDARDS AND SPECIFICATIONS OF THE <u>VIRGINIA EROSION AND SEDIMENT CONTROL</u> HANDBOOK AND VIRGINIA REGULATIONS 9VAC25-840 EROSION AND SEDIMENT CONTROL		F. APPLICABLE SAFETY REGUL
ES-2	THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.	MS-17	WHERE CONSTRUCTION VEHICLE PROVISIONS SHALL BE MADE TRACKING ONTO THE PAVED S OR PUBLIC ROAD SURFACE, TH
ES-3	ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.		END OF EACH DAY. SEDIMEN' SWEEPING AND TRANSPORTED WASHING SHALL BE ALLOWED
ES-4	A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.		LAND-DISTURBING ACTIVITIES.
ES-5	PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NO LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.	MS-18	ALL TEMPORARY EROSION CON AFTER FINAL SITE STABILIZATI NEEDED, UNLESS OTHERWISE A DISTURBED SOIL AREAS RESUL SHALL BE PERMANENTLY STAE
ES-6	THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.	MS-19	PROPERTIES AND WATERWAYS PROTECTED FROM SEDIMENT D VOLUME, VELOCITY AND PEAK FREQUENCY STORM OF 24-HC
ES-7	ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.		STANDARDS AND CRITERIA. ST INCORPORATE NATURAL CHANI SHALL BE EXEMPT FROM ANY
ES-8	DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.	A.	CONCENTRATED STORMWAT
ES-9	THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.		CHANNEL, PIPE OR STORM DISCHARGED INTO A PIPE OUTFALL OF THE PIPE OR
MINIMU	M STANDARDS	В.	ADEQUACY OF ALL CHANN MANNER:
A VESO MS-1	OP MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS	(1)	THE APPLICANT SHALL POINT OF ANALYSIS WIT THE CONTRIBUTING DRA
	WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR	(2)(A)	NATURAL CHANNELS SH TO VERIFY THAT STORM EROSION OF CHANNEL E
MS-2	DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE	(2)(B)	ALL PREVIOUSLY CONST USE OF A TEN-YEAR S BANKS AND BY THE US STORMWATER WILL NOT
MS-3	A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT	(2)(C)	PIPES AND STORM SEWE TEN—YEAR STORM TO V PIPE OR SYSTEM.
	CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE, AND WILL INHIBIT EROSION.	C.	IF EXISTING NATURAL RECI CHANNELS OR PIPES ARE
MS-4	SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.	(1)	IMPROVE THE CHANNEL OVERTOP THE BANKS A CHANNEL THE BED OR
MS-5	STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	(2)	IMPROVE THE PIPE OR I IS CONTAINED WITHIN TH
MS-6	SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.	(3)	DEVELOP A SITE DESIGN RUNOFF RATE FROM A INTO A NATURAL CHANI
	A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAT THREE ACRES.		INTO A MAN-MADE CHA
	B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY	(4)	OTHER MEASURES WHICH DOWNSTREAM EROSION.
	A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A TWENTY-FIVE	D.	THE APPLICANT SHALL PR IMPROVEMENTS.
	YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST W WHILE THE SEDIMENT BASIN IS UTILIZED.	E.	ALL HYDROLOGIC ANALYSE CHARACTERISTICS AND THI
MS-7	CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.	F.	IF THE APPLICANT CHOOSE SHALL OBTAIN APPROVAL DETENTION FACILITIES. TH REQUIREMENTS OF THE FA
MS-8	CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.	G.	OUTFALL FROM A DETENTION CHANNEL, AND ENERGY DI
MS-9	WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.	Ц	FACILITY TO THE RECEIVING
MS-10	ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.	п. I.	INCREASED VOLUMES OF S ON ADJACENT PROPERTY S CHANNEL PIPE OR PIPE S
MS-11	BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.	J.	IN APPLYING THESE STORM PARCELS IN A RESIDENTIA CONSIDERED TO BE SEPAR THAT REFLECT THE ULTIMA
MS-12	WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER	K.	ENGINEERING CALCULATION ALL MEASURES USED TO F IN A MANNER WHICH MININ BIOLOGICAL INTEGRITY OF
MS-13	MATERIALS. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED	L.	ANY PLAN APPROVED PRIC MANAGEMENT THAT ADDRE REQUIREMENTS FOR NATUF RATE CAPACITY AND VELC
MS-14	ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BF MFT.		CHANNELS IF THE PRACTION
MS-15	THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.		II. DETAIN AND RELEAS RESULTING FROM THE III. REDUCE THE ALLOW
MS-16	UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:		10-YEAR, 24-HOUR S PEAK FLOW RATE FRO CONDITION, ACHIEVED
	A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.		RATE BY A REDUCTION THE SITE WHEN IT WAS VOLUME FROM THE SIT
	B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH		FROM ANY FLOW RATE MAN-MADE CHANNELS TO § 62.1-44.15:54 C
	AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER		

AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.

FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN AND PROMOTE STABILIZATION.

ACCOMPLISHED IN ACCORDANCE WITH THESE REQULATIONS. ATIONS SHALL BE COMPLIED WITH.

E ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS. TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED HE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE NT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR TO A SEDIMENT CONTROL DISPOSAL AREA. STREET ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS NDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER

ITROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS ON OR AFTER THE TEMPORARY MEASURES ARE NO LONGER AUTHORIZED BY THE VESCP. TRAPPED SEDIMENT AND THE TING FROM THE DISPOSITION OF TEMPORARY MEASURES BILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN FLOW RATE OF STORMWATER RUNOFF FOR THE STATED OUR DURATION IN ACCORDANCE WITH THE FOLLOWING TREAM RESTORATION AND RELOCATION PROJECTS THAT NEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NNELS:

TER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE TO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE PIPE SYSTEM SHALL BE PERFORMED.

NELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING

DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE THIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN INAGE AREA OF THE PROJECT IN QUESTION; OR

HALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM IWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE BED OR BANKS.

RUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS SE OF A TWO-YEAR STORM TO DEMONSTRATE THAT CAUSE EROSION OF CHANNEL BED OR BANKS; AND

VER SYSTEMS SHALL BE ANALYZED BY THE USE OF A VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE

EIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE NOT ADEQUATE, THE APPLICANT SHALL:

TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT ND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE BANKS: OR

PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM THE APPURTENANCES; OR

THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS NEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS ANNEL: OR

ON OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR CH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT

ROVIDE EVIDENCE OF PERMISSION TO MAKE THE

ES SHALL BE BASED ON THE EXISTING WATERSHED HE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT.

ES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE HE PLAN SHALL SET FORTH THE MAINTENANCE ACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE

ION FACILITY SHALL BE DISCHARGED TO A RECEIVING ISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALL NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE NG CHANNEL.

MUST BE VERIFIED TO BE ADEQUATE.

SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE SYSTEM, OR TO A DETENTION FACILITY.

MWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR , COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE RATE DEVELOPMENT PROJECTS. HYDROLOGIC PARAMETERS ATE DEVELOPMENT CONDITION SHALL BE USED IN ALL

PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED MIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

IOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER ESSES ANY FLOW RATE CAPACITY AND VELOCITY RAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW OCITY REQUIREMENTS FOR NATURAL OR MAN-MADE ICES ARE DESIGNED TO

QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; SE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL ONE YEAR, 24- HOUR STORM; AND NABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE DM THE SITE ASSUMING IT WAS IN A GOOD FORESTED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM AS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF TE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT OR 62.1-44.15:65 OF THE ACT.

FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 62.1-44:52 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND DISTURBING ACTIVITIES (i) ARE IN ACCORDANCE WITH PROVISIONS FOR TIME LIMITS ON APPLICABILITY OF APPROVED DESIGN CRITERIA IN 9VAC25-870-47 OR GRANDFATHERING IN 9VAC-25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATION, IN WHICH CASE THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF §62.1-44.15:52A OF THE ACT SHALL APPLY, OR (ii) AREA EXEMPT PURSUANT § 62.1-44.15:34 C 7 OF THE ACT.

COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF MINIMUM STANDARD 19.

EROSION AND SEDIMENT CONTROL NOTES

THE CONTRACTOR SHALL COMPLY WITH THE CURRENT LAWS AND REGULATIONS FOR FLUVANNA COUNTY AND THE COMMONWEALTH OF VIRGINIA BEFORE, DURING, AND AFTER CONSTRUCTION ON THE SITE. ALL MINIMUM STANDARDS AND SPECIFICATIONS REGARDING THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE FOLLOWED BY THE CONTRACTOR.

2. A LAND DISTURBANCE PERMIT IS REQUIRED FOR THE PROJECT AND SHALL BE OBTAINED. A RESPONSIBLE LAND DISTURBER SHALL BE IDENTIFIED ON ALL LAND DISTURBANCE PERMITS. FAILURE TO COMPLY WITH ANY OF THESE REQUIREMENTS IDENTIFIED HERE WILL INITIATE A NOTICE TO COMPLY (NTC), NOTICE OF VIOLATION (NOV), STOP WORK ORDERS (SWO), CIVIL PENALTIES, OR NULLIFY THE PERMIT.

3. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND LAND DISTURBANCE SEDIMENTATION CONTROL PROGRAM SPECIFIC TO ITS JURISDICTION. PERMIT MUST BE MAINTAINED AT THE SITE FOR THE DURATION OF ALL CONSTRUCTION AND LAND-DISTURBING ACTIVITIES.

4. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL APPROVED MEASURES AS SHOWN ON THE APPROVED PLANS. ANY ADDITIONAL MEASURES DEEMED REQUIRED BY THE COUNTY OR DEQ, DUE TO FIELD CONDITIONS, SHALL BECOME PART OF THE EROSION AND SEDIMENT CONTROL PLAN FOR THE PROPERTY. ALL FIELD CHANGES MUST BE APPROVED BY EITHER THE COUNTY, DEQ OR ENGINEER PRIOR TO INSTALLATION. ALL APPROVED FIELD CHANGES SHALL BE SENT TO THE ENGINEERING DEPT. TO BE ATTACHED TO THE APPROVED PLAN.

5. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

6. THE CONTRACTOR MAY NOT CHANGE OR ALTER ANY OF THE APPROVED MEASURES WITHOUT FIRST NOTIFYING THE COUNTY, DEQ OR ENGINEER. FAILURE TO DO SO MAY RESULT IN A NOV, SWO, CIVIL PENALTIES, AND/OR REVOCATION OF THE LAND DISTURBANCE PERMIT.

THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL MEASURES TO PREVENT SOIL FROM ERODING ONTO ADJACENT PROPERTY, STREETS, DRAINAGE SYSTEMS, AND WATERWAYS. ALL DEVICES SHALL BE CLEANED OF SEDIMENT, MUD, DEBRIS, AND OTHER ERODED MATERIAL DURING THE SITE CLEARING AND DEVELOPMENT. INSPECTION OF ALL DEVICES SHALL BE AT A MINIMUM EVERY TWO (2) WEEKS AND REQUIRED AFTER EVERY RUNOFF PRODUCING EVENT. ALL INSPECTION SUBMITTAL.

AND MAINTENANCE ACTIVITIES SHALL BE DOCUMENTED AND AVAILABLE FOR REVIEW. 8. TEMPORARY AND PERMANENT SEEDING OPERATIONS SHALL BE INITIATED WITHIN SEVEN (7) DAYS AFTER REACHING FINAL GRADE OR UPON SUSPENSION OF GRADING OPERATIONS FOR AN ANTICIPATED DURATION OF GREATER THAN FOURTEEN (14) DAYS OR UPON COMPLETION OF GRADING OPERATIONS FOR A SPECIFIC AREA.

9. EROSION AND CONTROL MEASURES SHALL BE KEPT IN PLACE FOR THE DURATION OF THE CLEARING AND CONSTRUCTION OPERATIONS AND AT A MAXIMUM FOR THE SPECIFIED TIME FOR EACH MEASURE AS IDENTIFIED IN THE VESC HANDBOOK, OR WHEN FULL STABILIZATION HAS OCCURRED FOR THE ENTIRE SITE. A FINAL INSPECTION BY THE COUNTY INSPECTOR SHALL DETERMINE WHEN THIS FACT IS ACCOMPLISHED AND ALL TEMPORARY MEASURES AND DEVICES CAN BE REMOVED.

10. THE CONTRACTOR SHALL MONITOR AND TAKE PRECAUTIONS TO CONTROL DUST AND OTHER AIR POLLUTANTS. INCLUDING BY NOT LIMITED TO USING WATER OR CHEMICALS. LIMITING THE NUMBER OF VEHICLES ALLOWED ONSITE, MINIMIZING THE OPERATING SPEED OF ALL VEHICLES, ETC. ALSO, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE DAILY SWEEPING OF PUBLIC RIGHT-OF-WAY SHOULD SEDIMENT ACCUMULATE ON PAVED SURFACES.

11. CONTRACTOR SHALL SUBMIT A SEPARATE EROSION AND SEDIMENT CONTROL PLAN FOR ANY OFF-SITE AREAS ASSOCIATED WITH THE LAND DISTURBANCE AND SOIL REMOVAL IDENTIFIED HEREIN. A SEPARATE SUBMITTAL IS NOT NECESSARY FOR THE FOLLOWING SITUATIONS:

12. NO MATERIAL WILL BE HAULED OR TRANSPORTED OFF- SITE AND APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED AROUND ALL STOCKPILES AND STORAGE AREAS. OR

13. ALL MATERIAL TO BE HAULED OR TRANSPORTED OFF- SITE WILL BE DEPOSITED AT A FEDERAL, STATE, AND LOCALLY APPROVED SITE. THE CONTRACTOR SHALL IDENTIFY ON THE PLANS WHAT DISPOSAL SITE WILL BE USED.

14. FOR ALL PROPOSED LAND DISTURBANCE ACTIVITIES THAT ARE ONE ACRE OR GREATER IN TOTAL AREA, A VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT MUST FIRST BE OBTAINED FROM THE FLUVANNA COUNTY DEPARTMENT OF ENGINEERING; THE "VSMP AUTHORITY", PRIOR TO ANY ACTUAL SOIL DISTURBANCE TAKING PLACE. FAILURE TO DO SO WILL RESULT IN THE ISSUANCE OF A NOTICE- OF-VIOLATION. IT IS THE OWNER'S AND/OR CONTRACTOR'S RESPONSIBILITY TO CONTACT THE FLUVANNA COUNTY. DEPARTMENT OF ENGINEERING, FOR PERMIT DETAILS, APPLICATION, AND APPROVALS.

15. APPROVAL OF AN EROSION AND SEDIMENT CONTROL PLAN AND ACQUISITION OF A LAND DISTURBING PERMIT DOES NOT RELIEVE THE OWNER/DEVELOPER FROM OBTAINING APPLICABLE FEDERAL, STATE, AND OTHER LOCAL PERMITS, OR FROM COMPLYING WITH PERTINENT FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

MS-19 (STORMWATER MANAGEMENT NARRATIVE)

AS STATED UNDER MS-19 (SECTION N), "COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF MINIMUM STANDARD 19." THE CHANNEL PROTECTION CRITERIA 9VAC25-870-66(B)(3) WAS MET AS THE ENERGY BALANCE CALCULATION WAS SATISFIED, SEE CALCULATION ON SHEET C5.2. THE FLOOD PROTECTION CRITERIA 9VAC25-870-66(C)(2)(B) WAS MET AS THE 10-YR POST-DEVELOPMENT PEAK FLOW WAS REDUCED FROM THE PRE-DEVELOPMENT PEAK FLOW, SEE CALCULATION ON SHEET C5.2.

SEE SHEET C5.2 FOR OUTLET PROTECTION SIZING AND ADDITIONAL CALCULATIONS AND DETAILS FOR THE APPROACH TO COMPLIANCE FOR VIRGINIA EROSION AND SEDIMENT CONTROL MINIMUM STANDARD MS-19.

M.

EROSION AND SEDIMENT CONTROL FLUVANNA COUNTY

(A) PURSUANT TO SECTION 62.1-44.15:54 OF THE CODE OF VIRGINIA FLUVANNA COUNTY HEREBY ADOPTS THE REFERENCES, GUIDELINES, STANDARDS AND SPECIFICATIONS PROMULGATED BY THE VIRGINIA SOIL AND WATER CONSERVATION BOARD FOR THE EFFECTIVE CONTROL OF SOIL EROSION AND SEDIMENT DEPOSITION TO PREVENT THE UNREASONABLE DEGRADATION OF PROPERTIES, STREAM CHANNELS, WATERS AND OTHER NATURAL RESOURCES. SAID REGULATIONS, REFERENCES, GUIDELINES, STANDARDS AND SPECIFICATIONS ARE INCLUDED IN BUT NOT LIMITED TO THE "VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS," THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK" AND "VIRGINIA STORMWATER MANAGEMENT HANDBOOK" AS AMENDED.

(B) EXCEPT AS OTHERWISE PROVIDED IN THIS CHAPTER, NO PERSON MAY ENGAGE IN ANY LAND DISTURBING ACTIVITY UNTIL SUCH PERSON HAS SUBMITTED TO THE ADMINISTRATOR AN EROSION AND SEDIMENT CONTROL PLAN FOR SUCH LAND-DISTURBING ACTIVITY AND UNTIL THAT PLAN FOR SUCH LAND-DISTURBING ACTIVITY HAS BEEN REVIEWED AND APPROVED BY THE ADMINISTRATOR. UPON THE DEVELOPMENT OF AN ONLINE REPORTING SYSTEM BY THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY, THE ADMINISTRATOR SHALL OBTAIN EVIDENCE OF VIRGINIA STORMWATER MANAGEMENT PROGRAM PERMIT COVERAGE WHERE IT IS REQUIRED PRIOR TO PROVIDING APPROVAL TO BEING LAND DISTURBANCE.

(C) THE PROVISIONS OF THIS CHAPTER SHALL APPLY TO ALL INCORPORATED TOWNS WITHIN THE BOUNDARIES OF THE COUNTY, UNLESS THE GOVERNING BODY OF ANY SUCH TOWN HAS, BY APPROPRIATE ACTION, ADOPTED AN EROSION AND

(D) ELECTRIC, NATURAL GAS, AND TELEPHONE UTILITY COMPANIES, INTERSTATE AND INTRASTATE NATURAL GAS PIPELINE COMPANIES AND RAILROAD COMPANIES SHALL FILE GENERAL EROSION AND SEDIMENTATION CONTROL SPECIFICATIONS ANNUALLY WITH THE VIRGINIA SOIL AND WATER CONSERVATION BOARD FOR REVIEW AND WRITTEN COMMENTS.

(E) THE PROVISIONS OF THIS CHAPTER SHALL NOT APPLY TO STATE AGENCY PROJECTS, EXCEPT AS PROVIDED FOR IN SECTION 62.1-44.15:56 OF THE CODE OF VIRGINIA.

(F) A PLAN FOR WHICH LAND-DISTURBING ACTIVITIES INVOLVING LANDS UNDER THE JURISDICTION OF THE COUNTY AND ONE OR MORE OTHER LOCALITIES MAY, AT THE OPTION OF THE APPLICANT, BE SUBMITTED TO THE STATE DIVISION OF SOIL AND WATER CONSERVATION FOR THE REVIEW AND APPROVAL, RATHER THAN SUBMISSION TO EACH JURISDICTION CONCERNED. HOWEVER, IF THE APPLICANT CHOOSES TO SUBMIT HIS PLANS TO THE STATE DIVISION OF SOIL AND WATER CONSERVATION RATHER THAN THE LOCAL JURISDICTION HE SHALL NOTIFY, BY CERTIFIED MAIL, THE ADMINISTRATOR OF HIS INTENTION AT THE SAME TIME OF

(G) THE REQUIREMENTS OF THIS CHAPTER SHALL BE INTEGRATED AND IMPLEMENTED IN CONJUNCTION WITH ANY PROJECT REQUIRING COMPLIANCE PRIOR TO ANY LAND DISTURBING ACTIVITY, INCLUDING SUBDIVISIONS, SITE PLANS, AND ANY OTHER PLANS OF DEVELOPMENT; THOSE PROJECTS WITHIN THE FLOOD HAZARD OVERLAY DISTRICT ESTABLISHED IN THE ZONING ORDINANCE, CHAPTER 22 OF THIS CODE; AND ANY DAM BREAK INUNDATION ZONE THAT HAS BEEN MAPPED AS PROVIDED IN SECTION 10.1-606.3 OF THE CODE OF VIRGINIA.

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EROSION AND SEDIMENT CONTROL NOTES	
DESIGNED BY: DRAWN BY: CHECKED BY: SCALE: NOI DATE: MAY 16 PROJECT NUMBER: 18060133	DAA MJR CAH NE , 2022 3-010301

EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION PROPOSED FIRE TRAINING BUILDING INCLUDING SITE GRADING AND INFRASTRUCTURE IMPROVEMENTS ON AN EXISTING 9.82 AC. LOT IN FLUVANNA COUNTY, VIRGINIA.

EXISTING CONDITIONS

APPROXIMATELY 1 OF THE EXISTING SITE CLOSEST TO JAMES MADISON HIGHWAY HAS BEEN CLEARED, AND CONTAINS A COMMUNITY CENTER ON IT. THE REMAINING SOUTHERN PORTION OF THE SITE IS HEAVILY WOODED. THE SITE SLOPES TOWARDS AN EXISTING CONCRETE DITCH AND MANMADE CHANNEL AT THE NORTH WESTERN END OF THE PROPERTY AT A SLOPE OF APPROXIMATELY 3%.

SUILS THE SOILS ON THE SITE, PER USDA NRCS SOIL MAPPING, ARE CLASSIFIED AS AK-APPLYING SANDY LOAM, UNDULATING PHASED, HYDROLOGIC SOIL GROUP (HSG) "B".

ADJACENT AREAS

THE SUBJECT PROPERTY IS BORDERED BY A WOODED LOT TO THE SOUTH-WEST; FIRE STATION OWNED BY THE COUNTY TO THE NORTH-EAST; AND A WOODED LOT TO THE NORTH-WEST.

CRITICAL EROSION AREAS THERE ARE NO CRITICAL EROSION AREAS IDENTIFIED FOR THIS SITE.

<u>STOCKPILING</u>

TEMPORARY SOIL STOCKPILE AREA(S) WILL BE LOCATED ON THE SITE (SEE SHEET C3.0 FOR LOCATION). CARE SHALL BE TAKEN TO ENSURE PROPER EROSION AND SEDIMENTATION CONTROL OF THE SITE AT ALL TIMES.

