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CODE ANALYSIS SUMMARY

- PROJECT: HISTORIC SAINT MARY'S CITY STATE HOUSE TOILETS
- OLD STATE HOUSE ROAD SAINT MARY'S CITY, MARYLAND 20686

APPLICABLE CODES:

- 2018 ICC BUILDING CODE (IBC) WITH LOCAL AMENDMENTS
- 2018 ICC INTERNATIONAL PLUMBING CODE (IPC) WITH LOCAL AMENDMENTS
- 2018 ICC INTERNATIONAL FUEL GAS CODE (IFGC) WITH LOCAL AMENDMENTS 2018 ICC INTERNATIONAL MECHANICAL CODE (AS REFERRED BY THE IBC 2018)
- 2020 NEC NATIONAL ELECTRICAL CODE 2018 NFPA 1 FIRE CODE WITH AMENDMENTS, PER STATE OF MARYLAND FIRE PREVENTION CODE 2018 NFPA 101 LIFE SAFETY CODE WITH AMENDMENTS, PER STATE OF MARYLAND FIRE PREVENTION CODE 2018 IBC, CHAPTER 11 (ALSO REFERS TO A117.1-2009); EXCEPT WHERE THE PROVISIONS OF THE MARYLAND ACCESSIBILITY CODE, JANUARY 1, 2012, COMAR SECTION 05.02.02, ARE MORE STRINGENT IN WHICH CASE

THEY WOULD APPLY. 2018 INTERNATIONAL ENERGY CONSERVATION CODE

USE GROUP MATRIX

	2018 IBC	2018 NFPA 101	
TOILET	UTILITY - U	TOILET - BUSINESS	
CONSTRUCTION TYPE MATRIX			
	2018 IBC	2018 NFPA 101	
TOILET	TYPE III B UNSPRINKLERED	TYPE III (0,0,0) UNSPRINKLERED	
HEIGHT ANALYSIS:			
	2018 IBC	2018 NFPA 101	
	ALLOWABLE # STORIES / ALLOWABLE HEIGHT	ALLOWABLE # STORIES	
TOILET	2 STORIES / 55 FEET	N/A	

MAXIMUM BUILDING AREA DETERMINATION:

	TABULAR ALLOWANCE	FRONTAGE ALLOWANCE	SPRINKLER A
TOILET	8,500 SQ. FT.	NOT USED	N//



HISTORIC STATE HOUSE ACCESSIBLE RESTROOM **HISTORIC SAINT MARY'S CITY** 47418 OLD STATE HOUSE ROAD SAINT MARY'S CITY, MARYLAND 20686 DGS PROJECT NO. SM-855-210-001 MDE NO. 22-SF-0139 100% CONSTRUCTION DOCUMENTS JANUARY 20, 2023

STATE OF MARYLAND

DEPARTMENT OF GENERAL SERVICES ATIF CHAUDHRY, SECRETARY ROOM 1405 301 WEST PRESTON STREET BALTIMORE, MARYLAND 21201

BOARD OF PUBLIC WORKS WESTLEY WATENDE OMARI MOORE, GOVERNOR BROOKE ELIZABETH LIERMAN, COMPTROLLER DERECK E. DAVIS, TREASURER

USING AGENCY HISTORIC ST. MARY'S CITY COMMISSION OLD STATE HOUSE ROAD, SAINT MARY'S CITY HISTORIC PARK, SAINT MARY'S CITY, MD 20686

DEPARTMENT OF GENERAL SERVICES	DEPARTMENT OF GEI APPRO	GENERAL SERVICES ROVAL	
PROJECT NUMBER: SM-855-210-001	Fari Farokhi PROJECT MANAGER	2.22.2023 DATE	
	S.b. Lauri	02/23/2023	
	CHIEF-PROJ. MGT. & DESIGN	DATE	
	HISTORIC ST. MARY'S CI	TY COMMISSION S	
	PROJECT MANAGER	DATE	
	DIRECTOR-ENGINEERING & CONSTRU	JCTION DATE	

FIRE RESISTANCE SCHEDULE:

	2018 IBC	2018 NFPA 101	PROVIDED	REMARKS
STRUCTURAL FRAME (COLUMNS, GIRDERS, TRUSSES)	0 HOUR	0 HOUR	PROVIDED	
EXTERIOR BEARING WALLS	0 HOUR	0 HOUR	PROVIDED	
INTERIOR BEARING WALLS	0 HOUR	0 HOUR	PROVIDED	
FLOOR CONSTRUCTION	0 HOUR	0 HOUR	PROVIDED	
ROOF CONSTRUCTION	0 HOUR	0 HOUR	PROVIDED	
FIRE WALLS	N/A	N/A		
FIRE BARRIER	N/A	N/A		
FIRE PARTITION	N/A	N/A		
SMOKE BARRIER	N/A	N/A		
SMOKE PARTITION (CORRIDORS)	N/A	N/A		

<u>GROSS AREA:</u>

AREA (GROSS SQ. FT.)
355 SQ. FT.
467 SQ. FT.
822 TOTAL SQ. FT.