STRUCTURAL PRACTICES

- 1. TEMPORARY CONSTRUCTION ENTRANCE 3.02 A STONE PAD, LOCATED AT THE POINT OF VEHICULAR INGRESS AND EGRESS TO THE CONSTRUCTION SITE. THE PURPOSE IS TO PREVENT OR REDUCE THE AMOUNT OF MUD TRANSPORTED TO THE PUBLIC ROAD. SEDIMENT DISLODGED OR WASHED FROM THE VEHICLE SHOULD BE CONTAINED WITHIN A PROPER SEDIMENT TRAPPING AREA. ALL VEHICLES ENTERING AND EXISTING A DISTURBED AREA SHALL USE THE ENTRANCE.
- 2. SUPER SILT FENCING (WITH WIRE BACKING) 3.05 TO BE INSTALLED DOWN SLOPE OF DISTURBED AREAS TO FILTER SEDIMENT LADEN RUNOFF.
- 3. INLET PROTECTION 3.07 TO BE INSTALLED ON EXISTING INLETS PRIOR TO CONSTRUCTION AND ALL PROPOSED INLETS AS THEY ARE INSTALLED TO FILTER SEDIMENT LADEN RUNOFF BEFORE ENTERING STORM DRAIN INLETS AND PIPING SYSTEMS.
- 4. TEMPORARY DIVERSION DIKE 3.09 WHEREVER STORMWATER RUNOFF MUST BE TEMPORARILY DIVERTED TO PROTECT DISTURBED AREAS AND SLOPES OR RETAIN SEDIMENT ON SITE DURING CONSTRUCTION. THESE STRUCTURES GENERALLY HAVE A LIFE EXPECTANCY OF 18 MONTHS OR LESS, WHICH CAN BE PROLONGED WITH PROPER MAINTENANCE.
- 5. <u>OUTLET PROTECTION 3.18</u> OUTLET PROTECTION APPLICABLE TO THE OUTLETS OF ALL PIPES AND ENGINEERED CHANNEL SECTIONS.
- 6. TREE PROTECTION 3.38 TEMPORARY FENCE TO BE INSTALLED AROUND TREES OR VEGETATION TO REMAIN TO PREVENT DAMAGE DURING CONSTRUCTION. THE FENCING SHALL BE INSTALLED ALONG THE DRIP LINE OF THE TREE WHERE POSSIBLE. NO CONSTRUCTION TRAFFIC OR STORAGE OF MATERIALS IS ALLOWED WITHIN THE FENCING.

VEGETATIVE PRACTICES

GENERAL: A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED BY CONCRETE, PAVEMENT OR LANDSCAPED MULCHED BEDS. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. NEW VEGETATION SHALL BE MAINTAINED FOR ONE FULL YEAR AFTER PLANTING. NEW SEEDING SHALL BE SUPPLIED WITH ADEQUATE MOISTURE, ESPECIALLY LATE IN THE SEASON, AND IN ABNORMALLY HOT OR DRY WEATHER. STABILIZATION PRACTICES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE APPROPRIATE VESCH STD. & SPEC. AND AS PER THE EROSION AND SEDIMENT CONTROL PLAN. SELECTION OF THE APPROPRIATE SEED MIXTURE FOR TEMPORARY SEEDING WILL DEPEND UPON THE TIME OF YEAR IT IS APPLIED.

<u>TOPSOILING – 3.30</u>

A 2" TO 4" LAYER OF TOPSOIL SHALL BE APPLIED TO ALL LANDSCAPED AND GRASSED AREAS. THE TOPSOIL SHALL BE FREE OF ROCKS AND DEBRIS. TOPSOIL ALLOWS A STRONGER AND HEALTHIER STAND OF GRASS TO ESTABLISH QUICKLY TO STABILIZE UNPAVED AREAS OF THE SITE.

2. <u>TEMPORARY SEEDING - 3.31</u>

TEMPORARY SEEDING SHALL BE APPLIED OVER ALL DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE WITHIN 14 DAYS, AREAS SHALL BE RESERVED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION WHICH IS CAPABLE OF PREVENTING FROSION. TEMPORARY SEEDING MIXES AND MAINTENANCE PROCEDURES SHALL BE AS DESCRIBED IN VESCH STD. & SPEC. 3.31.

- 3. PERMANENT SEEDING 3.32 PERMANENT SEEDING SHALL BE APPLIED TO ALL AREAS WITHIN SEVEN (7) DAYS OF ACHIEVING FINAL GRADE WHICH WILL NOT RECEIVE HARDSCAPE OR OTHER LANDSCAPE. PERMANENT SEEDING SHALL ALSO BE USED ON ALL AREAS NOT AT FINAL GRADE BUT WILL BE LEFT DORMANT FOR A PERIOD OF MORE THAN ONE (1) YEAR. IF CONFLICTS EXIST BETWEEN THE PROJECT SPECIFICATIONS AND THE VESCH STD. & SPEC. 3.32, THE MORE STRINGENT REQUIREMENT SHALL APPLY. PERMANENT SEEDING MIXES AND RATES, SOIL TESTING REQUIREMENTS AND MAINTENANCE PROCEDURES ARE FOUND IN VESCH STD. & SPEC. 3.32.
- MULCHING 3.35 4.

APPLICATION OF PLANT RESIDUES OR OTHER SUITABLE MATERIALS TO THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND REDUCING THE VELOCITY OF OVERLAND FLOW. IT IS ALSO USED TO FOSTER THE GROWTH OF VEGETATION BY INCREASING AVAILABLE MOISTURE AND PROVIDING INSULATION AGAINST EXTREME HEAT AND COLD. MULCHING WILL BE APPLIED THROUGHOUT CONSTRUCTION ON DENUDED AREAS. APPLICATION RATES AND MULCHING TYPES ARE FOUND IN VESCH STD. & SPEC. 3.35.

5. <u>DUST CONTROL - 3.39</u> DUST CONTROL MEASURES SHALL BE USED OVER THE ENTIRE SITE TO REDUCE SURFACE AND AIR MOVEMENT OF DUST DURING LAND DISTURBANCE, DEMOLITION, AND CONSTRUCTION ACTIVITIES.

MANAGEMENT STRATEGIES

- 1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- 2. THE CONSTRUCTION ENTRANCE, THE PROPOSED SILT FENCES, TREE PROTECTION AND INLET PROTECTION MUST BE INSTALLED FIRST WITH MINIMAL AMOUNTS OF CLEARING AND GRADING.
- 3. STOCKPILES SHALL BE PROTECTED WITH SILT FENCING AT ALL TIMES AND SEEDED IF LEFT TO REMAIN ON THIS SITE FOR A PERIOD OF MORE THAN 14 DAYS.

ENVIRONMENTAL INSPECTOR.

PERMANENT STABILIZATION

OWNER'S.

OPERATION.

UTILITIES.

<u>MAINTENANCE</u>

PAVEMENT AREAS.

CONTROL DEVICES.

PROPERLY FUNCTIONING.

REQUIRED.

INCREMENTS AS NEEDED.

4. TEMPORARY SEEDING OR OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING.

5. THE CONTRACTOR (JOB SUPERINTENDENT) SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.

6. WITHIN 30 DAYS AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED ONLY WITH THE APPROVAL OF THE

PERMANENT STABILIZATION SHALL BE APPLIED TO ALL DISTURBED AREAS THAT ARE TO BE LEFT DORMANT FOR A YEAR OR MORE. ALL AREAS WITHIN THE LIMITS OF DISTURBANCE SHALL BE STABILIZED WITH PERMANENT SEEDING, LANDSCAPING OR PAVEMENT FOLLOWING THE FINAL GRADING (SEE PERMANENT SEEDING TABLE SHEET C6.0).

EROSION CONTROL SEQUENCE OF CONSTRUCTION

1. INSTALL TEMPORARY STONE CONSTRUCTION ENTRANCE.

2. INSTALL PERIMETER EROSION CONTROL DEVICES LOCATED WITHIN THE LIMITS OF LAND DISTURBANCE. CONTACT FLUVANNA COUNTY EROSION CONTROL INSPECTOR FOR INSPECTION PRIOR TO COMMENCING ANY LAND DISTURBANCE. LAND DISTURBANCE MAY NOT OCCUR UNTIL THE INSTALLATION OF THE INITIAL EROSION & SEDIMENT CONTROL MEASURES HAS BEEN APPROVED BY THE ENVIRONMENTAL INSPECTOR.

3. BEGIN SITE DEMOLITION ACTIVITIES INCLUDING TREE REMOVAL AND SELECTIVE SITE DEMOLITION ACTIVITIES PER COORDINATION WITH APPROPRIATE AUTHORITIES AND UTILITY

4. ADJUST ALL EROSION CONTROL DEVICES AS NECESSARY IN ORDER TO MAINTAIN PROPER FUNCTION AND EACH DEVICE SHALL BE MAINTAINED AS NECESSARY TO PROMOTE CORRECT

5. CONSTRUCT PHASE 1 INFRASTRUCTURE (INCLUDING INLET PROTECTION) & UNDERGROUND

6. BEGIN PHASE 2 OF THE EROSION CONTROL PLAN AND COMPLETE CONSTRUCTION OF THE

7. STABILIZE SITE DURING AND AT THE CONCLUSION OF CONSTRUCTION PER VESCH STDS.

8. AFTER ALL UPSLOPE AREAS HAVE BEEN STABILIZED, AND ONLY WITH THE APPROVAL OF THE FLUVANNA COUNTY EROSION CONTROL INSPECTOR, REMOVE ALL REMAINING EROSION

PRIOR TO ANY LAND DISTURBING ACTIVITY. A LAND DISTURBANCE/VPDES PERMIT MUST BE SECURED. IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED PER THE REQUIREMENTS OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) CONSTRUCTION GENERAL PERMIT (CGP). DURING CONSTRUCTION, THE CONTRACTOR'S DESIGNATED RLD WILL BE RESPONSIBLE FOR INSPECTIONS AND REPAIR OF DAMAGED EROSION/SEDIMENT CONTROL MEASURES. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

1. THE STONE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD OFF OF THE SITE. THE STONE MAY NEED TO BE WASHED AND REWORKED OR ADDITIONAL STONE ADDED TO ENSURE THE ENTRANCE IS

2. THE SILT FENCE, TREE PROTECTION AND INLET PROTECTION BARRIERS SHALL BE CHECKED FOR UNDERMINING AND DETERIORATION OF OR DAMAGE TO THE FABRIC. DAMAGES SHALL BE IMMEDIATELY REPAIRED. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES ONE HALF THE HEIGHT OF THE BARRIER. a.LOW POINTS IN THE SILT FENCE SHALL BE CHECKED FOR DAMAGE CAUSED BY PONDING WATER. IF DAMAGE IS FOUND. ADDITIONAL ROWS OF SILT FENCE SHALL BE PLACED BEHIND AND PARALLEL TO THE PRIMARY ROW AT INCREMENTS OF ONE FOOT AS

b.SILT FENCE 'DAMS' INSTALLED PERPENDICULAR TO THE PRIMARY RUN TO SLOW RUNOFF ALONG THE SILT FENCE SHALL BE CHECKED FOR SCOUR AROUND THE EDGE. IF SCOURING IS OBSERVED, ADDITIONAL SECTIONS ARE TO BE PLACED UPHILL IN SMALLER

3. THE STORM DRAIN INLET PROTECTION SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED ONCE IT HAS REACHED ONE HALF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FOR THE BLOCKS, CLEANED AND/OR REPLACED.

4. THE SEEDED AND MULCHED AREAS SHALL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED. REFER TO ESC TECHNICAL BULLETIN #4. PROVIDE REMEDIAL STABILIZATION AND SEEDING FOR A PERIOD OF ONE YEAR AFTER CONSTRUCTION.

CAROLYN A Lic. No. 5/16/	OF Howard A Howard A 42775 22
Engineering • Surveying • Environmental Services	 110 Avon Street Richmond, VA Raleigh, NC Charlottesville, VA 22902 Blacksburg, VA Fayetteville, NC 434-295-0700 Fax: 434-295-2105 Hampton Roads, VA Virginia Beach, V.
EROSION AND SEDIMENT CONTROL NARRATIVE	BUILDING SITE FLUVANNA COUNTY, VIRGINIA
DESIGNED BY: DRAWN BY: CHECKED BY: SCALE: NON DATE: MAY 16 PROJECT NUMBER: 18060133 C1	DAA MJR CAH VE , 2022 -010301 .3

NOTES:

1.) Source of Meridian: Virginia State Plane GRID North NAD 83 South Zone based upon GPS Observation performed on February 28, 2019.

2.) Vertical datum: NAVD 88 based upon GPS Observation performed on February 28, 2019. 3.) This survey was prepared without the benefit of a title commitment or title report and all easements and encumbrances that might be disclosed in a title search may not be shown. 4.) Utilities shown are based upon:

_____SUE Quality Level D, ASCE 38-02 - compiled records only _____SUE Quality Level C, ASCE 38-02 - visible evidence in conjunction with compiled records. ____SUE Quality Level B, ASCE 38-02 - field designation of underground utilities performed by (DAA; Miss Utility, Ticket # ______; Other) and visible evidence in conjunction with compiled records.

_____SUE Quality Level A, ASCE 38-02 - test pits at locations shown hereon performed by (DAA; Other) in conjunction with field designation of underground utilities performed by (DAA; Miss Utility, Ticket # ______; Other), visible evidence and compiled records. __X_No_SUE was performed or requested for this survey. Utilities shown hereon are based on field

observation only.

5.) This Topographic Survey of Fork Union Fire Training Building Site was completed under the direct and responsible charge of Cheryl Stockton from an actual Ground survey made under my supervision; that the imagery and/or original data was obtained on March 29, 2019; and that this plat and/or map meets minimum accuracy standards unless otherwise noted. 6.) Contour interval: 1'.

7.) This survey was prepared for the County of Fluvanna. Draper Aden Associates assumes no liability for reuse or modification of this document.

8.) No current field run boundary survey was performed. Property lines shown hereon are compiled from record information.

9.) Draper Aden Associates provides benchmarks for the construction of the improvements shown on these plans. All other existing elevations are for reference to existing conditions only. Do not use spot elevations, finish floor elevations, elevations on manholes, elevations on survey nails, survey hubs, control points (horizontal points provided) or any other points for construction other than the provided benchmarks. Failure to utilize and verify the provided benchmarks could result in damages and additional cost that are the contractor's responsibility.

10.) The subject property shown hereon appears to be situated in FEMA Floodplain Zone X (Unshaded) per FIRM 51065C0125C May 16, 2008.

	CURVE TABLE								
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD LENGTH	CHORD BEARING				
C1	741.20'	277.58'	21°27'27"	275.96'	S72°13'07"E				
C2	384.26'	388.98'	58°00'00"	372.59'	S53°56'51"E				
С3	597.96'	229.60'	22°00'00"	228.19'	S35°56'51"E				
C4	35.00'	48.87'	80°00'00"	45.00'	S06°56'51"E				

TMP 51-A-129A BOARD OF SUPERVISORS FLUVANNA COUNTY DB 166 PG 433

IRON ROD FOUND



	Property Line
	Contour
	Gas Line
	Overhead Power
ss ——	Sanitary Sewer and Manhole
=	Storm Line and Manhole
	Storm Line and Inlet
	Underground Cable TV
	Underground Electric
	Underground Telephone
	Underground Fiber Optic
	Unknown Utility
	Waterline
	Asphalt
	Building
X	Fence (as noted)
	Stream
$\bigvee \bigcirc \bigcirc$	Treeline
	Guy Wire

\odot	Rod Found
	Monument Found
\bigcirc	Telephone Pedestal
()	Telephone Manhole
\boxtimes	Telephone Box
-0-	Fire Hydrant
\otimes	Water Valve
\ominus	Water Meter
$\langle \circ \rangle$	Well
\star	Benchmark
0	Bollard
0	Sign (1-post)
-0-0-	Sign (2-post)
1561.3	Spot Elevation
\bigcirc	Deciduous Tree
\ast	Evergreen Tree
63	Shrub
	Concrete



Draper Aden Associates	Engineering • Surveying • Environmental Services110 Avon Street• Richmond, VA134-295-0700 Fax: 434-295-2105• Blacksburg, VA434-295-0700 Fax: 434-295-2105• Hampton Roads, VA• Virginia Beach, VA
TOPOGRAPHIC SURVEY	FORK UNION FIRE TRAINING BUILDING SITE FLUVANNA COUNTY, VIRGINIA
DESIGNED BY DRAWN BY: CHECKED BY SCALE: DATE: MA PROJECT NU 18060	Y: /: (1"=40' AY 16, 2022 MBER: 0133-010301





	CAROLYN A. F Lic. No. 42 5/16/2 SSTONAL	Noward 5 2775 22
	Engineering • Surveying • Environmental Services	 110 Avon Street Richmond, VA Fayetteville, NC Charlottesville, VA 22902 Blacksburg, VA Fayetteville, NC 434-295-0700 Fax: 434-295-2105 Hampton Roads, VA Virginia Beach, VA
	WATER AND STORM PROFILES FORK UNION FIRE TRAINING	BUILDING SITE FLUVANNA COUNTY, VIRGINIA
60 	DESIGNED BY: DAWN BY: CHECKED BY: C/ SCALE: 1"= DATE: MAY 16, 20 PROJECT NUMBER: 18060133-0 C4.	AA JR AH =30' 022 10301 1

	GRA	APHIC S	CALE
30	0	15	30
		(IN FEFT)

NN

1 inch = 30 ft.

TR-55 CALCULATIONS SUMMARY FOR 1-YR & 10-YR STORM EVENTS FLOOD PROTECTION 9VAC25-870-66(C)(2)(B))

Catchments Sun	mary	Scenario	Return	Hydrograp	h Time	to Peak	Peak Flow		
Laber		Scenario	Event (years)	Volume (ac-ft)	(h	ours)	(ft ³ /s)		
DA-PRE DA-PRF	1-Yr 9	Storm Storm	1	0	.026	12.000	0.36 2.10		
DA-1	1-Yr 9	Storm	1	0	.065	11.950	1.17		
DA-1	10-Yr	Storm	10	0	.155	11.900	2.72		
DA-2 DA-2	1-Yr S 10-Yr	Storm Storm	1 10	0	.015	12.000	0.24 1.08		
			I		I	I			
ode Summary		Scenario	Return	Hvdroaran	h Time	to Peak	Peak Flow		
Luber		Scenario	Event	Volume	(h	ours)	(ft ³ /s)		
O-A (POST)	1-Yr 5	Storm	(jcars)	0	.028	12.000	0.24		
O-A (POST)	10-Yr	Storm	10	0	.162	12.000	2.05		
O-A (PRE) O-A (PRE)	1-Yr S	storm Storm	10	0	.026	12.000	0.36		
ond Summary									
Label Sc	enario	Return Event	Hydrograph Volume	Time to Peak	Peak Flow (ft ³ /s)	Maximum Water	n Maximum Pond Storage		
		(years)	(ac-ft)	((,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Surface	(ac-ft)		
	itorm	1 1	0.065	11 950	1 17	(ft)	A) (N/A)		
PO-1 (OUT) 1-Yr 9	Storm		0.003	13.950	0.04	364.7	76 0.044		
PO-1 (IN) 10-Yr	Storm	10	0.155	11.900	2.72	(N/	A) (N/A)		
PO-1 (OUT) 10-Yr	Storm	10	0.101	12.100	1.20	365.0	01 0.070		
FC Fire Training-minor upc 3/2/2021	ate.ppc	B	entley Systems, Ir 27 Siemon Cor Watertown, CT 06	nc. Haestad Metho Center mpany Drive Suite : 5795 USA +1-203-	ds Solution 200 W 755-1666		PondPack CONNECT [10.02 Page	Edition 000.01] e 1 of 1	

ENERGY BALANCE EQUATION (CHANNEL PROTECTION 9VAC25-870-66(B)(3))

0.98	Ac
0.9	١F

Ac.

Energy Balance Site Area Improvement Factor (0.8 for sites greater than 1 acre & 0.9 for sites less than or equal to 1 acres)

			ENI	ERGY BALA	NCE COMPLIAI	NCE TABLE					
		1 - YEAR STORM EVENT									
						FORE	STED COM	NDITION			
	VOLUME PEAK		Q ALLOW								
OUTFALL	(A)	C-FT)	(CFS)	(CFS)	VOL	PEAK	Q ALLOW	COMPLIANCE?		
	PRE	POST	PRE	POST		(AC-FT)	(CFS)	(CFS)			
Α	0.026	0.028	0.36	0.24	0.30	0.009	0.02	0.01	YES		

BE REQUIRED TO BE LESS THAN THAT CALCULATED AS Q ALLOW IN THE FORESTED CONDITION SECTION ABOVE.

THE POST DEVELOPMENT FLOW OF 0.24 CFS IS LESS THAN THE ALLOWABLE FLOW OF 0.30 CFS.

10-YR HYDRAULIC PIPE CALCULATION (MANNING'S EQUATION)

			Results	
			Flow, Q	2.0532
Sot unite: m mm ft in			Velocity, v	3.6229
			Velocity head, h _v	2.4479
Pipe diameter, d ₀	15	in 🗸	Flow area	0.5668
Manning roughness, n ?	.013		Wetted perimeter	1 8884
Pressure slope (possibly ? equal to pipe slope), S ₀	.5	% rise/run \smallsetminus	Hydraulic radius	0.2004
Percent of (or ratio to) full depth (100% or 1 if flowing full)	47	% ~		0.3001
			lop width, l	1.2477
			Froude number, F	0.95
			Shear stress (tractive force), tau	4.4850

MPORAR	Y SEEDIN	G (TS)			STEALTH OF L		
LE 3.31-B ACC	EPTABLE TEMPOR "QUICK RE	RARY SEEDING PLA	NT MATERIALS REGIONS"		CAROLYN A. HOWARD		
VIING DATES SPECIES RATE (LBS./ACRE) I. 1-FEB. 15 50/50 MIX OF ANNUAL RYEGRASS 50-100 (LOLIUM MULTI-FLORUM) & CEREAL (WINTER) RYE (SECALE CEREALE)							
. 16–APR. 30	ANNUAL RYEGRA	ass <u>(lolium muli</u>	<u>1-FLORUM)</u> 60-100		N S		
1-AUG. 31	GERMAN MILLET	<u>(SETARIA ITALICA)</u>	50-100		<i>es</i> nc rille, nc Beach Beach		
					J <i>Servic</i> aleigh, ayettev ortherr irginia		
					SS SS VA VA vads, v		
	TEMPORARY SE	EEDING		-	Envi Envi nond, V sburg,		
					ng • Black		
		TABLE 3.35-A	MU		urveyi 05		
ORGAN	NIC MULCH MA	ATERIALS AND A	PPLICATION RATES		• S ₁		
MULCHES.	RA	TES:	NOTES:		ering Street Street :: 434-: a.com		
Strow or How	Per Acre	Per 1000 sq. ft. $70 - 90$ lbs	Free from weeds and coarse		ajo <i>Avon</i> Nw.da		
Shaw of Hay	(Minimum 2 tons for winter cover)	70 - 90 103.	matter. Must be anchored. Spread with mulch blower or by hand.		E E 110 Charlott 134-295-07(
Fiber Mulch	Minimum 1500 lbs.	35 lbs.	Do not use as mulch for winter cover or during hot, dry periods.* Apply as slurry.				
Corn Stalks	4 - 6 tons	185 - 275 lbs.	Cut or shredded in 4-6" lengths. Air-dried. Do not use in fine turf areas. Apply with mulch blower or by hand.				
Wood Chips	4 - 6 tons	185 - 275 lbs.	Free of coarse matter. Air- dried. Treat with 12 lbs nitrogen per ton. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.		AILS		
Bark Chips or Shredded Bark	50 - 70 cu. yds.	1-2 cu. yds.	Free of coarse matter. Air- dried. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.		ROL DET		
* When fiber r should be used	mulch is the only I, apply at a mini	available mulch c mum rate of 2000	luring periods when straw lbs./ac. or 45 lbs./1000 sq. ft.				
					Ц Щ I		
					┙ ╝ ┙ ┙ ┙ ┙		
	18" MIN		COMPACTED SOIL		EROSION & SEDIN FORK UNION F BUILDING SITE FLUVANNA COUNTY, VIRGIN		
					REVISIONS		

TEMPORARY DIVERSION DIKE
NOT TO SCALE

DESIGNED BY: DAA DRAWN BY: MJR CHECKED BY: CAH SCALE: NONE MAY 16, 2022 PROJECT NUMBER: 18060133-010301 C6.0

DATE

TOPSOILING	(TO)

FIELD EXPLORATION OF THE SITE SHALL BE MADE TO DETERMINE IF THERE IS SUFFICIENT SURFACE SOIL OF GOOD QUALITY TO JUSTIFY STRIPPING. TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM). IT SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, ROOTS, AND NOXIOUS WEEDS, AND SHALL GIVE EVIDENCE OF BEING ABLE TO SUPPORT HEALTHY VEGETATION. IT SHALL CONTAIN NO SUBSTANCE THAT IS POTENTIALLY TOXIC TO PLANT GROWTH.

- ALL TOPSOIL SHALL BE TESTED BY A RECOGNIZED LABORATORY FOR THE FOLLOWING CRITERIA: • ORGANIC MATTER CONTENT SHALL BE NOT LESS THAN 1.5% BY WEIGHT.
- PH RANGE SHALL BE FROM 6.0-7.5. IF PH IS LESS THAN 6.0. LIME SHALL BE ADDED IN ACCORDANCE WITH SOIL TEST RESULTS OR IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE VEGETATIVE ESTABLISHMENT PRACTICE BEING USED.

• <u>SOLUBLE SALTS SHALL NOT EXCEED 500 PPM.</u> IF ADDITIONAL OFF-SITE TOPSOIL IS NEEDED, IT MUST MEET THE STANDARDS STATED ABOVE.

STRIPPING: TOPSOIL OPERATIONS SHOULD NOT BE PERFORMED WHEN THE SOIL IS WET OR FROZEN. STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA. A 4-TO 6-INCH STRIPPING DEPTH IS COMMON, BUT DEPTH MAY VARY DEPENDING ON THE PARTICULAR SOIL. ALL PERIMETER DIKES, BASINS, AND OTHER SEDIMENT CONTROLS SHALL BE IN PLACE PRIOR TO STRIPPING.

STOCKPILING: TOPSOIL SHALL BE STOCKPILED IN SUCH A MANNER THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE SHALL RESULT. STABILIZE OR PROTECT STOCKPILES IN ACCORDANCE WITH MS #2. SIDE SLOPES OF THE STOCKPILE SHALL NOT EXCEED 2:1. PERIMETER CONTROLS MUST BE PLACED AROUND THE STOCKPILE IMMEDIATELY; SEEDING OF STOCKPILES SHALL BE COMPLETED WITHIN 7 DAYS OF THE FORMATION OF THE STOCKPILE, IN ACCORDANCE WITH STD. & SPEC. 3.31, TEMPORARY SEEDING IF IT IS TO REMAIN DORMANT FOR LONGER THAN 30 DAYS (REFER TO MS #1 AND MS #2).

LIMING: WHERE THE PH OF THE SUBSOIL IS 6.0 OR LESS, OR THE SOIL IS COMPOSED OF HEAVY CLAYS, AGRICULTURAL LIMESTONE SHALL BE SPREAD IN ACCORDANCE WITH THE SOIL TEST OR THE VEGETATIVE ESTABLISHMENT PRACTICE BEING USED.

BONDING: AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY DISCING OR SCARIFYING TO A DEPTH OF AT LEAST 2 INCHES TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.

APPLYING TOPSOIL: TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN TOPSOIL OR SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 2 INCHES ON 3:1 OR STEEPER SLOPES AND 4 INCHES ON FLATTER SLOPES. ANY IRREGULARITIES IN THE SURFACE, RESULTING FROM TOPSOILING OR OTHER OPERATIONS, SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL AND TO OBTAIN A LEVEL SEEDBED FOR THE ESTABLISHMENT OF HIGH MAINTENANCE TURF. HOWEVER, UNDUE COMPACTION IS TO BE AVOIDED AS IT INCREASES RUNOFF VELOCITY AND VOLUME, AND DETERS SEED GERMINATION. SPECIAL CONSIDERATION SHOULD BE GIVEN TO THE TYPES OF EQUIPMENT USED TO PLACE TOPSOIL IN AREAS TO RECEIVE FINE TURF. AVOID UNNECESSARY COMPACTION BY HEAVY MACHINERY WHENEVER POSSIBLE.

TOPSOIL OR PAVEMENT -(SEE PLANS)

> DETECTABLE WARNING TAPE

*IN PAVEMENT AREAS, BACKFILL TRENCH WITH

CAREFULLY COMPACTED VDOT #21A OR #21B-

NOTES:

C4.0 C6.1

NOT TO SCALE

CAROLYN A Lic. No. 5/16/	OF Howard Z Howard Z 42775 22
Engineering • Surveying • Environmental Services	 110 Avon Street Richmond, VA Raleigh, NC Charlottesville, VA 22902 Blacksburg, VA Fayetteville, NC 434-295-0700 Fax: 434-295-2105 Hampton Roads, VA Virginia Beach, VA
DETAILS FORK LINION FIRE TRAINING	S BUILDING SITE FLUVANNA COUNTY, VIRGINIA
DESIGNED BY: DRAWN BY: CHECKED BY: SCALE: NOP DATE: MAY 16 PROJECT NUMBER: 18060133 C6	DAA MJR CAH NE , 2022 -010301

TAPPING

SEE PLAN FOR PIPE SIZE

GATE VALVE-

NOT TO SCALE

6

c4.0<u>c6</u>.2

VALVE

TYPICAL TAPPING SLEEVE AND VALVE DETAIL

5

C4.0 C6.2

NOT TO SCALE

- 6. ALL WALL LAYOUT DIMENSIONS ARE FROM FACE OF STUD & FACE OF CMU UNLESS OTHERWISE NOTED.
- 5. UNLESS NOTED OTHERWISE, ALL FLOOR DRAINS SHALL BE SET 1/4" MAX. BELOW FIN FLOOR. DISH FIN. FLOOR MIN. OF 24" RADIUS TO TOP OF FLOOR DRAIN.
- 4. ALL EXTERIOR ENTRANCE PADS SHALL BE SLOPED 5% MAX AWAY FROM THE BUILDING TO EDGE OF PAD.
- 3. THE PERIMETER CONCRETE APRON SHALL BE SLOPED 2% AWAY FROM THE BUILDING TO THE EDGE OF THE APRON.
- 2. COORDINATE LOCATION OF MEP EQUIPMENT, DEVICES, OUTLET BOXES, ETC. WITH OTHER EQUIPMENT AND FINISH SCHEDULE PRIOR TO INSTALLATION.

L REPORTS, PLANS SPECIFICATIONS AND ROJECT ARE THE PROPERTY OF CRABTRE THE RESERVED RIGHTS INCLUDING THE I THE RATERIAL HEREIN OR SUBSTANTIAL ABTREE, ROHRBAUGH & ASSOCIATES VIO CRABTREE, ROHRBAUGH & ASSOCIATES,	COMPUTER FILES RELATING TO THIS E, ROHRBAUGH & ASSOCIATES. TAINS ALL COMMON LAW, STATUTE AND COPYRIGHT THERETO. REPRODUCTION USE WITHOUT WRITTEN PERMISSION OF DLATES THE COPYRIGHT LAWS OF THE EGAL PROSECUTION. INC 2020 SIONS
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JGH & ASSOCIATES - ARCH MECHANICSBURG, PENNSYLVANIA www.cra-ar TOWSON, MARYLAND www.cra-ar WHITE SULPHUR SPRINGS, WEST VIRGINIA	COUNTY FIRE-BURN BUILDING FLUVANNA COUNTY ES MADISON HIGHWAY, PALMYRA, VIRGINIA
CRABTREE ROHRBAU 250 WEST MAIN STREET, SUITE 200 CHARLOTTESVILLE VA 22902 434-975-7262	FLUVANNA C 5725 JAME
CR	
FIRST & SECOND FLOOR PLAN LOT SCALE: 1/4" = 1'-0" ILENAME: ATE: 5/16/2022	ркојест 3461 A1.1

LEGEND		ROOF PLAN NOTES:		
LP HP OD	LOW POINT HIGH POINT OVERFLOW DRAIN FLOW DIRECTION	 COORDINATE ROOF-MOUNTED EQUIPMENT & PENETRATIONS. REFER TO MEP DRAWINGS. CRICKETS AND SADDLES SHALL HAVE A MINIMUM OF TWO TIMES THE SLOPE OF THE PRIMARY TAPERED SYSTEM OR STRUCTURAL SLOPE. 		
	INDICATES CONCRETE DECK WITH WATERPROOF COATING AND BROOM FINISH, SLOPE TP DRAIN			
	INDICATES CLASS "A" FIBERGLASS REINFORCED ROOF SHINGLE OVER			

1FIRST FLOOR REFLECTED CEILING PLANA1.31/4" = 1'-0"

REFLECTED CEILING PLAN GENERAL NOTES: ALL METAL TO BE GALVANIZED.
 ALL METAL SMOKE DUCT TO BE GALVANIZED AND SUSPEND FROM STEEL DECK AND BEAMS WITH GALVANIZED (NON-CORROSIVE) HANGERS.

2 SECOND FLOOR REFLECTED CEILING PLAN A1.3 1/4" = 1'-0"

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CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS 250 WEST MAIN STREET, SUITE 200 CHARLOTTESVILLE VA 22902 434-975-7262 CHARLOTESVILLE VA 22902 CHARLOTTESVILLE VA 22902 CHAR	FLUVANNA COUNTY FIRE-BURN BUILDING FLUVANNA COUNTY 5725 JAMES MADISON HIGHWAY, PALMYRA, VIRGINIA
FIRST AND SECOND FLOOR REFLECTED CEILING PLANS PLOT SCALE: 1/4" = 1'-0" FILENAME: DATE: 5/16/2022	р ројест 3461 A1.3

TAG	ELEVATION NOTE
1	VERTICAL METAL PANEL SYSTEM
2	PREFORMED METAL CORNER TRIM BY METAL PANEL SIDING SYSTEM MANUFACTURER
3	GALVANIZED METAL PIPE RAIL
4	ROOFING MATERIAL - CLASS "A" FIRE RATING
5	PREFORMED METAL ROOF EDGE TRIM
6	EXPOSED CONCRETE FOUNDATION
7	STAINLESS STEEL DRAINAGE SCUPPER - SEE DETAILS
8	GALVANIZED STEEL WINDOW/SHUTTER AND FRAME ASSEMBLY
9	GALVANIZED STEEL DOOR AND FRAME ASSEMBLY
10	GALVANIZED METAL LADDER PANEL OVER METAL SIDING SYSTEM
11	GALVANIZED 4"H X 8"W METAL SMOKE RELIEF VENT. INSTALL 8 VENTS IN EACH BURN ROOM. ALL VENTS TO INCLUDE METAL INSECT SCREEN
12	GALVANIZED STEEL STAIR ASSEMBLY
13	GALVANIZED STEEL SHIPS LADDER ASSEMBLY
14	NFPA SIGN, SEE DETAIL
15	LIVE FIRE TRAINING USAGE SIGN, SEE DETAIL
16	GALVANIZED SAFETY CHAIN WITH EYE BOLT ANCHORS AND RELEASABLE HASP ON ONE SIDE
17	METAL CLAD EXTERIOR THERMAL LINER PANEL. PLACE AT PERIMETER OF ALL BURN ROOM DOOR AND WINDOW OPENINGS.
18	PLYWOOD CHOP OUT PANEL, SEE DETAIL

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OVERALL EXTERIOR ELEVATIONS	ркојест 3461 A2.1

- 1 1/2" TYPICAL ALL SIDES

4 SHIPS LADDER SECTION A4.2 1/2" = 1'-0"

3 TREAD & RISER DETAIL A4.2 1 1/2" = 1'-0"

5 SHIPS LADDER DETAILS A4.2 1 1/2" = 1'-0"

 $24\frac{3}{4}$ out to out bracket

2 SCUPPER AT RECESSED SLAB DETAIL A5.2 3" = 1'-0"

5 PROTECTED BEAM DETAIL A5.2 1 1/2" = 1'-0" LOCK STRIKE & PADLOCK HASP RIGID CANT REINFORCED CONCRETE SLAB, BROOM FINISH AND TEXTURED WATERPROOF COATING OVER METAL DECK — 1/8" GALVANIZED BOX ENCLOSURE WITH PERIMETER 4"X4"X3/16" GALVANIZED
 STEEL ANGLE EACH SIDE, SPRINKLER PIPES WITH VALVES FLANGE, WELD ALL SEAMS TO PROVIDE CLIP ANGLES AND CREATE WATER TIGHT FASTEN TO STEEL GIRTS ABOVE ENCLOSURE -AND BELOW PERIMETER STEEL - STEEL GIRTS BEYOND CLOSURE ANGLE METAL FURRING AS REQUIRE BY THERMAL LINER PANEL SYSTEM MANUFACTURER \square \square WRAP WITH BURN ROOM THERMAL LINING SYSTEM OVER CONTINUOUS STAINLESS VERTICAL EXTERIOR METAL HEAVY GUAGE GALVANIZED METAL HANDLE STEEL PIANO HINGE -WITH LATCH -METAL FRAMING PANEL SYSTEM 1/8" GALVANIZED STEEL METAL PANEL SYSTEM CLOSURE CHANNEL AT OPENING PERIMETER, SEAL TO PERIMETER FLANGE DOOR -----FINISH FLOOR — SEE SCHED.

6 RECESSED SPRINKLER CONTROL BOX A5.2 1 1/2" = 1'-0"

8 ROOF HATCH DETAIL A5.2 1 1/2" = 1'-0"

LADDER SAFETY POST

A6.1

W1

_ FIRST FLOOR 0' - 6"

GALVANIZED STEEL

FRAME ------

WINDOW PANEL AND

13WINDOW HEAD DETAIL - BURN ROOMSA6.13" = 1'-0"

]	=	3"
,	⁄3" ~	SEE SCHEDULE

- 1" GALVANIZED CORRUGATED METAL PANEL

- METAL STUDS

GALVANIZED METAL TRIM WITH HEMMED EDGE

— GALVANIZED STEEL DOOR FRAMES ASSEMBLY

METAL STUDS

METAL FURRING BEYOND AS REQUIRED BY THERMAL LINER PANEL SYSTEM MANUFACTURER BURN ROOM THERMAL LINER PANEL SYSTEM

16" WIDE BURN ROOM INSULATED THERMAL PANEL, INSTALL @ DOOR JAMBS AND HEADER AT ALL BURN ROOM DOORS VERTICAL METAL - **†**----- / -----PANEL SYSTEM STEEL CHANNEL METAL STUDS CONTINUOUS HEAVY GAUGE METAL FURRING BEYOND AS REQUIRED BY THERMAL LINER PANEL SYSTEM MANUFACTURER BURN ROOM THERMAL LINER PANEL SYSTEM, WRAP ALL COLUMNS AND BEAMS IN BURN ROOMS

	DOOR SCHEDULE								
					DOOR				
					DIMENSIONS				
	FRAME				١٨/١٢				
	RATING	ITPE		ITPE		LEAF Z	пеібпі	I HICKNESS	TIPE
100.4		F			3' - 0"		6' - 8"	1 1/2"	Ц1
100A		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
100D		F	STL		3' 0"		6' - 8"	1 1/2"	н1
107		F	STI		3' - 0"	3' - 0"	6' - 8"	1 1/2"	H1
103A		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
103B		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
104		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
105		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
106A		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
106B		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
107A		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
107B		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
108A		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
108B		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
109		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
200		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
201A		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
201B		F	STL		3'0"		6' - 8"	1 1/2"	H1
202		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
203A		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
203B		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
204A		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
204B		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
206A		F	STL		3' - 0"		6' - 8"	1 1/2"	H1
206B		F	STL		3' - 0"		6' - 8"	1 1/2"	H1

FRAME

DETAILS

BURN ROOM THERMAL LINER PANEL SYSTEM

ONTINUOUS HEAVY GAUGE METAL FURRING BEYOND AS REQUIRED BY THERMAL LINER PANEL SYSTEM MANUFACTURER

BURN ROOM INSULATED THERMAL PANEL, APPLY TO FACE OF DOOR FRAME AND BURN ROOM DOOR

GENERAL STRUCTURAL NOTES

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2015 VIRGINIA CONSTRUCTION CODE, PART 1 OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC), EFFECTIVE SEPTEMBER 4, 2018.

NO LOADS IN EXCESS OF THE DESIGN LIVE LOADS LISTED SHALL BE IMPOSED UPON ANY AREA DURING CONSTRUCTION, UNLESS ADEQUATE SHORING OR OTHER MEANS IS PROVIDED TO SUPPORT THE EXCESSIVE LOADS.

IF ANY CHANGES ARE MADE IN WEIGHT AND/OR LOCATION OF POINTS OF SUPPORT OF EQUIPMENT, THE CONTRACTOR SHALL FURNISH DETAILS OF CHANGES TO THE ARCHITECT FOR REVIEW AND NECESSARY MODIFICATIONS.

TEMPORARY BRACING, GUY WIRES, SHORING, ETC., SHALL BE USED AS NECESSARY TO RESIST ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED DURING CONSTRUCTION, INCLUDING EQUIPMENT AND ITS OPERATION.

THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. THE ERECTION PROCEDURE AND SEQUENCE INCLUDING THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

DRAWINGS DO NOT SHOW ALL OPENINGS. COORDINATE WITH MECHANICAL DRAWINGS. VERIFY SIZES AND LOCATIONS OF ALL OPENINGS WITH MECHANICAL. REFER TO ARCHITECTURAL DRAWINGS FOR WATERPROOFING DETAILS.

THE ENGINEER SHALL NOT HAVE THE AUTHORITY OR RESPONSIBILITY TO SUPERVISE OR DIRECT THE CONSTRUCTION WORK.

ALL SECTIONS AND DETAILS. WHETHER EXPLICITLY CUT ON PLAN OR NOT. SHALL BE CONSIDERED TYPICAL AND SHALL APPLY AT SIMILAR CONDITIONS.

SPECIAL INSPECTIONS ARE REQUIRED BY THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (CHAPTER 17). REFER TO SECTION 014000 OF THE SPECIFICATIONS FOR THE GENERAL INSPECTION REQUIREMENTS. THE FOLLOWING IS A LIST OF ITEMS THAT REQUIRE SPECIAL INSPECTION. REFER TO THE REFERENCED SPECIFICATION SECTION FOR THE SPECIFIC REQUIREMENTS FOR EACH ITEM. THE INDEPENDENT INSPECTION AGENCY, ENGAGED BY THE OWNER, SHALL REVIEW THE TEST PROCEDURES AND INSPECTIONS WITH THE STRUCTURAL ENGINEER OF RECORD, THE GENERAL CONTRACTOR, AND THE OWNER PRIOR TO CONDUCTING TESTS AND INSPECTIONS.

- EARTHWORK CAST-IN-PLACE CONCRETE STRUCTURAL STEEL FRAMING
- STEEL DECKING POST-INSTALLED ANCHORS

SECTION 312000 SECTION 033000 **SECTION 051200** SECTION 053100 (SEE GENERAL NOTE)

SHOP DRAWINGS: THE CONTRACTOR SHALL COORDINATE THE ARCHITECTURAL CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL REQUIREMENTS WITH THE STRUCTURAL DRAWINGS, INCLUDING THE LOCATION OF MISCELLANEOUS ITEMS AFFECTING THE STRUCTURAL WORK SUCH AS OPENINGS, BENT PLATES, INSERTS, ETC. PROMPTLY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR OMISSIONS.

THE CONTRACTOR SHALL VERIFY ALL FLOOR AND ROOF MOUNTED MECHANICAL EQUIPMENT DIMENSIONS AND WEIGHTS, AND VERIFY ALL ROOF OPENING SIZES AND LOCATIONS, WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND **REVIEWED SHOP DRAWINGS.**

REFER TO PROJECT MANUAL FOR SUBMITTAL REQUIREMENTS. IN THE ABSENCE OF A PROJECT MANUAL, PROVIDE (1) ELECTRONIC PDF COPY OF ALL STRUCTURAL SUBMITTALS.