FPA 101			
E # STORIES		ACTUAL # OF STORIES / ACTUAL HEIGHT	
I/A		2 STC	RIES / 24 FEET
ALLOWANCE	ADJU	JSTED ALLOW.	ACTUAL BLDG. AREA

467 GSF

8,500 SQ. FT.







SHEET TITLE:

COVER SHEET

SHEET NUMBER:





LIST OF ABBREVIATIONS

#	POUND OR NUMBER
&	AND
@	AT
А	
ABV	ABOVE
ACC	ACCESSIBLE
ACOUS	ACOUSTICAL
ACS	ACCESS
ACT	ACOUSTICAL CEILING TILE
ADC	AUTOMATIC DOOR CLOSER
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
AP	APPLIANCE
APPROX	APPROXIMATE(LY)
APT	APARTMENT
ARCH	ARCHITECTURAL
AUTO	AUTOMATIC
AVG	AVERAGE
AW	ARCHITECTURAL WOODWORK
AWI	ARCHITECTURAL WOODWORK INSTITUTE
В	
BALC	BALCONY
BD	BOARD
BDR	BEDROOM
BLDG	BUILDING

LDG	BUILDING
LK	BLOCK
LKG	BLOCKING
LKHD	BULKHEAD
LW	BELOW
Μ	BENCHMARK OR BEAM
OT	BOTTOM
R	BUMPER RAIL
RG	BEARING
RKT	BRACKET
SMT	BASEMENT
TWN	BETWEEN
UR	BUILT UP ROOF
, , , , , , , , , , , , , , , , , , , ,	
AB	
ATW	CATWALK
BB	CEMENTITIOUS BACKER BOARD
C	CUBICLE CURTAIN
CT	CUBICLE CURTAIN TRACK

CONSTRUCTION DOCUMENT COUNTERFLASHING

CORNER GUARD

CEILING SYSTEM

CHAIR RAIL

CIRCULAR

CAST IN PLACE

CLDG	CLADDING	EL	ELEVATION
CLG	CEILING	ELEC	ELECTRIC(AL)
CLL	CONTRACT LIMIT LINE	ELEV	ELEVATOR
CLO	CLOSET	EMER	EMERGENCY
CLR	CLEAR	ENCL	ENCLOSURE
CLSRM	CLASSROOM	ENGR	ENGINEER
CM	CULTURED MARBLE	ENTR	ENTRANCE
CMU	CONCRETE MASONRY UNIT	EOS	EDGE OF SLAB
CNTR	COUNTER	EP	EPOXY PAINT
CO	CLEAR OPENING OR CLEANOUT	EPB	ELECTRICAL PANEL BOARD
COL	COLUMN	EQ	EQUAL
CONC	CONCRETE	EQUIP	EQUIPMENT
CONF	CONFERENCE	ETR	EXISTING TO REMAIN
CONN	CONNECT(ION)	EWS	EYE WASH STATION
CONSTR	CONSTRUCTION	EXP	EXPANSION, EXPOSED, OR EX
CONT	CONTINUOUS	EXST	EXISTING
COORD	COORDINATE	EXT	EXTERIOR OR EXTERNAL
CORR	CORRIDOR		
CPT	CARPET	F	
CR	CRASH RAIL	F	FAHRENHEIT
CS	CAST STONE	FA	FIRE ALARM OR FABRIC
CSK	COUNTERSINK OR COUNTERSUNK	FD	FLOOR DRAIN
CSMT	CASEMENT	FDC	FIRE DEPARTMENT CONNECT
CSWK	CASEWORK	FDN	FOUNDATION
СТ	CERAMIC TILE	FDV	FIRE DEPARTMENT VALVE
CTR	CENTER	FE	FIRE EXTINGUISHER
CW	COLD WATER	FFC	FIRE EXTINGUISHER CABINET
		FF	FINISH FACE
D		FFE	FIXTURES, FURNITURE, AND E
D	CLOTHES DRYER	FH	FIRE HYDRANT
_ DB	DECIBEI	FHC	FIRE HOSE CABINET
DBI	DOUBLE	FIN	FINISH
DEG	DEGREE	FLG	FLOORING
DEMO	DEMOLITION	FLR	FLOOR
DEPT	DEPARTMENT	FOC	FACE OF CONCRETE OR CURE
DET	DETAIL	FOF	FACE OF FINISH
DE		FOM	FACE OF MASONRY
DH		FOS	FACE OF STUD
	DIAMETER	FP	
		FPI	
DIM		FRP	
		FRT	
DM		FT	
		ETC	
		LOKIN	FURNITURE
DPG		G	04105
		GA	
		GALV	
DS DW		GB	
DW	DISHWASHER	GC	GENERAL CONTRACTOR
DWG	DRAWING	GCMU	
DWK	DRAWER	GEN	GENERAL OR GENERATOR
_		GFCMU	GROUND FACE CONCRETE MA
E		GL	GLASS OR GLAZING
E	EAST	GND	GROUND