SHOP DRAWINGS ARE TO BE REVIEWED BY THE CONTRACTOR AND SUBCONTRACTOR PRIOR TO BEING SUBMITTED FOR APPROVAL. SUBMITTED SHEETS SHALL CONTAIN THE CONTRACTOR'S SIGNED AND DATED REVIEW STAMP. DESIGN LOADS AND PARAMETERS

- A. BUILDING RISK CATEGORY (TABLE 1604.5) CATEGORY I
- B. <u>LIVE LOADS</u>

ROOF FLOOR SITE SLAB

C. <u>SNOW LOADS</u>

Pg = 25PSF (GROUND SNOW)Ce = 1.0 (SNOW EXPOSURE FACTOR) Ct = 1.2 (THERMAL FACTOR) Is = 1.0 (SNOW LOAD IMPORTANCE FACTOR: ASCE 7-10 TABLE 1.5-2) Pf (SNOW LOAD FOR LOW-SLOPE ROOF) = 21 PSF

USE 25 PSF MINIMUM DESIGN SNOW LOAD

D. <u>WIND LOADS</u>

Vult=115 MPH (BUILDING RISK CATEGORY: II) Vasd = 89 MPH EXPOSURE C Kd=0.85 (WIND DIRECTIONALITY FACTOR) Kzt=1.0 (TOPOGRAPHIC FACTOR)

Gcpi=±0.18 (ENCLOSED BUILDING) WIND LOAD DETERMINATION BY:

COMPONENTS AND CLADDING LOADS

E. <u>SEISMIC LOADS</u>

le=1.0 (ASCE 7-10 TABLE 1.5-2) SEISMIC SITE CLASS = D (ASSUMED) Ss=0.246g Sms=0.393g

S1=0.072g Sm1=0.173g Fa=1.60 Sds=0.262g Fv=2.40 Sd1=0.115g SEISMIC DESIGN CATEGORY = B

BASIC STRUCTURAL SYSTEM: STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE

SEISMIC FORCE-RESISTING SYSTEM: STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE

> R=(RESPONSE MODIFICATION FACTOR) Wo =(SYSTEM OVERSTRENGTH FACTOR) Cd=(DEFLECTION AMPLIFICATION FACTOR) (NO SPECIAL DETAILING REQUIRED PER AISC "SEISMIC PROVISIONS FOR STEEL BUILDINGS")

	SOIL BEARING CA GEOTECHNICAL E DATED OCTOBER
100 PSF	THE OWNER'S GE CONCRETE, THAT CONSISTENT WIT
125 PSF	THE CONTRACTO FROM FROST HEA STRUCTURE IS CO

ASCE 7-10, CHAPTERS 26 - 30 (DIRECTIONAL PROCEDURE)

STRENGTH LEVEL LOAD INDICATED IN TABLE THIS DRAWING

FOUNDATIONS FOR THIS STRUCTURE ARE SPREAD FOOTINGS BEARING ON EITHER VIRGIN SOIL OR CONTROLLED COMPACTED FILL WITH AN ASSUMED PACITY OF 2500 PSF IN ACCORDANCE WITH THE OWNER'S ENGINEER'S REPORT BY UNDERHILL ENGINEERING, LLC, R 25, 2018.

OTECHNICAL ENGINEER SHALL VERIFY, PRIOR TO POURING THE SOIL IS CAPABLE OF SUPPORTING SUCH A LOAD AND IS H THE GEOTECHNICAL REPORT.

OR SHALL PROTECT THE FOOTINGS AND SLABS FROM DAMAGE AVE DURING CONSTRUCTION UNTIL THE FINAL DESIGN OMPLETE.

STEPS IN WALL FOOTINGS SHALL HAVE A MINIMUM SPACING OF DOUBLE THE CHANGE IN ELEVATION. BACKFILL AGAINST WALLS SPANNING VERTICALLY BETWEEN FLOORS SHALL NOT BE PLACED UNTIL BOTH FLOORS ARE IN PLACE AND CONCRETE HAS

REACHED 75% OF ITS 28-DAY STRENGTH. AT NON-RETAINING WALLS BELOW GRADE, BACKFILL AGAINST BOTH SIDES OF WALL SIMULTANEOUSLY SO THAT GRADE DIFFERENCE IS NO MORE THAN 1'-0" AT ANY TIME.

ALL CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301-10 "SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 318-14 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

f'c=3500 PSI (SLABS-ON-GRADE AND ELEVATED SLABS) f'c=3000 PSI (ALL OTHER CONCRETE) ASTM A615 GRADE 60 (TYPICAL REINFORCING STEEL)

ASTM A706 (REINFORCING STEEL AT WELDED CONDITIONS) ASTM A1064 (PLAIN WELDED WIRE FABRIC - USE FLAT SHEETS ONLY)

ALL EXTERIOR EXPOSED CONCRETE SHALL BE FURNISHED WITH AN AIR-ENTRAINING ADMIXTURE PROVIDING AN AIR-CONTENT OF 6% (+/- 1 1/2%) AT POINT OF PLACEMENT - REFER TO SPECIFICATIONS.

REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION AND EXTENT OF DEPRESSIONS FOR SPECIAL FLOOR COVERINGS. REFER TO SPECIFICATIONS FOR FINISHES.

ALL <u>STRUCTURAL STEEL</u> AND <u>ARCHITECTURALLY EXPOSED STRUCTURAL</u> STEEL WORK SHALL CONFORM TO THE REQUIREMENTS OF AISC 360-10 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS". BOLTED CONNECTIONS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION UNLESS NOTED OTHERWISE ON PLAN. REFER TO DRAWINGS FOR CONNECTIONS. IF CONNECTIONS ARE NOT SHOWN, FABRICATOR SHALL DESIGN CONNECTIONS FOR BEAM UNIFORMLY LOADED TO CAPACITY.

ASTM A992 (W-SHAPES AND WT-SHAPES) ASTM A500 GRADE C (SQUARE AND RECTANGULAR HSS SHAPES)

ASTM A500 GRADE C (ROUND HSS SHAPES) ASTM A53, TYPE E OR S (PIPE) ASTM A36 (ANGLE, CHANNELS, PLATES, AND OTHER STRUCTURAL SHAPES) E70XX (SMAW PROCESS WELDING)

PROCESS) E7XT-X (FCAW PROCESS WELDING) E80XX (A706 REBAR) ASTM A325-N (BOLTS) ASTM F1852 (TENSION-CONTROL BOLTS, TWIST-OFF-TYPE, A325

EQUIVALENT) ASTM A563 (HEAVY HEX NUT) ASTM F436 (HARDENED STEEL WASHER) ASTM F1554 FY=36 KSI (ANCHOR RODS UNO) ASTM C1035 (CLEVISES AND TURNBUCKLES)

CONTRACTOR SHALL PROVIDE FIELD CURED SAMPLES OF CAST-IN-PLACE CONCRETE IN FOOTINGS. PIERS. AND WALLS IN ACCORDANCE WITH OSHA SECTION 1926.752 TO DETERMINE THAT CONCRETE HAVE ACHIEVED A MINIMUM OF 75% OF DESIGN STRENGTH PRIOR TO THE COMMENCEMENT OF STEEL ERECTION.

ALL STEEL COLUMNS AND BEAMS WITHIN WOOD STUD OR STEEL STUD WALLS SHALL MEET CLOSER DIMENSIONAL TOLERANCES OF ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) AS INDICATED IN THE AISC CODE OF STANDARD PRACTICE.

WHERE SLIP-CRITICAL CONNECTIONS OR FULLY PRETENSIONED BOLTS ARE REQUIRED, USE TENSION CONTROL BOLTS (TWIST-OFF TYPE). FABRICATOR SHALL PROVIDE CHANNELS, ANGLES, ETC., AS REQUIRED FOR

STEEL DECK BEARING AT LOCATIONS WHERE TOP OF STRUCTURAL MEMBERS ARE NOT AT DECK BEARING ELEVATION. REFER TO DETAILS. ALL STEEL MEMBERS AND CONNECTORS EXPOSED TO THE WEATHER

PUBLICATION No. 31. IN THE ABSENCE OF A COMPLETE SPECIFICATION SECTION 053100, THE FOLLOWING MINIMUM PARAMETERS SHALL BE MET: GALVANIZED STEEL SHEET = ASTM A 653, G60 MINIMUM GALV PROVIDE BAKED-ON ENAMEL SHOP PRIMER TO BOTTOM OF ALL DECK TO RECEIVE FIELD PAINT. PROFILE DEPTH AND STEEL THICKNESS = AS INDICATED SPAN CONDITION = TRIPLE OR MORE ROOF DECK MIN YIELD STRENGTH = (1 1/2" DEEP FY= 50KSI) COMPOSITE FLOOR DECK MIN YIELD STRENGTH = 50KSI NON-COMPOSITE FLOOR DECK MIN YIELD STRENGTH = 60KSI MIN DECK END BEARING = 1 1/2" END JOINTS = LAPPED 2" EXCEPT FOR COMPOSITE OR CELLULAR DECK

FY = 50 KSI FY = 50 KSI

> FY = 50 KSI FY = 35 KSI FY = 36 KSI

E6022 (METAL DECK TO OWSJ OR STRUCTURAL STEEL - SMAW

SHALL BE HOT-DIP GALVANIZED UNLESS NOTED AS AESS.

STEEL FLOOR AND ROOF DECK SHALL COMPLY WITH STEEL DECK INSTITUTE

ALL POST-INSTALLED ANCHORS (IN CONCRETE OR CMU) ARE TO BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS (INCLUDING BUT NOT LIMITED TO DRILL BIT SIZE, PROPER CLEANING OF HOLES, INSTALLATION TORQUE, AND TEMPERATURE CONSTRAINTS).

WHEN A SPECIFIC PRODUCT AND MANUFACTURER IS REFERENCED IN THE CONTRACT DOCUMENTS. THAT SPECIFIC PRODUCT SHALL BE USED UNLESS AN ALTERNATE PRODUCT IS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE LRFD OR CODE COMPLIANT CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC - ES REPORT SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP. IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.

THE ANCHOR MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING THE INITIAL INSTALLATION OF EACH TYPE OF ANCHOR TO REVIEW AND APPROVE OF THE CONTRACTOR'S INSTALLATION PROCEDURES. THE OWNER'S TESTING AGENCY SHALL ALSO OBSERVE THE INITIAL INSTALLATION OF EACH ANCHOR TYPE, AND PROVIDE THE INSPECTION OF ANCHORS DURING INSTALLATION TO VERIFY CONFORMANCE WITH THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS. SUBMIT REPORT FROM MANUFACTURER'S REPRESENTATIVE FOR DMWPV REVIEW. INSTALLATION OF ALL HORIZONTAL OR UPWARDLY INCLINED ADHESIVE ANCHORS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY ACI/CRSI ADHESIVE ANCHOR INSTALLER CERIFICATION PROGRAM OR APPROVED EQUIVALENT. SUBMIT CREDENTIALS OF CERTIFIED INSTALLERS. CONTINUOUS INSPECTION IS REQUIRED FOR ALL HORIZONTAL OR UPWARDLY INCLINED ADHESIVE ANCHORS. REMOVE AND REPLACE MISPLACED OR MALFUNCTIONING ANCHORS. FILL EMPTY ANCHOR HOLES AND PATCH FAILED ANCHOR LOCATIONS WITH HIGH-STRENGTH, NONMETALLIC GROUT.

FASTENERS GENERICALLY REFERRED TO AS "SCREW ANCHOR" ON THE DRAWINGS SHALL BE ONE OF:

- TITEN HD BY SIMPSON STRONG-TIE ANCHOR SYSTEMS
- KWIK HUS-EZ BY HILTI SCREW-BOLT + BY DEWALT

FOR THESE SCREW ANCHORS LISTED, USE STANDARD ANSI DRILL BIT (NO SPECIAL BIT REQUIRED). PROVIDE HOLES IN STEEL MEMBERS 1/8" LARGER THAN NOMINAL DIAMETER OF ANCHOR. OTHER MANUFACTURER'S PRODUCTS MAY BE SUBMITTED AS A FORMAL REQUEST FOR SUBSTITUTION IF REQUIREMENTS ABOVE ARE MET. SIZES AND EMBEDMENTS OF SUBSTITUTE SCREW ANCHOR SHALL BE INCREASED AS NECESSARY TO ACHIEVE SHEAR AND TENSION VALUES PUBLISHED FOR LISTED ANCHOR. CONTRACTOR SHALL SUBMIT A COMPLETE SUBSTITUTION LIST FOR ALL ANCHOR SIZES AND SUBSTRATES. DUE TO HIGH VARIABILITY BETWEEN NOMINAL SIZES AND ACTUAL SIZES OF SCREW ANCHORS (AND HOLES REQD), THIS SUBSTITUTION REQUEST SHALL BE SUBMITTED PRIOR TO STEEL SHOP DRAWINGS. ANY PRODUCTS SUBMITTED AS A REQUEST FOR SUBSTITUTION IN CONCRETE SHALL BE COMPLAINT WITH ACI 318-11 APPENDIX D AND APPROVED FOR USE IN CRACKED CONCRETE. PROPOSED SUBSTITUTE PRODUCTS SHALL SHALL HAVE AN ICC-ES REPORT WHICH CONSIDERS EQUIVALENT EDGE AND SPACING REQUIREMENTS AS THE SPECIFIED PRODUCTS.

CHEMICAL ADHESIVE ANCHORING SYSTEMS USED IN SOLID OR GROUTED MASONRY GENERICALLY REFERRED TO AS ADHESIVE ANCHORING SYSTEMS SHALL BE ONE OF

- 1. SET XP BY SIMPSON STRONG TIE ANCHOR SYSTEMS
- HIT-HY 270 BY HILTI AC100 + GOLD BY DEWALT

CHEMICAL ADHESIVE ANCHORING SYSTEMS USED IN CONCRETE GENERICALLY REFERRED TO AS "ADHESIVE ANCHORS" SHALL BE ONE OF :

- SET-XP BY SIMPSON STRONG TIE
- SET 3G BY SIMPSON STRONG TIE HIT-RE 500-V3 BY HILTI (WITH STD ROD AND HOLE CLEANING)
- HIT-RE 500-V3 BY HILTI (SAFE-SET SYSTEM) HIT-HY 200 BY HILTI (WITH STD ROD AND HOLE CLEANING)
- HIT-HY 200 BY HILTI (SAFE-SET SYSTEM)
- PURE 110 + BY DEWALT AC 200 + BY DEWALT

THREADED ROD ANCHORS USED WITH THESE SYSTEMS SHALL BE PROVIDED BY THE ADHESIVE MANUFACTURER AND HAVE A MINIMUM STEEL STRENGTH OF Fy = 36 KSI UNLESS NOTED OTHERWISE. REINFORCING STEEL USED WITH THESE SYSTEMS SHALL COMPLY WITH ASTM A615 GRADE 60. ANCHORS SHALL BE INSTALLED IN DRY CONCRETE A MINIMUM OF 21 DAYS OLD. USE ONLY A CARBIDE DRILL BIT (NO CORE DRILLING). HOLE CLEANING SHALL BE ACCOMPLISHED FOLLOWING MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION USING AIR COMPRESSOR WITH NOZZLE AND WIRE BRUSH PROVIDED BY ADHESIVE MANUFACTURER. HILTI SAFE SET SYSTEM DOES HAVE AN OPTION WITHOUT HOLE CLEANING REQUIREMENT IF HILTI HIT-Z ANCHOR ROD IS USED. OVERHEAD HOLES AND ANY HOLES GREATER THAN 12 INCHES DEEP REQUIRE THE THE USE OF A PISTON PLUG AT THE END OF THE END OF ADHESIVE APPLICATOR. USE ADHESIVE RETAINING CAP IN OVERHEAD CONDITIONS.

ANY PRODUCTS SUBMITTED AS A REQUEST FOR SUBSTITUTION SHALL BE COMPLIANT WITH ACI 318-14 CHAPTER 17 AND APPROVED FOR USE IN CRACKED CONCRETE. FASTENERS GENERICALLY REFERRED TO AS "EXPANSION ANCHORS" OR "WEDGE

ANCHORS" SHALL BE ONE OF:

TAPPER + BY DEWALT

KWIK BOLT TZ BY HILTI STRONG-BOLT 2 BY SIMPSON STRONG TIE ANCHOR SYSTEMS POWER- STUD + SD2 BY DEWALT

FASTENERS GENERICALLY REFERRED TO AS "CONCRETE/MASONRY SCREWS" SHALL BE ONE OF:

KWIK-CON II + BY HILTI TITEN 2 BY SIMPSON STRONG TIE ANCHOR SYSTEMS

FASTERNERS GENERICALLY REFERRED TO AS "PAF" (POWER ACTUATED FASTENERS) SHALL BE ONE OF :

MIN

PAF INTO NORMAL OR LIGHT WEIGHT CONCRETE:					
EMBEDME	ANCHOR NT	MANUF	SHANK DIAMETER		

1.	X-U OR X-P	HILTI	0.157"	1 1/4"
2.	8 mm HEAD SPIRAL CSI PIN	DEWALT FASTENERS	0.157"	1 1/4"
3.	SP SERIES	RAMSET	0.150"/0.180" TAPERED SHANK	1 1/4"
4.	PDPA	SIMPSON	0.157"	1 1/4"

PAF INTO STRUCTURAL STEEL

	ANCHOR	MANUF	SHANK DIAMETER
1.	X-U	HILTI	0.157"
2.	8 mm HEAD	DEWALT	0.157"
	SPIRAL CSI PIN	FASTENERS	
3.	SP	RAMSET	0.150"
4.	PDPA	SIMPSON	0.157"
	אוו ע חוו דו ע דו סעב ו		

USE ONLY HILLI X-U PAF IN STRUCTURAL STEEL GREATER THAN 1/2" THICK. 1/2" MINIMUM POINT PENETRATION REQUIRED IN STRUCTURAL STEEL GREATER THAN 1/2" THICK.

05/13/2022

DEPRESSIONS WITH ARCHITECTURAL DRAWINGS OR FLOOR FINISH MANUFACTURER OR EQUIPMENT PROVIDED.

L3X3X1/4 ANGLES WITH (1) 3/4" BOLT AT INTERSECTION

1/4" STEEL PLATE WITH (1) 3/4" BOLT

3/16

FIRST FLOOR

REFER TO COLUMN FOOTING SCHEDULE FOR REINFORCING

	COLUMN BASE PLATE SCHEDULE						
MARK	SIZE	HEADED ANCHOR RODS ASTM F1554 Fy= 36 KSI UNO	ROD EMBED	ROD GAUGE	BASE PL TYPE	COMMENTS	
BP-1	3/4X10X0'-10"	(4) 3/4" DIA	9"	-	A	FOR HSS4X4 COLUMNS	
-	-	-	-	-	-	-	

<u>TYPE A</u>

<u>BASE PLATE</u> <u>TYPES</u>

1/2" BASE PLATE WITH (2) 1/2"
 DIA ADHESIVE ANCHORS,
 EMBED 4" INTO SLAB

MINIMUM BOLTING SCHEDULE

BEAM SIZE	# OF BOLTS IN SINGLE SHEAR CONN/SINGLE ANGLE	# OF BOLTS IN DOUBLE ANGLE CONN
W8	2	2 ANGLE X 2 BOLTS= 4 TOTAL
W10	2	2 ANGLE X 2 BOLTS= 4 TOTAL
W12	3	2 ANGLE X 3 BOLTS= 6 TOTAL
W14	3	2 ANGLE X 3 BOLTS= 6 TOTAL
W16	4	2 ANGLE X 4 BOLTS= 8 TOTAL
W18	5	2 ANGLE X 4 BOLTS= 8 TOTAL
W21	6	2 ANGLE X 5 BOLTS= 10 TOTAL
W24	7	2 ANGLE X 5 BOLTS= 10 TOTAL
W27	8	2 ANGLE X 6 BOLTS= 12 TOTAL
W30	9	2 ANGLE X 6 BOLTS= 12 TOTAL
W33	10	2 ANGLE X 7 BOLTS= 14 TOTAL
W36	10	2 ANGLE X 8 BOLTS= 16 TOTAL
W40	11	2 ANGLE X 9 BOLTS= 18 TOTAL
W44	12	2 ANGLE X 10 BOLTS= 20 TOTAL

NOTES:

BOLTS ARE 3/4" DIA ASTM A325N UNO. PROVIDE ASTM F436 WASHERS AT ALL BOLTS.

- BOLT HOLES FOR SINGLE SHEAR CONN OR SINGLE ANGLE CONN SHALL BE HORIZ SHORT- SLOTTED HOLES UNO- PROVIDE STD ROUND HOLES AT FULL HEIGHT STIFF PLATES, OR THRU- PLATES.
- SINGLE SHEAR CONN SHALL BE 3/8" SHEAR TAB OR 3/8" FULL HEIGHT STIFF PLATE AS INDICATED IN DETAILS. REF PLANS FOR 3/8" THRU- PLATE CONNECTION LOCATIONS.
- STANDARD DOUBLE ANGLE THICKNESS SHALL BE 5/16" MINIMUM. USE SHORT HORIZ SLOTTED HOLES IN ANGLE.
- WHERE SLIP CRITICAL CONNECTION OR FULLY PRE- TENSIONED BOLTS ARE INDICATED, USE TENSION CONTROL BOLTS (TWIST-OFF TYPE).

AND OTHER WIDE FLANGE BEAMS.
 AT BEAM TO GIRDER CONNECTIONS, PROVIDE ERECTION SEAT ANGLE FOR ONE BEAM WHERE MEMBERS FRAME OPPOSITE EACH OTHER AND USE SAME NUMBER OF BOLTS.
 REFER TO MINIMUM BOLTING SCHEDULE FOR REQUIRED NUMBER OF ROWS OF BOLTS.

3/8" SHEAR TAB WITH 3/4" DIA A325 BOLTS. PROVIDE STANDARD ROUND HOLES IN BM WEB. PROVIDE SSLT HOLES IN SHEAR TAB. (PROVIDE FULL HEIGHT STIFF PLATES OVER COLUMNS WITH STANDARD ROUND HOLES)- REF SCHEDULE FOR NUMBER OF BOLTS REQUIRED -

NOTE: USE DOUBLE ANGLE CONNECTION AT POJ BEAMS.

3/4"=1'-0"

∽3" MAX

STEEL BEAM- REF

PLAN FOR SIZE

OVER COLUMN DETAIL

3/4"= 1'-0"

CENTERLINE

SUPPORTS -

DECK WELDS NO SCALE

Specifications BASIC FIRE SUPPRESSION REQUIREMENTS 1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODES, NFPA 13 AND THE AUTHORITY HAVING JURISDICTION. 2. SYSTEM IS USED FOR TRAINING PURPOSES. ALARM DEVICES ARE NOT REQUIRED. 3. ALL WORK SHALL BE COORDINATED BY INDIVIDUAL CONTRACTORS. HANGERS AND SUPPORTS 1. PROVIDE GALVANIZED CLEVIS OR RING HANGERS TO SUPPORT HORIZONTAL PIPING. PROVIDE GALVANIZED RISER CLAMPS TO SUPPORT VERTICAL PIPING. HANGERS SHALL BE UL LISTED AND FM APPROVED. FIRE SUPPRESSION SYSTEM 1. MATERIALS SHALL BE UL LISTED AND FM APPROVED. 2. PIPING – SCHEDULE 40 BLACK STEEL PIPE AND FITTINGS. THREADED OR GROOVED JOINTS. FLOOR CONTROL VALVES – TWO-PIECE FULL PORT BALL VALVE.
 SPRINKLERS – OPEN BRASS PENDANT SPRINKLER WITH GLASS BULB AND PIPE CAP ASSEMBLY REMOVED. 5. HOSE VALVE - 21/2" BRASS THREADED HOSE VALVE WITH WHEEL HANDLE OPERATOR. 6. FIRE DEPARTMENT CONNECTION – CONNECTION TYPE AS REQUIRED BY FLUVANNA COUNTY.

THIRD FLOOR

SECOND FLOOR

BURN ROOM 1 100

FIRST FLOOR

4"STANDPIPE STAIR A 106 <u>`_1"</u> ROOM 9 203

<u>SYMBC</u> LIGHTI	DL & ABBREVIATION SCHEDULE	(NOTE: STANDARD SCHEDULE, NOT ALL SYMBOLS/ABBREVIATIONS MAY APPEAR ON THE DRAV
O · · O · · O · · O · · O · · O · · O · · O · · O · O ·	LIGHT FIXTURE - SEE LIGHT FIXTURE SCHEDULE IN SPECIFICATIONS PANEL BOARD - SURFACE MOUNTED SWITCHED CIRCUIT - LIGHTING UNSWITCHED CIRCUIT - LIGHTING BRANCH CIRCUIT HOME RUN TO PANEL BOARD WIRESIZE (IF OTHER THAN #12) BRANCH CIRCUIT NUMBER PANEL BOARD DESIGNATION EXIT SIGN - FACE(S) AND ARROWS AS INDICATED SINGLE POLE SWITCH THREE-WAY SWITCH FOUR-WAY SWITCH TIMER SWITCH THE WATTSTOPPER TS-400 SENSOR SWITCH TS-1 OCCUPANCY SENSOR SWITCH THE WATTSTOPPER TS-400 SENSOR SWITCH WSD-PDT DUAL TECHNOLOGY NEMA 5-20R DUPLEX RECEPTACLE NEMA 5-20R DUPLEX RECEPTACLE NEMA 5-20R DUPLEX RECEPTACLE SAFETY TYPE DISCONNECT SWITCH COMBINATION MOTOR STARTER JUNCTION BOX WITH FINAL CONNECTION TO EQUIPMENT	TEMERATURE MONITORING SYSTEM [®] K RECESSED CEILING MOUNT TYPE K DUPLEX THERMOCOUPLE PLACED BEHIND INSULATION OF THERMAL LINING [®] WALL MOUNT TYPE K DUPLEX THERMOCOUPLE 60 " AFF ITMS TEMPERATURE MONITORING SYSTEM ONE -LINE DIAGRAM IDE FEEDER NUMBER IDE TRANSIENT VOLTAGE SURGE SUPPRESSION DRAWING SYMBOLS KEY NOTE
O _{AC} O _C O _P I C	JUNCTION BOX WITH FINAL CONNECTION TO EQUIPMENT ABOVE CEILING JUNCTION BOX WITH FINAL CONNECTION TO EQUIPMENT CEILING MOUNTED JUNCTION BOX WITH FINAL CONNECTION TO PLUMBING CONTROLS COORDINATE LOCATION WITH OTHER TRADES TIMER CONTACTOR PHOTO CELL	TITLE E0.01 SCALE: SCALE DRAWING TAG <u>ABBREVIATIONS</u> A AMPERES

ORING SYSTEM

RING SYSTEM TO TEMPERATURE MONITOR SYSTEM PANEL

REVIATIONS

А	AMPERES
AFF	ABUVE FINISHED FLOUR
AHU	AIR HANDLING UNIT
APMP	AREA PROTECTION MONITORING PANEL
ΔΤΟ	ALITOMATIC TEMPERATURE CONTROL
ATC	AUTOMATIC TEMPERATORE CONTROL
AIS	AUTOMATIC TRANSFER SWITCH
С	CONDUIT
CB	CIRCUIT BREAKER
СКТ	CIRCUIT
CP	CIRCULATING PUMP
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
	DIMMING PANEL
E FO	
EC	
ECUH	ELECTRIC CABINET UNIT HEATER
EF	EXHAUST FAN
EHUH	ELECTRIC HORIZONTAL UNIT HEATER
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WALL HEATER
F OR FM	FLOOR MOUNTED
FCU	FAN COIL UNIT
FFC	FIRE EXTINGUISHER CARINET
FU	FUSE(S)
G OR GND	GROUND
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
HC	HEATING CONTRACTOR
HP	HORSEPOWER OR HEATING PANEL
HUH	HORIZONTAL UNIT HEATER
IG	ISOLATED GROUND
KV	KITCHEN VENTILATOR
L	LAMP
LP	LIGHTING PANEL
LCP	LIGHTING CONTROL PANEL
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MF	MODULAR FURNITURE
MLO	MAIN LUG ONLY
NC	NURMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NF	NUN FUSED
NO	NORMALLY OPEN
Р	PUMP OR POLE
PC	PLUMBING CONTRACTOR
PNL	PANEL
PP	POWER PANEL
RAF	RETURN AIR FAN
REL	RELOCATE
RP	RELAY PANEL
RTU	ROOF TOP UNIT
SEF	SMOKE EXHAUST FAN
SI P	SITE LIGHTING PANFI
SM	SURFACE MOUNT
ST	SHUNT TRIP
SW	SWITCH
ТС	TIME CLOCK
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVF
VS	
v 5 W/	
VV	WALLS UR WIRE
W/	WITH
WAP	WIRELESS ACCESS POINT
WG	
wс WЦ	WINL GUAND WATER HEATER
WР	WEATHERPROOF

GE	<u>NERAL</u>
	CONTRACTOR IS CONTRACTOR IS
	COORDINATE LC
	PROVIDE #12 A
	E.C. TO PROVID
	MOUNT ELECTRI
	MOUNT LIGHT S
	MOUNT PANEL

COORDINATE LIGHTING FIXTURES WITH ARCHITECTURAL CEILING PLANS AND DETAILS. POINT OUT ANY DISCREPANCIES BETWEEN CEILING TYPES AND SPECIFIC FIXTURE MOUNTING REQUIREMENTS TO ENGINEER PRIOR TO FIXTURE SUBMITTALS. 9. EACH SINGLE PHASE 120-VOLT CIRCUIT SHALL CONSIST OF 1-PHASE, 1-NEUTRAL, AND 1-GROUND, SHARED NEUTRALS ARE NOT ACCEPTABLE.

10. PROVIDE GFI PROTECTION ON ALL RECEPTACLES REQUIRED PER THE NEC AND AS NOTED IN THE SPECIFICATIONS.

12. INCLUDE A LISTING AND LABELING STATEMENT FOR ALL SUBMITTALS. ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABELED AND LISTED BY A CERTIFIED LABORATORY OR AGENCY.

			Р	ANEL	BOARD	SCHEI	DULE		A			
MAIN	IS:	200 A	MCB SERVICE E	NTRANCE	RATED				MOUNTING:	SURFACE		
VOL	FAGE:	208/120V							AIC	65,000		
PHA	SE:	3	WIRES: 4						REMARKS	NEMA 4 OR	4X ENCL	_OURE
NO	PH	LOAD KW	DESCRIPTION			C/B	C/B	LOAD KW	DESCRIPTION		PH	NO
1	A	0.50	TMS SYSTEM			20/1	20/1	0.36	RECEPTACLE		A	2
3	В	0.20	LIGHTING			20/1	20/1	0.30	TMS CABINET HEATER		В	4
5	С	0.50	SMOKE MACHINE	E SYSTEM		20/1	20/1	0.30	SITE LIGHTS		С	6
7	A		SPARE			20/1	20/1		SPARE		A	8
9	В		SPARE			20/1	20/1		SPARE		В	10
11	С		SPARE			20/1	20/1		SPARE		С	12
13	A		SPARE			20/1	20/1		SPARE		A	14
15	В		SPARE			20/1	20/1		SPARE		В	16
17	С		SPARE			20/1	20/1		SPARE		С	18
19	A		SPARE			20/1	20/1		SPARE		A	20
21	В		SPACE			20/1	20/1		SPACE		В	22
23	С		SPACE			20/1	20/1		SPACE		С	24
25	A		SPACE			20/1	20/1		SPACE		A	26
27	В		SPACE			20/1	20/1		SPACE		В	28
29	С		SPACE			20/1	20/1		SPACE		C	30
	Α	0.50			TOTALS	Α	0.86			0.36	A	
	В	0.20				В	0.50			0.30	В	
	C	0.50				С	0.80			0.30	C	
LOC	ATION:			CONNECT	ED LOAD		2.16 KW	CONNECT	ED AMPS		6.00 A	4

NOTES

RESPONSIBLE FOR ENTIRE BID DOCUMENT SET, I.E. IF WORK IS SHOWN ON OTHER TRADE DRAWINGS AS BY ELECTRICAL CONTRACTOR, ELECTRICAL S RESPONSIBLE FOR THAT WORK.

LOCATION OF LIGHTING FIXTURES, CONDUIT AND EQUIPMENT/DEVICES WITH OTHER TRADES INCLUDING ARCHITECTURAL DETAILS.

AWG MINIMUM FOR POWER AND LIGHTING BRANCH CIRCUIT WIRING.

VIDE FIRE STOPPING, FOR ANY NEW ELECTRICAL WORK THAT PENETRATES A FIRE SEPARATION.

RICAL OUTLETS AT 18" A.F.F. TO CENTERLINE AND 42" A.F.F. AT COUNTERS TO CENTERLINE UNLESS NOTED OTHERWISE.

SWITCHES AT 42" A.F.F. TO CENTERLINE UNLESS NOTED OTHERWISE.

L BOARDS AT 6' A.F.F. TO TOP OF PANEL. MOUNT PANEL BOARDS TALLER THAN 6' NO MORE THAN 4" A.F.F.

11. MOUNT ALARM DEVICES SUCH THAT THEY ARE OUT OF RANGE OF ANY DOOR SWINGS AND CANNOT BE HIDDEN BY THE DOOR.

13. VERIFY ALL COLORS/FINISHES FOR LIGHTING AND WIRING DEVICES WITH THE ARCHITECT/OWNER.

<u>WIRE SIZE FOR 20A CIRCUIT</u>

ONDUCT SIZE	120V LENGTH OF RUN
WG NO. 12 WG NO. 10	50 FEET OR LESS 51 FEET TO 200 FEET
WG NO. 8	201 TO 300 FEET

ELECTRICAL SPECIFICATIONS

1.1 GENERAL

A. NOTHING CONTAINED IN THESE "SPECIFICATIONS" OR SHOWN ON THE "DRAWINGS" SHALL BE SO CONSTRUED AS TO CONFLICT WITH ANY LOCAL MUNICIPAL. OR STATE LAWS OR REGULATIONS GOVERNING THE INSTALLATION OF ELECTRIC OR OTHER WORK SPECIFIED HEREIN, AND ALL SUCH ORDINANCES AND REGULATIONS, INCLUDING THE NATIONAL ELECTRICAL CODE, ARE HEREBY INCORPORATED AND MADE A PART OF THESE SPECIFICATIONS. ALL SUCH REQUIREMENTS SHALL BE SATISFIED BY THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE OWNER.

B. DUE TO THE SMALL SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL CONDUITS, CONDUCTORS, BOXES, FITTINGS, SWITCHES, AND SIMILAR PARTS WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND ARRANGE ALL WORK ACCORDINGLY FURNISHING SUCH PARTS AND EQUIPMENT AS MAY BE REQUIRED TO MEET BUILDING CONDITIONS. THE CONTRACT DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. DO NOT SCALE THE DRAWINGS. CONSULT THE ARCHITECTURAL DRAWINGS AND DETAILS FOR THE EXACT LOCATIONS OF EQUIPMENT, WHERE THE SAME ARE NOT DEFINITELY LOCATED, OBTAIN THIS INFORMATION FROM THE A/E.

C. CONTRACTOR SHALL LAY OUT WORK FROM DIMENSIONS OF ARCHITECTURAL AND REARRANGE CONNECTIONS IN ORDER THAT THE KILOWATT DEMAND ON EACH OF STRUCTURAL DRAWINGS AND ACTUAL DIMENSIONS OF EQUIPMENT BEING INSTALLED. THE THREE PHASES OF EACH MAIN BUS SHALL NOT VARY MORE THAN TEN LAYOUTS IN CONGESTED AREAS SHOULD NOT BE SCALED FROM MECHANICAL OR PERCENT FROM EACH OTHER. ELECTRICAL DRAWINGS. THOROUGHLY EXAMINE THE ARCHITECTURAL AND MECHANICAL DRAWINGS PRIOR TO COMMENCEMENT OF ANY WORK. COORDINATE WORK WITH ALL OTHER TRADES.

D. THE DRAWINGS ARE INDICATIVE OF THE CHARACTER AND SCOPE OF THE WORK AND ARE NOT INTENDED TO SHOW ALL THE DETAILS. THE ACTUAL LOCATION OF B. NO WORK SHALL BE COVERED OR CONCEALED UNTIL PROPERLY TESTED. ALL WIRING, OUTLETS, AND EQUIPMENT SHALL BE DETERMINED AT THE SITE. THE DRAWINGS SHALL BE CAREFULLY CHECKED TO INSURE THAT THE EQUIPMENT, AS 1.10 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES SHOWN, WILL OPERATE SATISFACTORILY IN THE SPACE ALLOTTED TO IT.

E. ALL WORK SHALL BE MANUFACTURED, TESTED AND INSTALLED IN ACCORDANCE WITH THE ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE INTERNATIONAL BUILDING CODE (IBC) AND ALL APPLICABLE LOCAL CODES. THE CONTRACTOR SHALL FURNISH A CERTIFICATE OF INSPECTION COVERING THE WORK INSTALLED UNDER THIS SPECIFICATION. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND CERTIFICATES. PAY ALL SALES TAX AS APPLICABLE.

F. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BID DATE TO EXAMINE THE CONDITIONS UNDER WHICH HIS WORK IS TO BE PERFORMED. NO EXTRAS SHALL BE ALLOWED FOR FAILURE TO NOTE EXISTING CONDITIONS

G. ALL ELECTRICAL EQUIPMENT SHALL BE NEW, OF FIRST QUALITY, AND SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED, AND FINISHED IN EVERY DETAIL.

H. THE CONTRACT DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. DO NOT SCALE THE DRAWINGS. CONSULT THE ARCHITECTURAL DRAWINGS AND DETAILS FOR EXACT LOCATION OF EQUIPMENT, WHERE SAME ARE NOT DEFINITELY LOCATED, 1.11 PROTECTION OF EXISTING WORK OBTAIN THIS INFORMATION FROM THE ENGINEER.

I. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL RACEWAY OFFSETS, RISERS AND DROPS, FITTINGS, AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.

J. REFER TO ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL CONDITIONS. 1.2 REFERENCES AND DEFINITIONS

A. PROVIDE: FURNISH AND INSTALL

B. DIRECTED: DIRECTED BY THE A/E

C. INDICATED: INDICATED IN THE CONTRACT DOCUMENTS.

D. CONCEALED: HIDDEN FROM NORMAL SIGHT. INCLUDES ITEMS IN SHAFTS, PIPE AND DUCT SPACES AND ABOVE CEILINGS.

E. EXPOSED: NOT CONCEALED. WORK WITHIN EQUIPMENT ROOMS AND ALL VISIBLE (NORMAL SIGHT) WORK SHALL BE CONSIDERED "EXPOSED".

1.3 PERMITS AND INSPECTIONS

A. GIVE ALL NECESSARY NOTICES AND OBTAIN ALL REQUIRED PERMITS. PAY ALL WITH OTHER TRADES. FEES AND OTHER COSTS, INCLUDING UTILITY CONNECTIONS OR EXTENSIONS IN CONNECTION WITH THE WORK. FILE ALL NECESSARY PLANS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION. OBTAIN ALL REQUIRED CERTIFICATIONS OF INSPECTION AND DELIVER SAME TO THE ARCHITECT.

1.4 DELIVERY, STORAGE AND HANDLING

A.DELIVER, STORE, PROTECT AND HANDLE ALL PRODUCTS TO SITE UNDER PROVISIONS OF DIVISION 1. INSPECT ALL PRODUCTS FOR DAMAGE.

1.5 RECORD DRAWINGS

A. THE CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ALL DEVIATIONS IN WORK AS ACTUALLY INSTALLED FROM WORK INDICATED. ONE COMPLETE SET OF CONTRACT DOCUMENTS SHALL BE AVAILABLE AT THE CONSTRUCTION SITE FOR INDICATING SAID DEVIATIONS. THE CONTRACTOR SHALL INDICATE ROUTING OF ALL FOR BRANCH CIRCUIT SHALL BE PRINTED ON CLOTH OR VINYL PLASTIC WITH FEEDERS LARGE JUNCTION BOXES AND THE LIKE.

1.6 COORDINATION

CONSTRUCTION WORK AND ARRANGE IN BUILDING STRUCTURE DURING PROGRESS OF CONSTRUCTION TO FACILITATE THE ELECTRICAL INSTALLATIONS THAT FOLLOW. SET INSERTS AND SLEEVES IN POURED-IN-PLACE CONCRETE, MASONRY WORK, AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.

B. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLING ELECTRICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. COORDINATE INSTALLING EQUIPMENT REQUIRING POSITIONING BEFORE CLOSING IN THE BUILDING.

C. COORDINATE ELECTRICAL SERVICE CONNECTIONS TO COMPONENTS FURNISHED BY UTILITY COMPANIES. COORDINATE INSTALLATION AND CONNECTION OF EXTERIOR UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES, INCLUDING PROVISION FOR ELECTRICITY-METERING COMPONENTS. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND OF UTILITY COMPANY PROVIDING ELECTRICAL POWER AND OTHER SERVICES.

D. COORDINATE LOCATION OF ACCESS PANELS AND DOORS FOR ELECTRICAL ITEMS THAT ARE CONCEALED BY FINISHED SURFACES.

E. WHERE ELECTRICAL IDENTIFICATION DEVICES ARE APPLIED TO FIELD-FINISHED SURFACES, COORDINATE INSTALLATION OF IDENTIFICATION DEVICES WITH COMPLETION OF FINISHED SURFACE.

1.7 TEMPORARY ELECTRIC

A. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY ELECTRIC SERVICE FOR POWER AND LIGHTING INCLUDING PANELS, FEEDERS, LIGHTING, OUTLETS, BRANCH CIRCUITS, ETC.

OF THE PROJECT.

1.8 GUARANTEE

MOLDED CASE CIRCUIT BREAKERS: NEMA AB 1, BOLT-ON, QUICK-MAKE, CONCRETE. A. THE ELECTRICAL CONTRACTOR SHALL LEAVE THE ENTIRE ELECTRICAL SYSTEM QUICK-BREAK. PROVIDE CIRCUIT BREAKERS WITH INTEGRAL THERMAL AND INSTANTANEOUS MAGNETIC TRIP IN EACH POLE. MAIN CIRCUIT BREAKERS SHALL INSTALLED UNDER THIS CONTRACT IN PROPER WORKING ORDER AND SHALL RUN EXPOSED RACEWAY PARALLEL TO BUILDING LINES MAKING TURNS WITH WITHOUT ADDITIONAL CHARGE REPLACE ANY WORK OR MATERIAL WHICH DEVELOPS APPROVED RACEWAYS FITTINGS, MANUFACTURED ELLS, CONCENTRIC FIELD BEND BE BOLTED DIRECTLY TO THE MAIN BUSS BARS. PROVIDE CIRCUIT BREAKERS UL DEFECTS FROM ORDINARY WEAR AND TEAR WITHIN TWO YEARS FROM DATE OF LISTED AS TYPE HACR FOR AIR CONDITIONING EQUIPMENT BRANCH CIRCUITS OR PULLBOXES. FINAL ACCEPTANCE. PROVIDE CIRCUIT BREAKERS UL LISTED AS TYPE SWD FOR LIGHTING CIRCUITS PROVIDE UL CLASS A GROUND FAULT INTERRUPTER CIRCUIT BREAKERS WHERE MINIMUM OF SIX INCH CLEARANCE BETWEEN ALL WIRING AND PARALLEL RUNS SCHEDULED. DO NOT USE TANDEM CIRCUIT BREAKERS.

1.9 TESTING

A. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND APPLIANCES NECESSARY D. PROVIDE ALL EMPTY RACEWAYS WITH 20 POUND TEST MINIMUM PLASTIC CORD C. ENCLOSURE: NEMA PB 1, TYPE 1. CABINET FRONT: SURFACE TYPE, FOR TESTING THE COMPLETE WIRING SYSTEM DURING THE PROGRESS OF THE FASTENED WITH SCREW COVER. PROVIDE HINGED DOOR WITH FLUSH LOCK. OR WIRE, FISH CONTINUOUS FROM OUTLET TO OUTLET. FINISH IN MANUFACTURER'S STANDARD GRAY ENAMEL WORK, AS MAY BE DIRECTED BY THE A/E. THE TESTS SHALL DEMONSTRATE TO THE SATISFACTION OF THE A/E AS FOLLOWS: E. INSTALL RACEWAY SO AS TO INSURE AGAINST THE COLLECTION OF TRAPPED CONDENSATION, ARRANGED TO BE FREE FROM TRAPS WHEREVER POSSIBLE. USE D. PROVIDE NEW TYPED INDEX FOR EACH AFFECTED EXISTING PANEL WITH

PROVIDE 20% SPARE CIRCUIT BREAKERS. SPACES, WHERE INDICATED SHALL 2. A REASONABLE BALANCE SHALL BE SECURED ON THE THREE PHASES OF ALL F. ALL RACEWAYS IN WHICH MOISTURE HAS COLLECTED MUST BE SWABBED OUT HAVE ALL BUS PROVISIONS, ETC., SO THAT FUTURE CIRCUIT BREAKERS CAN BE DISTRIBUTION FEEDERS AND BUS BARS. FOLLOWING INSTALLATION AND WITH THE READILY INSTALLED. SYSTEM IN OPERATION, THE CONTRACTOR SHALL CHECK THE BALANCE AND BEFORE PULLING WIRE. G. RUN ALL GROUNDING CONDUCTORS IN CONDUITS. PROVIDE ALL METAL G. MANUFACTURER'S SHALL BE SIEMENS, CUTLER-HAMMER, SQUARE-D OR SURFACE RACEWAYS WITH MANUFACTURED ELBOWS, SUPPORTS, COUPLINGS, ETC., GENERAL ELECTRIC. FOR A COMPLETE INSTALLATION.