EIFS

CONTROL JOINT

CENTERLINE

EACH

CFLG

CGS

CHR

CIRC

CIP

ELECTRICAL CONTRACTOR	GYP BD	GYPSUM BOARD	MFR	MANUFACTURER	R	
EXTERIOR INSULATION FINISH SYSTEM			MH	MANHOLE	R	RISER
ELEVATION	Н		MIN	MINIMUM OR MINUTE	RA	RETURN AIR
ELECTRIC(AL)	Н	HIGH	MISC	MISCELLANEOUS	RB	RUBBER BASE
ELEVATOR	HB	HOSE BIBB	MO	MASONRY OPENING	RCP	REFLECTED CEILING PLAN
EMERGENCY	HC	HOLLOW CORE	MOD	MODIFIED	RD	ROOF DRAIN OR ROUND
ENCLOSURE	HCP	HANDICAPPED	MR	MOISTURE RESISITANT	RECPT	RECEPTACLE
ENGINEER	HCWD	HOLLOW CORE WOOD DOOR	MT	METAL TILE	REF	REFRIGERATOR OR REFER(ENCE)
ENTRANCE	HDW	HARDWARE	MTD	MOUNTED	REINF	REINFORCEMENT OR REINFORCED
EDGE OF SLAB	HDWD	HARDWOOD	MTG	MOUNTING	REQD	REQUIRED
EPOXY PAINT	HM	HOLLOW METAL	MTL	METAL	RES	RESINOUS POURED FLOORING
ELECTRICAL PANEL BOARD	HMF	HOLLOW METAL FRAME	MW	MICROWAVE	RET	RETURN
EQUAL	HORIZ	HORIZONTAL	MWF	MOLDED WOOD FIBER	REV	REVISION OR REVERSE
EQUIPMENT	HR	HOUR OR HANDRAIL			RF	RESILIENT FLOORING
EXISTING TO REMAIN	HSKPG	HOUSEKEEPING	Ν		RH	RIGHT HAND
EYE WASH STATION	HVAC	HEATING, VENTILATION, AIR CONDITIONING	Ν	NORTH	RLG	RAILING
EXPANSION, EXPOSED, OR EXPANDED	HW	HOT WATER	NIC	NOT IN CONTRACT	RM	ROOM
EXISTING			NO(.)	NUMBER	RND	ROUND
EXTERIOR OR EXTERNAL	l		NOM	NOMINAL	RO	ROUGH OPENING
	ID	INSIDE DIMENSION. INSIDE DIAMETER.	NRC	NOISE REDUCTION COEFFICIENT	RT	RUBBER TILE
		IDENTIFICATION, OR INTERIOR DESIGN	NS	NATURAL STONE	RTG	RATING
FAHRENHEIT	IHM	INSULATED HOLLOW METAL	NTS	NOT TO SCALE	RTU	ROOFTOP UNIT
FIRE ALARM OR FABRIC	IN(.)	INCH			RWC	RAINWATER CONDUCTOR
FLOOR DRAIN	INSUL	INSULATION OR INSULATED	0		RWL	RAINWATER LEADER
FIRE DEPARTMENT CONNECTION	INT	INTERIOR	00	ON CENTER		
FOUNDATION			OD	OUTSIDE DIAMETER OR OUTSIDE DIMENSION	S	
FIRE DEPARTMENT VALVE	J		OPH	OPPOSITE HAND	S	SOUTH
FIRE EXTINGUISHER	JAN	JANITOR	OPNG	OPENING	SA	SUPPLY AIR