3. PRIOR TO FINAL INSPECTION, TEST FEEDER AND BRANCH CIRCUIT CONDUCTORS 2.8 DISCONNECT SWITCHES H. GROUNDING CONDUCTORS MAY BE INSTALLED IN RIGID GALVANIZED STEEL, #6 AWG AND LARGER FOR SHORTS, OPEN, INTENTIONAL AND UNINTENTIONAL MINIMUM SIZE 3/4". PROVIDE COMPRESSION FITTINGS FOR ALL RIGID GALVANIZED A. ALL DISCONNECT SWITCHES SHALL BE TYPE HD SAFETY SWITCHES WITH GROUNDS BY MEANS OF AN APPROVED TYPE OF CONSTANT MEGGER. FUSES OR NON-FUSED AS NOTED ON THE DRAWINGS. PROVIDE NEMA-3R STEEL. ENCLOSURES FOR WET LOCATIONS. ACCEPTABLE MANUFACTURERS ARE GE, SQUARE D. CUTLER-HAMMER OR SIEMENS.

A. WITHIN 15 DAYS AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE A/E FOR APPROVAL A LIST OF MANUFACTURERS' NAMES OF MATERIAL AND EQUIPMENT HE PROPOSES TO PROVIDE.

B. AFTER RECEIVING APPROVAL OF EQUIPMENT AND MATERIAL MANUFACTURERS AND PRIOR TO DELIVERY OF ANY MATERIAL TO THE JOBSITE, SUBMIT FOR APPROVAL FIVE COPIES OF SHOP DRAWINGS. EACH ITEM OF EQUIPMENT AND MATERIALS PROPOSED SHALL BE A STANDARD CATALOG PRODUCT OF THE APPROVED MANUFACTURER.

C. INSTALL WORK ONLY AFTER "APPROVED" SHOP DRAWINGS ARE RECEIVED.

D. THE ACCEPTANCE OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY TO FURNISH MATERIAL, EQUIPMENT, AND SYSTEMS AND TO C. A GREEN COLORED INSULATED EQUIPMENT GROUND CONDUCTOR SHALL BE PERFORM WORK REQUIRED BY THE CONTRACT DOCUMENTS. NEITHER THE OWNER PROVIDED FOR ALL FEEDERS AND BRANCH CIRCUITS. THE REQUIRED EQUIPMENT NOR THE ARCHITECT WILL BE RESPONSIBLE FOR ERRORS OR OMISSIONS ON GROUNDING CONDUCTORS AND STRAPS SHALL BE SIZED IN COMPLIANCE WITH SHOP DRAWINGS FURNISHED BY THE CONTRACTOR EVEN THOUGH SUCH SHOP N.E.C. TABLE 250-95. DRAWINGS CONTAINING ERRORS OR OMISSIONS ARE INADVERTENTLY ACCEPTED. 2.3 ENCLOSURES

A. WHEN WORKING IN AND AROUND THE EXISTING BUILDING, EXTREME CARE SHALL BE EXERCISED WITH REGARD TO PROTECTION OF EXISTING WORK. NO COST TO THE OWNER.

1.12 INTERRUPTION OF EXISTING UTILITIES

A. NOTIFY THE OWNER AT LEAST 48 HOURS IN ADVANCE OF ANY REQUIRED B. OUTLET BOXES FOR LIGHTING FIXTURES IN ADDITION TO CABLE CLAMPS SHUTDOWN OF ELECTRICAL SERVICE OR OTHER SERVICE UTILITIES. UPON RECEIPT SHALL EACH BE PROVIDED WITH 3/8" FIXTURE STUD FASTENED THROUGH FROM OF APPROVAL FROM THE OWNER, SHUTDOWNS SHALL BE PERFORMED BETWEEN THE BACK OF THE BOX WHERE IT CAN BE USED TO SUPPORT THE WEIGHT OF THE HOURS OF 7 P.M. AND 7 A.M. UNLESS OTHERWISE DIRECTED AND SHALL BE THE FIXTURE. ACCOMPLISHED AT NO ADDITIONAL COST TO THE OWNER.

1.1.3 CONNECTIONS

DRAWINGS.

1.14 AS BUILT DRAWINGS

A. KEEP TWO SETS OF WHITE PRINTS ON THE JOB SITE AND NEATLY MARK UP DESIGN DRAWINGS TO REFLECT MODIFICATIONS AND ALTERATIONS MADE TO THE BASE DESIGN AS A RESULT OF OWNER DIRECTED REVISIONS OR COORDINATION

1.15 IDENTIFICATION

A. PROVIDE ENGRAVED PLASTIC PHENOLIC LAMINATED NAMEPLATES FOR ALL C. FLUSH MOUNTING PLATES: PROVIDE STAINLESS STEEL PLATES AREAS UNLESS ELECTRICAL EQUIPMENT. SUCH AS PANELBOARDS, ENCLOSED CIRCUIT BREAKERS, OTHERWISE NOTED. : COORDINATE WITH ARCHITECT ON FINISHES. CONTROLLERS, ETC. ENGRAVED NAMEPLATES SHALL BE PROVIDED WITH 1/4" HIGH VERTICAL WHITE LETTERS ON A BLACK BACKGROUND. NAMEPLATES SHALL D. SURFACE BOX PLATES: BEVELED, STEEL, HOT DIP GALVANIZED, 1.25 BE SECURED BY MEANS OF SHEETMETAL SCREWS OR POP RIVETS. PROVIDE TYPED OZ./SQ.FT. MINIMUM, PRESSURE FORMED FOR SMOOTH EDGE TO FIT BOX. CIRCUIT DIRECTORY FOR EACH BRANCH CIRCUIT PANELBOARD. REVISE DIRECTORY TO REFLECT CIRCUITING CHANGES REQUIRED TO BALANCE PHASE LOADS AND WEATHERPROOF COVER PLATE: RESILIENT RUBBER OR CLOSED CELL FOAM REVISIONS TO EXISTING PANELBOARDS.

EACH BRANCH CIRCUIT AND EACH FEEDER SHALL BE TAGGED IN EACH PANELBOARD GUTTER AND IN ALL PULL OR JUNCTION BOXES, WIRE TROUGH, ETC. TAGS IN PANELBOARD GUTTERS SHALL INDICATE AREA AND EQUIPMENT SERVED BY THE CIRCUIT AND SHALL EXACTLY MATCH PANELBOARD DIRECTORY LABEL. TAGS SELF-STICK PRESSURE ADHESIVE, AS MANUFACTURED BY W.H. BRADY COMPANY. FEEDERS SHALL BE TAGGED IN EACH LARGE PULL BOX OR WIRE TROUGH WITH

A. PIPE STRAPS AND HANGER RODS SHALL BE FASTENED TO CONCRETE BY ENGRAVED FIBER TAGS. MEANS OF INSERTS OR EXPANSION BOLTS, TO HOLLOW MASONRY BY MEANS OF TOGGLE BOLTS. WOODEN PLUGS AND SHIELDS SHALL NOT BE USED FOR A. COORDINATE CHASES, SLOTS, INSERTS, SLEEVES, AND OPENINGS WITH GENERAL C. EACH RECEPTACLE SHALL BE LABELED TO INDICATE THE PANELBOARD AND FASTENING PIPE STRAPS AND HANGERS. IN LIEU OF INSERTS OR EXPANSION BRANCH CIRCUIT NUMBER FROM WHICH IT IS SERVED. THE LABEL SHALL E BOLTS, POWER-DRIVEN FASTENERS MAY BE USED TO ATTACH STRAPS AND DYNE-TAPE, OF THE SAME COLOR AS THE DEVICE IT SERVES. (WHITE LETTERING HANGER RODS TO CONCRETE. ALL U-BOLTS, CLAMPS, ATTACHMENTS, AND OTHER ON SURROUNDING BLUE FOR 208/120V - 60 HZ RECEPTACLES. THE TAPE HARDWARE NECESSARY FOR HANGER ASSEMBLY, AND FOR SECURING HANGER DESIGNATION SHALL BE PLACED ADJACENT TO EACH RECEPTACLE COVER PLATE. RODS AND CONDUIT SHALL BE PROVIDED.

1.16 WORKMANSHIP

A. ALL MATERIALS SHALL BE FABRICATED AND INSTALLED IN A NEAT AND WORKMANLIKE MANNER WITH THE COORDINATION OF ALL TRADES TO AVOID INTERFERENCES AND DELAY DUE TO LACK OF COORDINATION.

C. INDIVIDUAL HORIZONTAL CONDUITS SHALL BE SUPPORTED BY ONE-HOLD PIPE STRAPS OR SEPARATE PIPE HANGERS FOR SIZES 1 1/2" AND SMALLER, AND BY 1.17 ELECTRICAL GENERAL CONDITIONS SEPARATE PIPE HANGERS FOR LARGER SIZES. SPRING STEEL FASTENERS SHALL BE SPECIFICALLY DESIGNED FOR SUPPORTING SINGLE CONDUITS. TYPE, SIZE AND A. CORRELATE FINAL EQUIPMENT LOCATIONS WITH GOVERNING ARCHITECTURAL AND SPACING OF SPRING STEEL FASTENERS TOGETHER WITH ACCESSORIES SHALL BE STRUCTURAL CONSTRUCTION DOCUMENTS. PROVIDE COORDINATION OF ALL TRADES AS APPROVED BY THE A/E, AND THE CONTRACTOR SHALL SUBMIT ALL REQUIRED FOR INSTALLATION IN A NEAT AND WORKMANLIKE MANNER. APPLICABLE LOAD AND RATING DATA FOR APPROVAL. UNLESS OTHERWISE SPECIFIED, WIRE SHALL NOT BE USED AS A MEANS OF SUPPORT.

B. PROVIDE A FIELD SUPERINTENDENT WITH A MINIMUM OF TWO YEARS OF EXPERIENCE ON PROJECTS WITH A SIMILAR NATURE AND SIZE. SUPERINTENDENT SHALL BE PRESENT AT ALL TIMES THAT ELECTRICAL WORK IS BEING PERFORMED.

1.18 ALTERNATE BID

A. PROVIDE ALTERNATE BID PRICE FOR INSTALLATION OF EXTERIOR DUPLEX RECEPTACLES. RECEPTACLES SHALL BE RECESSED MOUNTED WITH A CAST IRON BOX AND DIE CAST COVERPLATE RATED WHILE IN USE. RECEPTACLE DEVICE SHALL BE GFI WEATHER RESISTANT TYPE.

1. THAT ALL CIRCUITS ARE FREE FROM UNSPECIFIED GROUNDS.

A. CONTRACTOR SHALL MAKE CONNECTIONS ALL EQUIPMENT AS INDICATED ON THE

2.1 RACEWAYS

ALL INTERIOR CONDUIT RACEWAYS SHALL BE RIGID GALVANIZED STEEL WITH COMPRESSION FITTINGS, EXTERIOR SHALL BE RIGID GALVANIZED STEEL, MINIMUM SIZE SHALL BE 3/4". ALL CONDUIT RACEWAYS SHALL BE CONCEALED WHERE POSSIBLE. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC ENCASED IN

OF HOT WATER PIPES.

SCREW OR PUSH-ON CAPS TO PREVENT THE LODGEMENT OF FOREIGN PARTICLES LOADS AND LOCATION OF LOAD IN THE DESCRIPTION OF THE INDEX. IN THE RACEWAYS, FITTINGS AND BOXES DURING CONSTRUCTION.

2.2 CONDUCTORS

PROVIDE FOR ALL SERVICE, FEEDER, BRANCH, AND CONTROL WIRING. COLOR SHALL BE GREEN FOR GROUNDING CONDUCTORS, AND WHITE FOR NEUTRALS, EXCEPT WHERE NEUTRALS OR MORE THAN ONE SYSTEM ARE INSTALLED IN SAME RACEWAY OR BOX, THE OTHER NEUTRAL SHALL BE WHITE WITH A COLORED (NOT GREEN) STRIPE. THE COLOR OF THE UNGROUNDED CONDUCTORS SHALL BE AS FOLLOWS; 120/208 VOLT, 3-PHASE: PHASE A - BLACK, PHASE B - RED, PHASE C - BLUE.

C. ALL FEEDER AND BRANCH CIRCUITS SHALL BE COPPER RATED 600 VOLTS, IN CONDUIT WITH THWN OR THHN 75 DEGREE C INSULATION. MINIMUM SIZE BRANCH CIRCUIT CONDUCTOR SHALL BE #12. CONDUCTOR SIZE #12 AND #10 SHALL BE SOLID. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED

A. USE NEMA TYPE 3R OR OUTDOOR EQUIPMENT UNLESS NOTED OTHERWISE.

2.4 OUTLET BOXES

CORRECT ALL DAMAGE TO EXISTING WORK TO THE SATISFACTION OF THE A/E AT A. PROVIDE AT EACH OUTLET OR DEVICE AN OUTLET BOX IN WHICH RACEWAYS AND CONDUCTORS SHALL TERMINATE. OUTLET BOXES SHALL BE STANDARD GALVANIZED STEEL PROVIDED WITH KNOCK-OUTS. WHERE GROUPED SWITCHES OR RECEPTACLES ARE SHOWN, USE GANGED BOXES.

> C. SIZES AND TYPE OF OUTLET BOXES SHALL BE SUFFICIENT TO ACCOMMODATE STRUCTURAL CONDITIONS, NUMBER AND SIZE OF RACEWAYS AND CONDUCTORS ENTERING, DEVICE OR FIXTURE SERVED, AND SPLICES CONTAINED THEREIN.

D. PROVIDE BOX COVERS SIZED TO FIT OUTLET BOXES.

2.5 WIRING DEVICES

WIRING DEVICES SHALL BE RATED FOR 20 AMPS OR AS INDICATED, 120/277 AND AS MANUFACTURED BY HUBBELL, P&S, COOPER OR LEVITON. PROVIDE 20 AMP DEVICES FOR GROUND FAULT RECEPTACLES, TAMPER PROOF TYPE AND OTHER RECEPTACLE AS INDICATED.

B. PROVIDE DEVICE PLATES FOR ALL OUTLETS WHERE DEVICES ARE INSTALLED.

URETHANE GASKETED CAST METAL, FOR APPROPRIATE TYPE RECEPTACLE, PROVIDE SPRING LOADED HINGED GASKETED DEVICE DOOR. PLATE SHALL BE RATED FOR "IN-USE" PER THE NEC.

COORDINATE COLORS WITH OWNER.

2.6 FASTENINGS AND SUPPORTS

B. ALL CONDUITS SHALL BE SECURELY AND INDEPENDENTLY SUPPORTED SO THAT NO STRAIN WILL BE TRANSMITTED TO OUTLET BOX. SUPPORT SHALL BE RIGID ENOUGH TO PREVENT DISTORTION OF CONDUITS DURING WIRE PULLING.

D. WHERE TWO OR MORE HORIZONTAL CONDUITS RUN PARALLEL AND AT THE SAME ELEVATION, THEY SHALL BE SUPPORTED ON MULTIPLE (TRAPEZE) PIPE HANGERS. EACH CONDUIT SHALL BE SECURED TO THE HORIZONTAL HANGER MEMBER BY A U-BOLT. ONE-HOLE STRAP OR OTHER SPECIALLY DESIGNED AND APPROVED FASTENER.

E. SUPPORTS FOR HORIZONTAL CONDUITS SHALL BE SPACED NOT MORE THAN 8' APART, WITH NOT LESS THAN TWO SUPPORTS FOR EACH 10' STRAIGHT LENGTH AND ONE SUPPORT NEAR EACH ELBOW OR BEND.

COPPER GROUND BUS.

B. FURNISH AND INSTALL ALL FUSES NECESSARY FOR LEAVING THE INSTALLATION COMPLETE AND IN WORKING ORDER, INCLUDING A COMPLETE SET OF FUSES IN EACH SWITCH. ALL FUSES SHALL BE BUSSMAN FUSETRON OF PROPER CAPACITIES.

2.9 LIGHTING A. LAMPS

ALL FIXTURES SHALL BE COMPLETE WITH NEW LAMPS OF EITHER PHILLIPS, GE, OR SYLVANIA MANUFACTURE. EXISTING LIGHTING FIXTURES AND RELOCATED FIXTURES SHALL BE RE-LAMPED. B. FIXTURES

CONNECTION ON THE LOAD SIDE OF THE DISCONNECT TO FACILITATE DRIVER REPLACEMENT 2. LED DRIVERS SHALL MEET THE FOLLOWING CHARATERISTICS:

2. MINIMUM EFFICIENCY: 85% 3. OPERATING TEMPERATURE RANGE: -40 DEGREES C TO 50 DEGREES C 4. MINIMUM RATED LIFE: 50,000 HOURS 5. DIMMING RANGE: 100% TO 10%

STANDARDS D. LIGHT FIXTURE SCHEDULE 1. TYPE A1

> 1.1. LED GLOBE TYPE WITH WIRE GUARD, IP66 RATED, 2000 LUMEN, 120 VOLT. WEATHER PROOF WITH INTEGRAL DRIVER AND SURFACE MOUNT BASE 2. TYPE SITE LIGHTING POLE

1.1. LED AREA LUMINAIRE; LITHONIA NO. DSX0 LED P3 40K T2M MVOLT SPA PIRH HS XXXX SERIES WITH 15 FEET ALUMINUM POLE NO. SSA 15 4C SERIES WITH BOLT COVER BASE. 1.2. REFER TO CIVIL SITE PLAN FOR QUANTITY AND LOCATIONS.

2.10 GROUNDING

NEC.

B. GROUND CONNECTIONS TO WATER SYSTEM SHALL HAVE RIGID CLAMP JAWS. C. THE FOLLOWING EQUIPMENT SHALL BE SOLIDLY GROUNDED TO A WALL MOUNTED GROUND BUS BY A BARE COPPER CONDUCTOR SIZED PER NFPA - 70 TABLE 250-66 "GROUNDING ELECTRODE CONDUCTOR": EXTERIOR GROUND GRID SYSTEM. SERVICE ENTRANCE EQUIPMENT GROUND BUS, METALLIC WATER SYSTEM

PIPING.

D. THE FOLLOWING EQUIPMENT SHALL BE SECURELY GROUNDED BY AN INSULATED COPPER CONDUCTOR SIZED PER TABLE 250-122. MINIMUM SIZE EQUIPMENT GROUNDING CONDUCTORS FOR GROUNDING RACEWAY AND EQUIPMENT: BRANCH CIRCUIT PANEL BOARDS, ALL EXTERIOR BRANCH CIRCUITS, ALL INTERIOR BRANCH CIRCUITS AND FEEDERS.

E. THE FOLLOWING EQUIPMENT MUST BE SOLIDLY GROUNDED BY A CONTINUOUS INSULATED COPPER CONDUCTOR AS FOLLOWS: TEMPERATURE MONITORING SYSTEM(S). ALL OF THE ABOVE SHALL RETURN TO THE GROUND BUS OF THE NEAREST ELECTRICAL PANEL.

2.7 PANELBOARDS

A. PANELBOARDS SHALL BE DEADFRONT DESIGN COMPLYING WITH NEMA PB AND BE CIRCUIT BREAKER TYPE. PANELBOARD BUS SHALL BE COPPER WITH

1. FIXTURES SHALL BE AS INDICATED ON THE LIGHTING FIXTURE SCHEDULE: C. LED DRIVERS

1. PROVIDED WITH AN IN-LINE DISCONNECT TO MEET NEC. SHALL BE PROVIDED WITH A MANUFACTURER INSTALLED "WIRE "NUT

1. MAXIMUM DRIVE CURRENT: 350MA

6. UL CLASS I OR II OUTPUT 7. POWER FACTOR 90%

8. TOTAL HARMONIC DISTORTION: 20% 9. COMPLY WITH FCC 47 CFR PART 15 NON-CONSUMER RFI/EMI

A. ALL GROUNDING AND BONDING SHALL COMPLY WITH ARTICLE 250 OF THE

2.11 TEMPERATURE MONITORING SYSTEM

A. CLASS A TEMPERATURE MONITORING SYSTEM SHALL BE SRG INC. MODEL DAQ 100 SUPPLIED BY SRG INC. 311 COURT ST. DANVILLE VA 24541 434-799-0800 INCLUDING ALL INCIDENTAL HARDWARE OR AN APPROVED EQUAL

PERFORMANCE REQUIREMENTS: TEMPERATURE MONITORING SYSTEM SHALL BE SPECIFICALLY MANUFACTURED FOR AND CAPABLE OF REGISTERING AND DISPLAYING TEMPERATURES IN THE TRAINING STRUCTURE DURING LIVE FIRE TRAINING. THE SYSTEM SHALL MEET VDFP CRITERIA.

1. TEMPERATURE RANGE DURING NORMAL OPERATING CONDITIONS AT: 40°F TO 120°F. 2. TEMPERATURE RANGE DURING NORMAL OPERATING CONDITIONS AT THE TEMPERATURE SENSORS: 32°F TO 2,300°F.