FIRE EXTINGUISHER CABINET	JST	JOIST	OPP	OPPOSITE	SC	SOLID CORE OR SPECIAL TY COATING
FINISH FACE	JT	JOINT	07	OUNCE	SCHED	SCHEDULE
			02	001102	SCONC	SEALED CONCRETE
FIRE HYDRANT	К		Р		SCWD	SOLID CORF WOOD DOOR
FIRE HOSE CABINET	KIT	KITCHEN	PBD	PARTICI E BOARD	SD	SMOKE DETECTOR
FINISH	KP	KICKPLATE	PC	PI UMBING CONTRACTOR OR PIECE	SE	
FLOORING			PERE	PERFORATE(D)	SECT	SECTION
FLOOR	L		PERP	PERPENDICULAR	SE	SQUARE FOOT/FEET
FACE OF CONCRETE OR CURB	L	LONG	PL	PLATE OR PROPERTY LINE	SGI	SINGLE
FACE OF FINISH	LAM	LAMINATE	PLAM	PLASTIC LAMINATE	SHC	SHOWER CURTAIN
FACE OF MASONRY	LAV	LAVATORY	PLYWD	PLYWOOD	SHR	SHOWER
FACE OF STUD	LB(S)	POUND(S)	PNI	PANEL	SHT	SHEFT
FIRE PROOFED/PROOFING	LF	LINEAR FOOT/FEET	PNT	PAINT	SHTG	SHEATHING
FIREPLACE	LH	LEFT HAND	POL	POLISHED	SHV	SHELVING
FIBER REINFORCED PLASTIC	LKR	LOCKER	PR	PAIR	SIM	SIMILAR
FIRE RETARDANT TREATED	LL	LEAD LINED	PRCST	PRECAST	SMP	SOLID MINERAL PROFILE PANELING
FOOT OR FEFT	LR	LEANING RAIL	PROJ	PROJECT	SOG	SLAB ON GRADE
FOOTING	LT	LIGHT	PS	PULL STATION	SP	SOLID PHENOLIC
FURNITURE	LVR	LOUVER	PSF	POUNDS PER SQUARE FOOT	SPEC	SPECIFICATION
I OTATIONE	LVT	LUXURY VINTL TILE	PSI	POUNDS PER SQUARE INCH	SPKI R	SPRINKI FR
			PSTR	PAINTED STRUCTURE	SPKR	SPEAKER
GALIGE	Μ		PT		SO	SOLIARE
GALVANIZED	MATL	MATERIAL	PTD	PAINTED	SR	SHEFT RUBBER
GRAB BAR	MAX	MAXIMUM	PTN	PARTITION	SS	SOLID SURFACE
GENERAL CONTRACTOR	MC	MECHANICAL CONTRACTOR	PVC		SST	STAINI ESS STEFI
GLAZED CONCRETE MASONRY LINIT	ME	MEDICAL EQUIPMENT			ST	STAIR TREAD OR STREET
GENERAL OR GENERATOR	MECH	MECHANICAL	0		STA	STATION
GROUND FACE CONCRETE MASONRY UNIT	MED	MEDICAL OR MEDIUM	OT	OLIARRY THE OR OLIART	STC	SOLIND TRANSMISSION OF ASSIFICATION
GLASS OR GLAZING	MEP	MECHANICAL, ELECTRICAL. AND PLUMBING		OLIANTITY	STD	STANDARD
GROUND	MEZZ	MEZZANINE		OLIARTZ	STI	STEFI
GLASS THE	MFD	MANUFACTURED				VILL



DOOR & DEVICES

ROOM NAME

X

 $\langle x \rangle$

OUTLET AT COUNTER

STMBULS & MATERIALS LEGEND

STOR	STORAGE
STRUCT	STRUCTURAL
 SUSP	SUSPENDED OR SUSPENSION
 SV	SHEET VINYL
 SYMM	SYMMETRICAL
 SYS	SYSTEM
 010	ororem.
 т	
 T	TREAD
 T&G	
 TO	TOP OF
 ТА	
 TEI	TELEPHONE
 TEMP	TEMPORARY
 TE	THERMOFOIL
 TG	
 тнк	
 THRES	THRESHOLD
 TIG	
 ТР	
 T7	
 12	TERRAZZO
11	
 UTIL	UTETT
 V	
VB	VINYL BASE OR VAPOR BARRIER
 VCT	
 VENT	
 VERT	VERTICAL (LY)
 VEST	VESTIBULE
 VIF	
 VP	VENEER PLASTER
 VTR	VENT THROUGH ROOF
 W	
 W	WEST WIDE OR WASHER
 W/	WITH
 W/O	WITHOUT
 WC	WALLCOVERING OR WATER CLOSET
 WD	WOOD
 WG	WIRE GLASS
 WH	WALL HYDRANT OR WATER HEATER
 WIN	WINDOW
 WOM	
 WSCT	
 WT	

(W-X)	WINDOW TYPE
S-X	STOREFRONT TYPE
X	WINDOW GLAZING
X	APPLIANCE TYPE
X	DEMOLITION NOTE REFERENCE
	EARTH
	GRAVEL
	CONCRETE
	GROUT, MORTAR, CEMENT
	CONCRETE MASONRY UNIT
	FACE BRICK
	STONE VENEER
	STEEL

ROOM NAME & NUMBER

DOOR MARK

PARTITION TYPE

TOILET ACCESSORY

WINDOW TYPE DETAIL



 $\begin{pmatrix} X \\ AX.X \end{pmatrix}^{-}$

∖ AX.X /





KEY

WALL SECTION KEY

BUILDING SECTION KEY OR

DETAIL KEY

CONTROL OR WORK POINT **REVISION REFERENCE** COLUMN GRID MARK

WOOD BLOCKING DIMENSIONAL LUMBER FINISHED WOOD BATT INSULATION ACOUSTICAL TILE RIGID INSULATION PLYWOOD

PROJECT GENERAL NOTES

1. ALL DIMENSIONS ARE TAKEN FROM THE FACE OF STUDS, FACE OF BLOCK, U.O.N. 3. DO NOT SCALE THE DRAWINGS



SHEET NUMBER:



23 8:55:35 AM C:\Users\tsmall\Desktop\Revit Projects\21908_MD DGS HSMC State House Accessible Restrooms_central_tsmall@noelkerhull.com.rvt