C. THE SYSTEM SHALL BE INDEPENDENTLY CAPABLE OF SCANNING AND RECORDING TEMPERATURE READINGS FOR A MINIMUM OF THREE THERMOCOUPLES PER BURN ROOM. INSTALL MINIMUM THE NUMBER OF THERMOCOUPLES AS SHOWN. 1. THE SYSTEM SHALL HAVE A DIGITAL DISPLAY THAT INDICATES READINGS DURING OPERATION. THE DIGITAL DISPLAY SHALL BE CAPABLE OF DISPLAYING A MINIMUM OF 6 CHANNELS SIMULTANEOUSLY AND SHALL BE READABLE AT THREE FEET LINE OF SIGHT. THE DISPLAY SHALL BE READABLE IN DIRECT SUNLIGHT FOR EXTERIOR INSTALLATIONS. THE DISPLAY SHALL HAVE BACK LIGHTING OR BE BRIGHT ENOUGH TO READ IN LOW LEVEL LIGHT CONDITIONS SUCH AS A MECHANICAL ROOM. THE UNITS SHALL BE CAPABLE OF SCANNING CONTINUOUSLY THROUGH READINGS FROM ALL OF THE SENSORS. THE SCANNING FEATURE SHALL BE CAPABLE OF BEING PROGRAMMED SO THAT DIFFERENT SENSORS CAN BE SCANNED OR DISPLAYED DURING DIFFERENT TRAINING EVOLUTIONS

- 2. CONTROL OF THE INSTRUMENTATION SHALL BE LOCAL AND NOT REQUIRE THE USE OF AN INTERFACE. OPERATION OF THE INSTRUMENT SHALL BE ACCOMPLISHED THROUGH A
- TOUCH SCREEN, PUSH BUTTON, OR SOFT KEY INTERFACE. 3. THE INSTRUMENTS SHALL BE CAPABLE OF RECORDING THE TOTAL NUMBER OF SENSORS INSTALLED IN THE BURN BUILDING.
- 4. THE SYSTEM SHALL BE CAPABLE OF RECORDING ALL OF THE CHANNELS AT A 10
- SECOND OR LESS INTERVAL 5. ALL DATA SHALL BE PERMANENTLY STORED ON THE INTERNAL MEMORY
- 6. THE SYSTEM SHALL BE CAPABLE OF STORING DATA ON REMOVABLE STORAGE MEDIA,
- INCLUDING PCMCIA/COMPACT FLASH CARDS OR USB EXTERNAL THUMB DRIVES. 7. THE SYSTEM SHALL INTERFACE WITH A COMPUTER VIA STANDARD WIRELESS INTERFACE, ETHERNET, AND USB.
- 8. THE SYSTEM SHALL HAVE AT LEAST ONE FRONT PANEL USB PORT. 9. THE SYSTEM SHALL HAVE A 70 MB BATTERY BACKED BUFFER.
- 10. THE SYSTEM SHALL COME WITH SOFTWARE REQUIRED TO VIEW AND CONVERT SAVED DATA TO A FORMAT COMPATIBLE WITH COMMERCIALLY AVAILABLE SPREADSHEET SOFTWARE, SUCH AS LOTUS 1-2-3 OR MICROSOFT EXCEL FOR USE AND ANALYSIS IN A PERSONAL COMPUTER WITH WINDOWS FORMAT. THE SOFTWARE SHALL BE COMPLIANT FOR USE WITH WINDOWS 7-10
- EACH SYSTEM SHALL HAVE AT LEAST TWO OUTPUTS TO CONTROL AUDIO VISUAL ALARMS. EACH CHANNEL SHALL HAVE A MINIMUM OF TWO PROGRAMMABLE ALARM SET POINTS
- 12. THE SYSTEM SHALL BE CAPABLE OF DISPLAYING AND RECORDING TEMPERATURES IN DEGREES FAHRENHEIT AND DEGREES CELSIUS. 13. THE SYSTEM SHALL HAVE A FRONT PANEL ON/OFF
- SWITCH. DATA RECORDING WILL START AT POWER ON OR BY 14. NO MORE THAN A SINGLE RECORD COMMAND.
- 15. THE SYSTEM SHALL HAVE SUFFICIENT INTERNAL MEMORY TO STORE AT LEAST 168 HOURS OF CONTINUOUS MEASUREMENT DATA FOR ALL CONNECTED CHANNELS BASED ON 1 SECOND SAMPLING INTERVAL. THE DATA SHALL HAVE A DATE AND TIME STAMP. ALL OF THE DATA SHALL ALSO BE STORED ON AN EXTERNAL FLASH DRIVE OR OTHER TYPE OF PERMANENT MEMORY STORAGE. THE SYSTEM SHALL BE CAPABLE OF TRANSFERRING OR DUMPING DATA TO AN EXTERNAL STORAGE DEVICE WITHOUT ERASING THE INTERNAL MEMORY.
- LOSS OF POWER OR TURNING THE UNIT TO THE OFF POSITION SHALL NOT AFFECT THE INTERNAL MEMORY. A SECONDARY BACK UP POWER SOURCE IS NOT PERMITTED AS AN ALTERNATIVE. THE SYSTEM SHALL HAVE OPEN SENSOR DETECTION AND IN THE EVENT A SENSOR FAILS, THE INSTRUMENT SHALL INITIATE AN ALARM

D. DATA MANAGEMENT: ALL DATA SHOULD BE STORED IN A NON-VOLATILE INTERNAL MEMORY CONTINUOUSLY THROUGHOUT THE TRAINING PERIOD.

E. ALL DATA SHOULD BE DATE AND TIME STAMPED SPECIFIC.

ALL DATA SHALL BE TRANSFERRED TO A PERMANENT STORAGE MEDIA. THE MEMORY SHALL BE SUFFICIENT TO HOLD AT LEAST 180 DAYS OF CONTINUOUS DATA.

G. THE DATA MAY ALSO BE DOWNLOADED VIA CONNECTION TO A COMPUTER. THE DATA SHOULD BE EXPORTED AND STORED IN A USABLE FORMAT COMPATIBLE WITH COMMERCIALLY AVAILABLE SPREAD SHEET PROGRAMS

H. SENSORS

CONDITION.

- 1. THE SENSORS SHALL BE MANUFACTURED FOR LIVE FIRE CONDITIONS, HARSH SERVICE AND HIGH RELIABILITY APPLICATIONS ACCORDING TO THE APPROPRIATE ASTM STANDARDS SUPPLIED AS PART OF THE DAQ-100 SYSTEM 2. ONE CEILING MOUNTED, WALL AND STRUCTURAL SENSOR SHALL BE INSTALLED IN EACH
- LIVE BURN ROOM. 3. THE SENSORS SHALL BE 1/8" DIAMETER AND A LENGTH THAT PERMITS 2" OF
- EXTENSION INTO THE BURN ROOM.
- SYSTEM ENCLOSURE 1. THE SYSTEM SHALL BE NEMA 4 OR 4X RATED.

AUDIO VISUAL ALARMS 1. ONE RED AND ONE YELLOW FLASHING STROBE IS REQUIRED AT EACH BUILDING PREFERABLY MOUNTED ON THE SIDE COMMONLY USED AS THE STAGING AREA. ONE AUDIO ALARM CAPABLE OF A MINIMUM OF 85 DB IS ALSO REQUIRED AT EACH BUILDING.

K. COMMUNICATION CABLES 1. SIGNAL RELAY OR SIGNAL BOOST HARDWARE AS REQUIRED TO SUPPORT 325 FOOT RUNS. THE CABLE SHALL BE CMXT CAT 6 SHIELDED (STP) CABLE, HIGH PERFORMANCE DATA COMMUNICATION CABLE SUITABLE FOR 600MHZ HIGH-SPEED DATA APPLICATIONS, GIGABIT ETHERNET, FAST ETHERNET AND 155MBPS TP-PMD/CDDI. ATTENUATION AND CROSSTALK CHARACTERISTICS SHOULD MEET OR EXCEED EIA/TIA 568 B.2-1 SPECIFICATION. THE CABLE SHALL BE SUITABLE FOR DIRECT BURIAL OUTDOOR NETWORK INSTALLATIONS AND APPROVED BY ETL TO BE TYPE CMX. THE WIRES SHALL BE 23 AWG IN SIZE OR LARGER AND BE MADE OF SOLID BARE (PURE) COPPER CONDUCTORS. ALL 4 PAIRS SHALL BE IDENTIFIED BY COLOR-STRIPES. INSULATIONS SHOULD BE MADE OF PE AND THE OUTER JACKET BE MADE OF UV RESISTANT LLDPE. THE CABLE SHALL BE EQUIPPED WITH AL FOIL & WATER PROOF TAPE WITH DRAIN WIRE. WIRELESS CONNECTIVITY AT EACH BUILDING IS REQUIRED.

- CAT 6 600MHZ STP CMXT DIRECT BURIAL 1000 FEET CABLE
- ETL TYPE CMX FOR WEATHER AND WATER PROOF OUTDOOR NETWORK INSTALLATIONS
- 23 AWG WIRES MADE OF SOLID BARE (PURE) COPPER CONDUCTORS
- EXCEEDS EIA/TIA 568 B.2-1, CSA AND ISO/IEC 11801 SPECIFICATIONS
- UV RESISTANT JACKET WITH SEQUENTIAL LENGTH MARKINGS

SENSOR LOCATIONS SHALL BE AS INDICATED IN THE DRAWINGS.

M. WIRING, CONDUIT, AND OTHER MISCELLANEOUS ELECTRICAL ITEMS SHALL BE PROTECTED FROM HIGH TEMPERATURES BY INSTALLING THEM OUTSIDE OF THE TRAINING STRUCTURE OR BEHIND THERMAL LININGS INSIDE THE TRAINING STRUCTURE, AS INDICATED ON THE DRAWINGS

N. THE WIRING SHALL BE RATED APPROPRIATELY FOR USE IN RIGID CONDUIT PROTECTED BY THE APPROPRIATE LINING OR STRUCTURAL MATERIAL. THE WIRE SHALL COMPLY WITH THE APPROPRIATE ASTM STANDARDS.

O. A ONE YEAR FOLLOW UP MAINTENANCE SERVICE CALL SHALL BE INCLUDED AS PART OF THE SYSTEM.

P. SENSOR HARDWARE SHALL BE COMPATIBLE WITH HIGH TEMPERATURE LININGS (HTL) REFRACTORY AND STANDARD FIRE BRICK WALL LININGS. PADGINITE AND METAL STRUCTURES.

2.12 TVSS

- 3.1 WORKMANSHIP
 - OF THE WORK.

- 3.2 WATERPROOFING
- MADE WATERTIGHT 3.3 CLEANING AND PAINTING
- INTERIOR.

- SECTION.

- 3.4 SLEEVES AND PLATES

- SPECIFICATIONS.

Q. QUALIFICATION PROCEDURE

1. FOR ANY PROSPECTIVE TEMPERATURE MONITORING SYSTEM MANUFACTURER/SUPPLIER/PRODUCT THAT IS NOT LISTED UNDER SECTION 2, SUBMIT A WRITTEN REQUEST FOR QUALIFICATION TO THE ENGINEER. FOR ALL REQUESTS FOR QUALIFICATION. INCLUDE THE INFORMATION DEFINED IN THE FOLLOWING SECTIONS AND DELIVER TO THE ENGINEER 14 CALENDAR DAYS BEFORE THE STATED DATE OF BID OPENING AS

IDENTIFIED IN THE SOLICITATION DOCUMENTS. LACK OF ADEQUATE INFORMATION IS SUFFICIENT CAUSE FOR REJECTION. REFERENCES TO CATALOGS OR OTHER DESCRIPTIVE DOCUMENTS NOT INCLUDED WITH THE APPLICATION FOR QUALIFICATION TO THE ARCHITECT ARE NOT ACCEPTABLE.

2. MANUFACTURE'S QUALIFICATIONS: PROVIDE THE FOLLOWING INFORMATION:

1.1. CORPORATE QUALIFICATIONS AND CAPABILITIES THAT FULLY DESCRIBE THE ABILITY TO MANUFACTURE THE REQUIRED TEMPERATURE MONITORING SYSTEM.

1.2. A HISTORY OF EXPERIENCE MANUFACTURING AND INSTALLING TEMPERATURE MONITORING SYSTEMS IN LIVE FIRE TRAINING STRUCTURES ("BURN BUILDINGS")

1.3. A LIST OF TEN (10) COMPLETED PROJECTS, AT LEAST FIVE (5) OF WHICH SHALL BE MORE THAN TEN (2) YEARS OLD INSTALLING OR FULLY SERVICING AND TESTING TEMPERATURE MONITORING SYSTEMS USED BY MUNICIPALITIES IN LIVE FIRE TRAINING STRUCTURES. INCLUDE THE COMPLETION DATE AND THE NAME AND TELEPHONE NUMBER OF A PERSON EMPLOYED BY THE OWNER WHO HAS PERSONAL KNOWLEDGE OF THE TMS PERFORMANCE. PROVIDE ALL APPROPRIATE CONTACT INFORMATION FOR THE MUNICIPALITY. ALSO PROVIDE DESCRIPTIONS OF ANY TESTING THAT HAS BEEN PERFORMED ON THE SYSTEM TO INDICATE THAT IT WILL HAVE PERFORMANCE EQUAL OR GREATER TO THE PERFORMANCE CRITERIA LISTED IN THIS

SPECIFICATION. 1.4. INSTALLER'S QUALIFICATIONS: PROVIDE THE FOLLOWING INFORMATION: QUALIFICATIONS AND CAPABILITIES THAT FULLY DESCRIBE THE ABILITY TO INSTALL THE REQUIRED TEMPERATURE MONITORING SYSTEM. 1.5. A HISTORY OF EXPERIENCE INSTALLING AND TESTING TEMPERATURE MONITORING SYSTEMS IN LIVE FIRE TRAINING STRUCTURES ("BURN BUILDINGS").

1.6. A LIST OF TEN (10) COMPLETED PROJECTS, AT LEAST FIVE (5) OF WHICH SHALL BE MORE THAN TEN (2) YEARS OLD INSTALLING OR FULLY SERVICING AND TESTING TEMPERATURE MONITORING SYSTEMS USED BY MUNICIPALITIES IN LIVE FIRE TRAINING STRUCTURES. INCLUDE THE COMPLETION DATE AND THE NAME AND TELEPHONE NUMBER OF A PERSON EMPLOYED BY THE OWNER WHO HAS PERSONAL KNOWLEDGE OF THE TMS PERFORMANCE. PROVIDE ALL APPROPRIATE CONTACT INFORMATION FOR THE MUNICIPALITY. ALSO PROVIDE DESCRIPTIONS OF ANY TESTING THAT HAS BEEN PERFORMED ON THE SYSTEM TO INDICATE THAT IT WILL HAVE PERFORMANCE EQUAL OR GREATER TO THE PERFORMANCE CRITERIA LISTED IN THIS SPECIFICATION.

A. SYSTEMS SHALL BE DESIGNED, MANUFACTURED, TESTED AND INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS: TVSS UNITS AND ALL COMPONENTS SHALL BE DESIGNED. MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LATEST APPLICABLE UL LISTED STANDARDS (UL 1449, 2ND EDITION), UL 1283 AND CSA CERTIFIED PER CSA 22.2

B. THE TVSS DEVICE SHALL BE CUTLER-HAMMER CLIPPER POWER SYSTEM (CPS), SURGE CURRENT PER PHASE: 100 KA.

C. THE TVSS DEVICE SHALL BE INTEGRAL TO THE PANELBOARD UNLESS NOTED OTHERWISE.

EACH SUBCONTRACTOR SHALL FURNISH THE SERVICES OF AN EXPERIENCED SUPERINTENDENT WHO SHALL BE CONSTANTLY IN CHARGE OF THE INSTALLATION

THE QUALITY OF THE WORKMANSHIP REQUIRED FOR EACH TRADE IN THE EXECUTION OF ITS WORK SHALL BE THE FINEST AND HIGHEST OBTAINABLE IN THAT TRADE WORKING WITH THE MATERIALS SPECIFIED. WORKMANSHIP SHALL BE SATISFACTORY TO THE ARCHITECT AND HIS DECISION AS TO THE ACCEPTABLE QUALITY IS FINAL.

. INSTALL ALL FLOOR MOUNTED EQUIPMENT ON 4" CONCRETE HOUSING PADS OR AS INDICATED ELSE WARE ON THE DRAWINGS/SPECIFICATIONS.

A. UNDER NO CIRCUMSTANCES SHALL ANY WATERPROOFING BE DAMAGED OR PENETRATED. SHOULD CONDITIONS ARISE WHICH INDICATE SUCH NECESSITY, NOTIFY THE ARCHITECT. PENETRATIONS REQUIRED BY THIS CONTRACT SHALL BE

A. CONDUIT AND EQUIPMENT TO BE INSTALLED: CLEAN THOROUGHLY TO REMOVE PLASTER, SPLATTERED PAINT, CEMENT AND DIRT, ON BOTH EXTERIOR AND

CONDUIT AND EQUIPMENT TO BE PAINTED: CLEAN ALL CONDUIT EXPOSED TO VIEW IN COMPLETED STRUCTURE BY REMOVING PLASTER AND DIRT. REMOVE GREASE, OIL AND SIMILAR MATERIAL FROM CONDUIT AND EQUIPMENT BY WIPING WITH CLEAN RAGS AND SUITABLE SOLVENTS IN PREPARATION FOR PAINT.

C. ALL ITEMS WITH FACTORY FINISH: REMOVE CEMENT, PLASTER, GREASE AND OIL, AND LEAVE ALL SURFACES, INCLUDING CRACKS AND CORNERS, CLEAN AND POLISH. TOUCH UP ANY SCRATCHED OR BARE SPOTS TO MATCH FINISH. THE ARCHITECT MAY APPROVE FACTORY FINISH AS PRIME COAT. SEE "PAINTING"

D. ELECTRICAL EQUIPMENT AND MATERIALS EXPOSED TO PUBLIC AND IN FINISHED AREAS SHALL BE FINISH-PAINTED AFTER INSTALLATION TO COORDINATE WITH SURROUNDING WALLS. SURFACES SHALL BE THOROUGHLY CLEANED FOR RECEIVING PAINT. PAINT COLOR COORDINATION SHALL BE AS DIRECTED, AND ON ADJACENT SURFACES TO INSURE PROPER MATCHING OF QUALITY AND COLOR WITH SURROUNDING AREAS.

ALL ELECTRICAL APPARATUS AND EQUIPMENT IN EQUIPMENT ROOMS SHALL BE PROVIDED WITH A FACTORY FINISH COAT. ALL PANELS IN PUBLIC SPACES, CORRIDORS, ETC. SHALL BE PROVIDED WITH A FACTORY PRIME COAT.

F. SITE CLEANING: REMOVE FROM SITE ALL PACKING CARTONS, SCRAP MATERIALS, AND OTHER RUBBISH RELATING TO ELECTRICAL INSTALLATION.

G. CONCRETE WORK: ALL CONCRETE WORK REQUIRED FOR THE INSTALLATION OF THE WORK OF THIS DIVISION SHALL BE PERFORMED AS A PART OF THE WORK OF THE APPROPRIATE SECTION OF THIS DIVISION, IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF "CONCRETE" DIVISION OF THE PROJECT

H. PAINT ALL PLYWOOD USED FOR SUPPORT OF ELECTRICAL EQUIPMENT, GREY DECK ENAMEL, TWO COATS.

A. SLEEVES SHALL BE PROVIDED BY THE CONTRACTOR FOR THE INSTALLATION OF CONDUIT, ETC. THE SLEEVES SHALL BE CAREFULLY LOCATED IN ADVANCE OF THE CONSTRUCTION OF WALLS AND FLOORS WHERE NEW CONSTRUCTION IS INVOLVED. PROVIDE ALL CUTTING AND PATCHING NECESSARY TO SET SLEEVES WHICH ARE NOT PLACED PRIOR TO CONSTRUCTION. ALL CUTTING AND PATCHING NECESSARY TO SET SLEEVES WHICH ARE NOT PLACED PRIOR TO CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE TRADE PROVIDING THE SLEEVES.

B. SLEEVES SHALL BE PROVIDED FOR ALL CONDUIT, ETC. PASSING THROUGH CONCRETE, MASONRY, PLASTER AND GYPSUM WALLBOARD CONSTRUCTION. CAULK THE ANNULAR SPACE OF SLEEVES WITH AN ELASTIC FIRE RESISTANT CAULKING COMPOUND TO MAKE INSTALLATION FIRE, AIR AND WATER TIGHT.

FASTEN SLEEVES SECURELY IN THE CONSTRUCTION SO THAT THEY WILL NOT BECOME DISPLACED WHEN CONCRETE IS POURED OR WHEN OTHER CONSTRUCTION IS BUILT AROUND THEM. TAKE PRECAUTIONS TO PREVENT CONCRETE, PLASTER OR OTH MATERIALS BEING FORCED INTO SPACE BETWEEN CONDUIT. ETC., AND SLEEVE DURING CONSTRUCTION.

D. SLEEVES REQUIRING IN EXISTING CONCRETE OR MASONRY WALLS SHALL BE SET SECURED WITH MORTAR GROUT AND FAST DRYING BITUMASTIC SEALANT.

E. AT ALL SLEEVES WHERE OBJECTIONABLE NOISE CAN BE TRANSMITTED, AT SMOKE BARRIERS, AT WALLS ABOVE CEILINGS THAT EXTEND TO UNDERSIDE OF THE STRUCTU OF FLOOR ABOVE, OR AT FIRE RATED SEPARATIONS, SEAL ALL OPENINGS BETWEEN CONDUIT, ETC. AND CORRESPONDING SLEEVES TO PREVENT SOUND TRANSMISSION ANI TO MAINTAIN FIRE RATING. USE U.L. APPROVED RESILIENT SEALANT FOR PENETRATIOI SEALS. SUBMIT METHOD OF SEALING FOR APPROVAL. WHERE WATERTIGHT SLEEVES INDICATED OR REQUIRED TO SUIT THE INSTALLATION, PROVIDE LINK SEAL RUBBER SE AS MANUFACTURED BY THUNDERLINE CORPORATION OR APPROVED EQUAL, BETWEEN AND SLEEVES.

F. WHERE CONDUIT MOTION DUE TO EXPANSION AND CONTRACTION WILL OCCUR, PRO SLEEVES OF SUFFICIENT DIAMETER OR PERMIT FREE MOVEMENT OF CONDUIT. CHECI CONSTRUCTION TO DETERMINE PROPER LENGTH FOR VARIOUS LOCATIONS; MAKE ACTL LENGTHS TO SUIT THE FOLLOWING:

- 1. TERMINATE SLEEVES FLUSH WITH WALLS, PARTITIONS AND CEILINGS.
- 2. TERMINATE SLEEVES 2" ABOVE FINISHED FLOOR IN EQUIPMENT ROOMS, KITCHEN AND WET FLOOR AREAS.