2 SECOND / BRIDGE FLOOR LEVEL G003 1/4" = 1'-0"



1 FIRST FLOOR LEVEL G003 1/4" = 1'-0"



ALL & CEILING BAR	RIERS AND PARTITIC	ONS	
	3 HR FIRE BARRIER 2 HR SMOKE BARRIER		
	2 HR FIRE BARRIER 1 HR SMOKE BARRIER		
	1 HR FIRE BARRIER	SISTIVE PARTITION	
	NON-RATED PARTITION		
	SMOKE TIGHT CEILING		1 HR FIRE BARRIER CEILING
NOTE: A	ALL RATED CONSTRUCTIO	N IS ALSO SMOKE RES	
XIT / EGRESS SYMB	OLS		
	SCHARGE	$\overrightarrow{\mathbf{A}}$	DIRECTIONAL II LUMINATED EXIT
CALCUL/ TO EXIT	ATED OCCUPANTS Γ (IF APPLICABLE)	\rightarrow	SIGN
FD			
			CORRIDOR
FS	EXIT STAIR	HF	HORIZONTAL
	ENCLOSURE)		EXIT
	ELEVATOR	CS	COMMUNICATING STAIR
	MITATIONS		
		SUITE	
(MAXIMUM 200'-0")	(MAXIMUM 75'-0")	(MAXIMUM 100) (19'))'-0") (MAXIMUM 20'-0")
	GNATIONS		
CONTROL AREA			
HAZARDO (SU = SOI	OUS ROOMS ILED UTILITY)	SUITE	
	JRAGE)	50112	
ROOF AR	EA	L	
SEMI-RES	STRICTED AREA		
RESTRIC	TED AREA	Č. Č	RTYARD AREA
RE PROTECTION &	ALARM DEVICES		
FE FIRE E BRAC	EXTINGUISHER - KET MOUNTED	FEC	FIRE EXTINGUISHER CABINET
FIRE A	ALARM PULL STATION	Δ	FIRE ALARM HORN ONLY
+48"		A	+80"
FIRE A +80" SYNIC	ALARM STROBE ONLY		FIRE ALARM HORN / STROBE +80" SYNCHRONIZED 15 CANDELA
	SS OTHERWISE NOTED		UNLESS OTHERWISE NOTED
(SD) FIRE A PHOT DETE	ALARM OELECTRIC SMOKE CTOR	(SD)	PHRE ALARM PHOTOELECTRIC DUCT SMOKE DETECTOR HOUSING WITH SENSOR AND REMOTE
CEILIN	NG MOUNTED		LED / ALARM TEST STATION
	PACITY BY DOOR		
XIT DISCHARGE CAI			
	CAPACITY (TYP.)		
XIT DISCHARGE CAP			
XIT DISCHARGE CAP		4.75".	45.375"/LEAF
XIT DISCHARGE CAP	CAPACITY (TYP.)	H.75". LEAR IDTH "DOOR	45.375"/LEAF CLEAR WIDTH PAIR 4'-0" DOOR
XIT DISCHARGE CAP	CAPACITY (TYP.)	H.75". LEAR "IDTH "DOOR	45.375"/LEAF CLEAR WIDTH PAIR 4'-0" DOOR
XIT DISCHARGE CAP	CAPACITY (TYP.)	14.75". LEAR "IDTH "DOOR	45.375"/LEAF CLEAR WIDTH PAIR 4'-0" DOOR
XIT DISCHARGE CAN	CAPACITY (TYP.)	14.75". LEAR "DTH "DOOR 32.75". LEAR (IDTH 21.8" DOOD	45.375"/LEAF CLEAR WIDTH PAIR 4'-0" DOOR 66.75". CLEAR WIDTH BAIE 21 40" DOOD
XIT DISCHARGE CAP	CAPACITY (TYP.)	14.75". LEAR 1DTH <u>DOOR</u> 82.75". LEAR 1DTH 3'-8" DOOR	45.375"/LEAF CLEAR WIDTH PAIR 4'-0" DOOR 86.75". CLEAR WIDTH PAIR 3'-10" DOOR
XIT DISCHARGE CAP XIT DISCHARGE	CAPACITY (TYP.)	H.75". LEAR IDTH <u>DOOR</u> <u>ET</u> <u>B2.75".</u> LEAR IDTH <u>3'-8" DOOR</u> ED SO THAT THE MAXIM	MUM TRAVEL DISTANCE SHALL NOT
XIT DISCHARGE CAP XIT DISCHARGE	CAPACITY (TYP.)	ED SO THAT THE MAXIN AIRS = 0.3° PER OCCUPAN SSEMEN V OLIVIER OF COLUMN	MUM TRAVEL DISTANCE SHALL NOT ANT. MINIMUM EGRESS WIDTH NT. (TABLE 1005.1)
XIT DISCHARGE CAN XIT DISCHARGE	ABINETS SHALL BE LOCATE ABINETS SHALL BE LOCATE TH PER OCCUPANT AT STA HER EGRESS COMPONENT LY AND SMOKE BARRIER A OWS: RED INK OR PAINT NCEAL ED LOCATIONS (EC.	$\frac{14.75"}{12}$ LEAR $\frac{1000}{1000}$ $\frac{1000}{1000}$	MUM TRAVEL DISTANCE SHALL NOT ANT. MINIMUM EGRESS WIDTH TY. (TABLE 1005.1) TENCILED WITH THE RELEVANT
XIT DISCHARGE CAN XIT DISCHARGE	ABINETS SHALL BE LOCATE ABINETS SHALL BE LOCATE TH PER OCCUPANT AT STA HER EGRESS COMPONENT LY AND SMOKE BARRIER A OWS: RED INK OR PAINT NCEALED LOCATIONS (EG "o.c. MAXIMUM.	LEAR IDTH "DOOR B2.75". LEAR IDTH 3'-8" DOOR ED SO THAT THE MAXIN AIRS = 0.3" PER OCCUPAN IS = 0.2" PER OCCUPAN IS = 0.2" PER OCCUPAN SSEMBLY SHALL BE ST ., ABOVE CEILINGS AND	MUM TRAVEL DISTANCE SHALL NOT ANT. MINIMUM EGRESS WIDTH NT. (TABLE 1005.1) TENCILED WITH THE RELEVANT
XIT DISCHARGE CAN XIT DISCHARGE	CAPACITY (TYP.)	ED SO THAT THE MAXIN AIRS = 0.3" PER OCCUPAN SSEMBLY SHALL BE ST ., ABOVE CEILINGS AND	MUM TRAVEL DISTANCE SHALL NOT ANT. MINIMUM EGRESS WIDTH TAIR 3'-10" DOOR