3. IN ALL OTHER AREAS, TERMINATE SLEEVES 1/2" ABOVE FINISHED FLOOR 3.5 POWER SERVICE INSTALLATION

A. CONTRACTOR SHALL VERIFY ALL SERVICE INFORMATION HEREIN OR SHOWN ON DRAWINGS. AND HE/SHE SHALL COMMUNICATE WITH POWER COMPANY AND OBTAIN F THE COMPANY ALL INSTRUCTIONS AND REQUIREMENTS RELATIVE TO THEIR SERVICE. CONTRACTOR SHALL INCORPORATE INTO HIS WORK ALL ITEMS REQUIRED BY SUCH INSTRUCTIONS OR INFORMATION AND SHALL OBTAIN INSPECTION AND APPROVAL OF T WORK FROM POWER COMPANY WHEN AND AS REQUIRED BY THEM.

ELECTRIC CURRENT WILL BE DELIVERED FROM THE MAINS OF POWER COMPANY THE CONTRACTOR SHALL CONTACT THE LOCAL DISTRICT MANAGER OF POWER COMPAN AND MAKE ALL ARRANGEMENTS FOR A UNDERGROUND PRIMARY SERVICE TO A PAD_MOUNTED TRANSFORMER NEAR THE BUILDING AT LOCATION INDICATED ON THE DRAWINGS. ARRANGEMENT SHALL ALSO BE MADE FOR AN UNDERGROUND SECONDAR SERVICE TO BE INSTALLED UNDER THIS CONTRACT FROM THE TRANSFORMER TO THE BUILDING.

2. THE CONTRACTOR SHALL FURNISH AND INSTALL CONCRETE ENCASED CONDUITS UNDERGROUND FROM POWER COMPANY MAINS TO THE BUILDING OF NUMBER INDICAT ON THE DRAWINGS. SPARE CONDUITS SHALL BE INSTALLED WHERE INDICATED. THE CONDUITS SHALL BE INSTALLED AT LEAST 2'_6" BELOW GRADE AT THE EXTERIOR OF BUILDING AND AS NECESSARY TO ENTER THE BUILDING. THE ENTIRE UNDERGROUND INSTALLATION SHALL BE FREE OF CRACKS OR BREAKS AND SHALL BE WATERTIGHT. ENDS OF CONDUITS SHALL BE SEALED BY POWER COMPANY AFTER THE CABLES ARE INSTALLED.

THE COMPLETE UNDERGROUND PRIMARY SERVICE CONDUCTORS AND PAD TRANSFORMER WILL BE FURNISHED AND INSTALLED BY POWER COMPANY. CONCRET PADS SHALL BE CONSTRUCTED UNDER THE ELECTRICAL CONTRACT IN ACCORDANCE INSTRUCTIONS OBTAINED FROM POWER COMPANY. CONCRETE WORK SHALL BE AS SPECIFIED IN DIVISION 2.

E. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL SECONDARY CONDUCTORS AT THE TERMINALS OF THE TRANSFORMER IN STRICT ACCORDANCE WITH THE REQUIREME OF POWER COMPANY. SECONDARY CONDUITS SHALL TERMINATE ABOVE PAD AS REQU BY POWER COMPANY.

UNDERGROUND CONDUITS SHALL BE ENCASED IN A CONCRETE ENVELOPE NOT THAN 3" THICK AROUND THE OUTSIDE LIMITS OF THE CONDUITS. SERVICE CONNECTO OF THE COMPRESSION TYPE ON ALL PHASES OF THE SERVICE CONDUCTORS SHALL FOR CONNECTIONS TO THE CURRENT TRANSFORMERS AND SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR, BUT IF CABLE LIMITERS ARE REQUIRED THEY SHALL BE FURNISHED AND INSTALLED BY POWER COMPANY.

CURRENT TRANSFORMERS, POTENTIAL TRANSFORMERS AND METER WILL BE FURNISHED BY POWER COMPANY FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL METER SOCKET. ONE AND ONE_FOURTH INCH (11/4") CONDUIT WITH FISH WIRE SHALL BE EXTENDED FROM TH METER CABINET TO THE CURRENT TRANSFORMER CABINET FOR USE BY POWER COMPA THE CONTRACTOR SHALL PERFORM ALL TRENCHING AND BACKFILLING REQUIRED FOR PRIMARY SERVICE OF POWER COMPANY.

H. THE ENTIRE SERVICE SHALL BE INSTALLED IN STRICT ACCORDANCE WITH POWER COMPANY'S REQUIREMENTS AND UNDERWRITER'S REGULATIONS. THE CONTRACTOR SHA SECURE ALL PERMITS, ETC., AND PAY ALL CHARGES IN CONNECTION WITH THE SERV TO ONE BUILDING. ALL INSTRUCTIONS AND REQUIREMENTS SHALL BE OBTAINED FRO POWER COMPANY, AND THE ELECTRICAL CONTRACTOR SHALL INCORPORATE INTO HIS WORK ALL ITEMS REQUIRED BY SUCH INSTRUCTIONS AND INFORMATION. THE CONTRAC SHALL OBTAIN INSPECTION AND APPROVAL OF THE WORK FROM POWER COMPANY WH AND AS REQUIRED BY THEM. THE INSTALLATION SHALL BE COMPLETE IN EVERY RESF AND SHALL INCLUDE ALL NECESSARY ACCESSORIES AND AUXILIARY EQUIPMENT REQU FOR A COMPLETE INSTALLATION.

3.6 PANELBOARD INSTALLATION

INSTALL PANELBOARDS IN ACCORDANCE WITH NEMA PB 1.1. PROVIDE 3/4" PAINTED PLYWOOD BACKBOARD AT ALL PANELS.

INSTALL PANELBOARDS PLUMB. INSTALL RECESSED PANELBOARDS FLUSH WITH WALL FINISHES. PROVIDE SUPPORTS IN ACCORDANCE WITH THIS SECTION". HEIGHT: 6' TO TOP OF PANELBOARD; INSTALL PANELBOARDS TALLER THAN 6' BOTTOM NO MORE THAN 4" ABOVE FLOOR

PROVIDE FILLER PLATES FOR UNUSED SPACES IN PANELBOARDS. PROVIDE TYPED CIRCUIT DIRECTORY FOR EACH BRANCH CIRCUIT PANELBOARD. REVISE DIRECTORY TO REFLECT CIRCUITING CHANGES REQUIRED TO BALANCE PHASE

LOADS. PROVIDE ENGRAVED PLASTIC NAMEPLATES UNDER THE PROVISIONS OF THIS SEC PROVIDE SPARE CONDUITS OUT OF EACH RECESSED PANELBOARD TO AN ACCESSIBLE LOCATION.

MINIMUM SPARE CONDUITS: TWO EMPTY 1". IDENTIFY EACH AS SPARE. MEASURE STEADY STATE LOAD CURRENTS AT EACH PANELBOARD FEEDER;

REARRANGE CIRCUITS IN THE PANELBOARD TO BALANCE THE PHASE LOADS TO WITHIN 10% OF EACH OTHER. MAINTAIN PROPER PHASING FOR MULTI-WIRE BRANCH CIRCUITS. VISUAL AND MECHANICAL INSPECTION: INSPECT FOR PHYSICAL DAMAGE, PROPER ALIGNMENT, ANCHORAGE AND GROUNDING. CHECK FOR PROPER INSTALLATION AND TIGHTNESS OF CONNECTIONS FOR CIRCUIT BREAKERS, FUSIBLE SWITCHES AND FUSES.

3.7 INSTALLATION OF WIRES AND CABLES

A. GENERAL: INSTALL ELECTRICAL CABLES, WIRES AND WIRING CONNECTORS AS INDICATED, IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF NEC, NEMA, UL AND NECA'S "STANDARDS OF INSTALLATION", AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES.

B. PULL CONDUCTORS SIMULTANEOUSLY WHERE MORE THAN ONE IS BEING INSTALLED IN SAME RACEWAY.

USE UL APPROVED WIRE PULLING LUBRICANT, WHERE NECESSARY; COMPOUND USED MUST NOT DETERIORATE CONDUCTOR OR INSULATION.

D. USE PULLING MEANS INCLUDING, FISH TAPE, CABLE, ROPE AND BASKET WEAVE WIRE/CABLE GRIPS WHICH WILL NOT DAMAGE CABLES OR RACEWAYS.

INSTALL EXPOSED CABLE, PARALLEL AND PERPENDICULAR TO SURFACES, OR EXPOSED STRUCTURAL MEMBERS, AND FOLLOW SURFACE CONTOURS, WHERE POSSIBLE F. SPLICES AND TERMINATIONS IN WIRES #6 AND LARGER SHALL BE MADE WITH

MECHANICAL SPLICING DEVICES AND LUGS, FOR WIRES #2 AND LARGER SHALL BE OF A TYPE IN WHICH THE CONTACT PRESSURE ON THE WIRE IS OBTAINED BY TWO OR MORE SCREWS OR BOLTS AND SO DESIGNED THAT THE FAILURE OF ANY ONE SCREW. BOLT OR NUT WILL NOT RESULT IN A TOTAL LOSS ON CONTACT PRESSURE. MECHANICAL SPLICING DEVICES SHALL HAVE INSULATION COVERS WHENEVER OBTAINABLE, AND SHALL OTHERWISE BE INSULATED WITH SCOTCH NO. 33, ELASTIMOLD, OR APPROVED EQUAL, PLASTIC TAPE.

G. SPLICES IN CONDUCTORS #8 AND SMALLER SHALL BE MADE WITH SOLDERLESS PRESSURE CONNECTORS CONSISTING OF CONE SHAPED COILED SPRINGS WITH INSULATION COVERS, SIMILAR TO SCOTCH "SCOTCLOK"; CRIMPED SLEEVED CONDUCTORS, T & B COLOR KEYED LINE. WITH NYLON INSULATING COVERS; OR IDEAL SERIES 450, WITH NYLON SHEATH CONTAINING WINGNUTS.

H. THE TERMINATION OF SOLID WIRES NO. 10 AND SMALLER WIRES SHALL BE MADE BY FORMING THE WIRES ABOUT THE TERMINAL SCREWS, ALL STRANDED WIRES SHALL BE PROVIDED WITH SPADE LUGS ATTACHED TO THE WIRES BY A CRIMPED SLEEVE.

5	١.	USE SPLICE AND TAP CONNECTORS WHICH ARE COMPATIBLE WITH CONDUCTOR MATERIAL.
HER G	J.	TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS TO COMPLY WITH TIGHTENING TORQUES SPECIFIED IN UL STD
AND	ĸ	486A AND B.
	L.	SUPPORT CABLES ABOVE ACCESSIBLE CEILING, USING SPRING METAL CLIPS OR PLASTIC CABLE TIES TO SUPPORT
JRE		CABLES FROM STRUCTURE OR CEILING SUSPENSION SYSTEM. DO NOT REST CABLE ON CEILING PANELS.
N ARF	М.	USE SUITABLE CABLE FITTINGS AND CONNECTORS.
EALS, PIPE	N.	PANEL BOARD TO FIRST OUTLET, AND 20 AMPERE, 277 VOLT CIRCUIT RUNS GREATER THAN 50 –0" ONE WAY FROM PANEL BOARD TO FIRST OUTLET, AND 20 AMPERE, 277 VOLT CIRCUIT RUNS LONGER THAN 150 FEET.
OVIDE K	0.	THE INSTALLATION OF WIRE AND CABLE SHALL BE SUFFICIENTLY PERFECT TO PROVIDE A MINIMUM INSULATION RESISTANCE BETWEEN CONDUCTORS, AND BETWEEN CONDUCTORS AND GROUND OF THAT REQUIRED BY THE NATIONAL ELECTRIC CODE.
JAL	3.8 RE0	CEPTACLE INSTALLATION
	Α.	MOUNT RECEPTACLES VERTICALLY AT 18" ABOVE FINISHED FLOOR TO CENTERLINE, EXCEPT AS NOTED ON THE DRAWINGS, WITH GROUNDING POLE ON TOP. COORDINATE RECEPTACLE MOUNTED ABOVE COUNTER WITH ARCHITECTURAL DETAILS.
S.	В.	IN ADDITION TO LOCATIONS NOTED ON THE DRAWINGS, ALL 120V, 20 AMP RECEPTACLES SHALL BE PROVIDED WITH GFI PROTECTION IN ALL KITCHENS, OUTDOOR LOCATIONS, CRAWL SPACES, GARAGES, CHASES, ROOFTOPS, TOILET ROOMS, LOCKER ROOMS AND WHERE WITHIN 6' OF ANY SINK.
THE	C.	INSTALL ABOVE COUNTER OUTLETS SUCH THAT THE FACE OF RESPECTIVE OUTLETS IS NO MORE THAN 24" FROM COUNTER FRONT. PROVIDE SURFACE BOXES AS REQUIRED.
THE	3.9 INS	TALLATION OF CONDUIT
ΉE	Α.	ALL CONDUIT RACEWAYS SHALL BE SUPPORTED A MINIMUM OF $8'-0$ " ON CENTER AND WITHIN $3'-0$ " OF ANY OUTLET OR PULL BOX.
NY	В.	INSTALL NONMETALLIC CONDUIT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
۲Y	C. D.	ARRANGE SUPPORTS TO PREVENT MISALIGNMENT DURING WIRING INSTALLATION. SUPPORT CONDUIT USING COATED STEEL OR MALLEABLE IRON STRAPS, LAY_IN ADJUSTABLE HANGERS, CLEVIS HANGERS AND SPLIT HANGERS.
	E.	GROUP RELATED CONDUITS; SUPPORT USING CONDUIT RACK. CONSTRUCT RACK USING STEEL CHANNEL; PROVIDE SPACE ON EACH FOR 25% ADDITIONAL CONDUITS.
THE	F.	FASTEN CONDUIT SUPPORTS TO BUILDING STRUCTURE AND SURFACES UNDER PROVISIONS OF THIS SECTION. DO NOT SUPPORT CONDUIT WITH WIRE OR PERFORATED PIPE STRAPS. REMOVE WIRE USED FOR TEMPORARY SUPPORTS
Ξ	G.	DO NOT ATTACH CONDUIT TO CEILING SUPPORT WIRES.
	Н.	ARRANGE CONDUIT TO MAINTAIN HEADROOM AND PRESENT NEAT APPEARANCE.
E WITH	١.	ROUTE EXPOSED CONDUIT PARALLEL AND PERPENDICULAR TO WALLS.
	J.	ROUTE CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS.
T ENTS	K.	DO NOT INSTALL CONDUIT IN CONCRETE SLABS. CONDUIT IS TO BE LAID IN THE STONE BASE UNDER THE CONCRETE SLABS OR UNDER METAL DECK.
IKED	L.	HORIZONTAL RUNS OF CONDUIT ARE NOT PERMITTED IN WALLS OR PARTITIONS.
LESS)RS	М.	MAINTAIN ADEQUATE CLEARANCE BETWEEN CONDUIT AND PIPING.
BE	N.	MAINTAIN 12" CLEARANCE BETWEEN CONDUIT AND SURFACES WITH TEMPERATURES EXCEEDING 104 F.
	0.	JOIN NONMETALLIC CONDUIT USING CEMENT AS RECOMMENDED BY MANUFACTURER. WIPE NONMETALLIC CONDUIT DRY AND CLEAN BEFORE JOINING. APPLY FULL EVEN COAT OF CEMENT TO ENTIRE AREA INSERTED IN FITTING. ALLOW JOINT TO CURE FOR 20 MINUTES, MINIMUM.
R. IE	Ρ.	USE CONDUIT HUBS TO FASTEN CONDUIT TO SHEET METAL BOXES IN DAMP AND WET LOCATIONS AND TO CAST BOXES.
PANY. THE	Q.	INSTALL NO MORE THAN EQUIVALENT OF FOUR 90_DEGREE BENDS BETWEEN BOXES. USE CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION, AS AROUND BEAMS. USE HYDRAULIC ONE_SHOT BENDER OR FACTORY ELBOWS FOR BENDS IN METAL CONDUIT LARGER THAN 2" SIZE.
R ALL	R.	AVOID MOISTURE TRAPS; PROVIDE JUNCTION BOX WITH DRAIN FITTING AT LOW POINTS IN CONDUIT SYSTEM.
ICE M	S.	PROVIDE SUITABLE FITTINGS TO ACCOMMODATE EXPANSION AND DEFLECTION WHERE CONDUIT CROSSES
CTOR HEN PECT	Т.	ALL EMPTY CONDUIT SHALL BE PROVIDED WITH NO. 12 GAUGE, 200LB. GALVANIZED FISH WIRE WITH 12" FREE AT EACH END.
IKEU	U.	USE SUITABLE CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND MOISTURE.
	V.	GROUND AND BOND CONDUIT UNDER PROVISIONS OF THIS SECTION.
	W.	IDENTIFY CONDUIT UNDER PROVISIONS OF THIS SECTION.
WITH	Х.	RACEWAYS PASSING FROM HEATED TO UNHEATED SPACES, INTERIOR TO EXTERIOR, THROUGH REFRIGERATED SPACES OR COLD SECTION PLENUMS OF AIR CONDITIONING UNITS, ETC. SHALL BE SUITABLY SEALED WITH "DUXSEAL", SEALING FITTINGS, ETC. TO PREVENT CONDENSATION.
	Y.	INSTALL CONDUIT TO PRESERVE FIRE RESISTANCE RATING OF PARTITIONS AND OTHER ELEMENTS, USING MATERIALS AND METHODS UNDER THE PROVISIONS OF DIVISION 7.
CTION.	Z.	ROUTE CONDUIT THROUGH ROOF OPENINGS FOR PIPING AND DUCTWORK WHERE POSSIBLE; OTHERWISE ROUTE THROUGH SUITABLE ROOF JACK WITH PITCH POCKET.
	3.10	TEMPERATURE MONITORING SYSTEM

INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ALSO APPROPRIATELY FOR USE IN LIVE FIRE TRAINING STRUCTURES AS WELL AS VDFP.

B. SYSTEM CALIBRATION AND TESTING SHALL MEET VDFP CRITERIA.

C. AT INITIAL INSTALLATION AND AT THE PRESCRIBED INTERVAL THE TEMPERATURE MONITORING SYSTEM SHALL BE TESTED. THE INPUTS SHALL BE TESTED USING AN APPROPRIATE CALIBRATOR AND METHODOLOGY. THE ALARM OUTPUTS AND DATA STORAGE SHOULD BE VERIFIED. ALL PANEL ENUNCIATORS OR AUDIO VISUAL ALARMS SHALL BE VERIFIED.

- D. THE SYSTEM SHALL BE TESTED AS A COMPLETE LOOP.
- E. CALIBRATE AND TEST TEMPERATURE MONITORING SYSTEM IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROGRAM CENTRAL RECORDER TO TAILOR THE SYSTEM TO THE REQUIREMENTS OF THE OWNER'S TRAINING PROGRAM. F. ANNUAL INSPECTIONS SHALL BE IN STRICT ACCORDANCE WITH VDFP CRITERIA.

F. DEMONSTRATION AND TRAINING PERIOD

G. PROVIDE ONE QUALIFIED PERSON FOR A MINIMUM OF ONE FULL DAY TO DEMONSTRATE THE SYSTEM AND TRAIN OWNER'S PERSONNEL IN USE AND MAINTENANCE OF SYSTEM.

H. DEPARTMENT PERSONNEL WILL BE TRAINED ON THE OPERATION OF THE MONITORING/RECORDING SYSTEM. IN ADDITION THEY WILL BE INSTRUCTED ON HOW THE SYSTEM FUNCTIONS AND GIVEN SPECIFIC INSTRUCTION ON MAINTAINING DATA INTEGRITY.

. THE FIRST LIVE BURN TEST OF THE SYSTEM SHALL BE MADE INDEPENDENTLY OF TRAINING AND FOR THE SOLE PURPOSE OF TESTING THE SYSTEM UNDER LIVE CONDITIONS. NO SYSTEM SHALL BE USED WITHOUT FIRST TESTING THE SYSTEM DURING LIVE FIRE CONDITIONS. THE SYSTEM SHALL BE PROGRAMMED BY THE INSTALLER CONSIDERING NFPA AND STATE POLICIES. THE INITIAL BURNS SHALL ALSO BE FOR THE PURPOSE OF PROGRAMMING THE SYSTEM TO OPERATE ACCORDING TO THE MUNICIPALITIES TRAINING PROCEDURES (SOP).

3 E2.1 ELECTRICAL - THIRD FLOOR ELECTRICAL PLAN 1/4" = 1'-0"

<u>KEY NOTES</u>

 $\stackrel{\frown}{\longrightarrow}$ increase size of secondary service conductors for voltage drop as required for location of power company's transformer location. Coordinate with power company.

THERMOCOUPLE WIRE IN 0.5" CONDUIT TO TMS. PROVIDE PROTECTIVE COVERS OVER THERMOCOUPLES.

3 PROVIDE LIGHTING CIRCUITS (A-6) TO SITE LIGHTING. REFER TO CIVIL PLANS AND COORDINATE WITH DETAILS IN FIELD OWNER.

 $\models = =$ SMOKE MACHINE -WP, GFI HEATER A-2 TMS RECORDER

FEEDER SCHEDULE						STABILOY	STABILOY		
			COPPER	COPPER		ALUMINUM	ALUMINUM		
FEEDER NO.	# SETS	# CONDUCTORS	CONDUCTOR SIZE	GROUND SIZE	CONDUIT SIZE	CONDUCTOR SIZE	GROUND SIZE	CONDUIT SIZE	NOTES
S	1	4	#3/0	N/A	2.5"	250 KCMIL	N/A	2.5"	NOTE 1, 2
NOTES: 1. COORDINATE DETAILS AND REQUIREMENTS WITH POWER COMPANY. 2. SERVICE CONDUCTORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH POWER COMPANY'S REQUIRMENTS. 3. PROVIDE ALUMINUM CONDUCTOR PRICE AS AN ALTERNATE.									

<u>KEY:</u>

250 FEEDER 1 NOTE #1

NOTES:

- 1. E.C. SHALL PROVIDE ALL TEMPORARY POWER.
- 2. REFER TO ELECTRICAL DETAIL DRAWINGS FOR GROUNDING AND BONDING DETAILS.
- 3. REFER TO THE PANELBOARD SCHEDULES FOR SPARE BREAKER REQUIREMENTS.

KEYED NOTES:

(1) provide surge suppression per specifications for noted panel

 $\langle 2 \rangle$ SERVICE AND METERING SHALL BE IN STRICT ACCORDANCE WITH POWER COMPANY REQUIREMENTS.

GROUND BUS. HARGER LIGHTNING PROTECTION CATALOG NUMBER GBI14420 OR APPROVED EQUAL.