JOB NUMBER:21908 & DGS SM-855-210-001ISSUE DATE:20 JANUARY 2023SCALE:As indicatedSHEET TITLE:CODE ANALYSIS

SHEET NUMBER:



STATEHOUSE ACCESSIBLE RESTROOM HISTORIC SAINT MARY'S CITY 47418 OLD STATE HOUSE ROAD SAINT MARY'S CITY, MARYLAND 20686 DGS PROJECT NO. SM-855-210-001 MDE NO. 22-SF-0139 **100% CONSTRUCTION DOCUMENTS JANUARY 20, 2023**

DEPARTMENT OF GENERAL SERVICES

ELLINGTON CHURCHILL, SECRETARY ROOM 1405 301 WEST PRESTON STREET BALTIMORE, MARYLAND 21201



LOCATION MAP NOT TO SCALE

SHEET LIST

SHEET NO.	DRAWING NO.	SHEET TITLE
1	CV001	CIVIL COVER SHEET
2	CV101	EXISTING CONDITIONS PLAN
3	CD101	SITE DEMOLITION PLAN
4	CE101	SOIL EROSION AND SEDIMENT CONTROL PLAN
5	CE501	EROSION AND SEDIMENT CONTROL NOTES
6	CE502	EROSION AND SEDIMENT CONTROL NOTES
7	CE503	EROSION AND SEDIMENT CONTROL DETAILS
8	CS101	SITE IMPROVEMENTS PLAN
9	CS501	SITE DETAILS
10	LP101	ONSITE PLANTING PLAN
11	LP102	OFF-SITE PLANTING PLAN
12	LP501	PLANTING NOTES AND DETAILS

STATE OF MARYLAND

BOARD OF PUBLIC WORKS

WESTLEY WATENDE OMARI MOORE, GOVERNOR **BROOKE ELIZABETH LIERMAN, COMPTROLLER** DERECK E. DAVIS, TREASURER

USING AGENCY

MARYLAND DEPARTMENT OF NATURA **JEANNIE HADDAWAY - RICCIO, SI 580 TAYLOR AVENUE ANNAPOLIS, MARYLAND 2**



VICINITY MAP NOT TO SCALE

OWNER'S / DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I/WE HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY APPROPRIATE INSPECTION AND ENFORCEMENT AUTHORITY OR THE STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT. I/WE HEREBY CERTIFY THAT STORMWATER MANAGEMENT FACILITIES WILL BE MAINTAINED IN ACCORDANCE WITH APPROVED PLANS.

5/570

RESPONSIBLE PERSONNEL CERTIFICATION NO.

DESIGN CER

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03/21/2022 DATE

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, PLAN ING PLAN AND DETAILS

SHEET TITLE

	CONSULTING ENGINEERS 700 KING FARM BOULEVARD, 3RD FLOOR ROCKVILLE, MD 20850 PHONE (301) 881-2545 FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM
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AL RESOURCES ECRETARY	Much C. Lychel
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N	PROFESSIONAL CERTIFICATION "I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER
	I HE LAWS OF THE STATE OF MARYLAND." LICENSE NO. 32561 EXPIRATION DATE 01-06-2024
	HISTORIC ST. MARY'S CITY STATE HOUSE ACCESSIBLE RESTROOM
	47418 OLD STATE HOUSE RD. ST. MARY'S CITY, MD 20686
	100% CONSTRUCTION DOCUMENTS
Dameron	
	NUMDATEDESCRIPTIONDATE:01/20/2023
	CAD DWG FILE: GI001-SM855210001.DWG DRAWN BY: AMT
THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2011 ARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE FORMWATER DESIGN MANUAL, VOLUMES I & II INCLUDING SUPPLEMENTS, THE FICLE SECTIONS 4-101 THROUGH 116 AND SECTIONS 4-201 AND 215, AND THE	CHECKED BY: AMT SCALE:
ID REGULATIONS (COMAR) 26.17.01 AND COMAR 26.17.02 FOR EROSION AND DL AND STORMWATER MANAGEMENT, RESPECTIVELY.	DGS PROJECT NO: SM-855-210-001
	DRAWING TITLE:
NO. <u>32561</u> R R.A. (CIRCLE ONE) MICHAEL C. WYCHULIS, P.E. PRINTED NAME	CIVIL COVER SHEET
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	A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS 700 KING FARM BOULEVARD, 3RD FLOOR ROCKVILLE, MD 20850 PHONE (301) 881-2545 FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM
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	PROJECT
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	47418 OLD STATE HOUSE RD. ST. MARY'S CITY, MD 20686
	100% CONSTRUCTION DOCUMENTS
DEMOLITION LEGEND	
EXISTING SITE FEATURE TO BE REMOVED	
EXISTING BATHROOM STRUCTURE TO BE	
L J REMOVED	DATE:01/20/2023CAD DWG FILE:CD101-SM855210001.DWGDRAWN BY:AMT
DEMOLITION KEYNOTES	CHECKED BY: AMT SCALE:
FOUNDATION, LEAVE PLUMBING STUB-OUTS	DGS PROJECT NO: SM-855-210-001
DEMOLISH AND REMOVE EXISTING BRICK PAVEMENT/STAIRS	
DEMOLISH AND REMOVE EXISTING CONCRETE PAVEMENT	SITE DEMOLITION
DEMOLISH AND REMOVE EXISTING CONCRETE CURB	PLAN
PRESERVE AND PROTECT EXISTING WATER VALVE	
DEMOLISH AND REMOVE EXISTING HANDRAILS	
0 5' 10' SH	CD-101

SCALE: 1"=5'

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E	ROSION AND SEDIMENT CONTROL GENERAL NOTES	25
1.	THE CONTRACTOR SHALL NOTIFY MDE AT (410) 537-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY MDE, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF MDE.	26
2.	 THE CONTRACTOR SHALL NOTIFY MDE IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS: A. THE REQUIRED PRE-CONSTRUCTION MEETING. B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES. C. DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY. D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S). E. PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES. F. PRIOR TO FINAL ACCEPTANCE. 	S
3.	THE PLAN APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MDE AND THE AGENCY RESPONSIBLE FOR THE PROJECT.	<u>A[</u>
4.	THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE MDE INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE MDE INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM MDE INSPECTOR. THE CONTRACTOR SHALL OBTAIN PRIOR AGENCY AND MDE APPROVAL FOR MODIFICATIONS TO THE EROSION AND SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.	IN RE 1. 2.
5.	THE MDE INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.	J.
6.	THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.	4. <u>SI</u>
7.	THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE MDE INSPECTOR.	A.
8.	EROSION AND SEDIMENT CONTROL FOR UTILITY CONSTRUCTION SHALL BE PROVIDED IN ACCORDANCE WITH APPROVED PLANS. UTILITY CONSTRUCTION SHALL ONLY BE FOR AREAS WITHIN THE DELINEATED LIMIT OF DISTURBANCE. CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK. WHEN SAME DAY STABILIZATION IS APPROVED: A. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH. B. TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED, AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY.	
9.	ALL WATER REMOVED FROM EXCAVATED AREAS SHALL BE PASSED THROUGH AN MDE APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE TO A FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE.	
10.	CONCRETE WASHOUT STRUCTURES SHALL BE USED WHEN CONCRETE TRUCKS, DRUMS, PUMPS, CHUTES, OR OTHER EQUIPMENT IS RINSED OR CLEANED ON-SITE.	
11.	CONSTRUCTION ACTIVITIES PRODUCING DUST SHALL IMPLEMENT CONTROL MEASURES TO AVOID THE SUSPENSION OF DUST PARTICLES AND/OR PREVENT DUST FROM BLOWING OFF-SITE OR TO AREAS WITHOUT TREATMENT.	
12.	 FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING. 	Β.
13.	VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING, AND GROUND COVERS.	
14.	WHEN SEEDING, ALL DISTURBED AREAS WITH SLOPES FLATTER THAN 2:1 SHALL BE STABILIZED WITH 4 INCHES OF TOPSOIL, SEED, AND MULCH. ALL DISTURBED AREAS WITH SLOPES 2:1 OR STEEPER SHALL BE STABILIZED WITH MATTING OVER 2 INCHES OF TOPSOIL AND SEED.	
15.	ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SEED AND ANCHORED STRAW MULCH, SOD, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM SHALL BE MINIMIZED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.	
16.	PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SEED AND AN APPROVED EROSION CONTROL MATTING, SOD, RIP-RAP, OR OTHER APPROVED STABILIZATION MEASURES.	
17.	FOR STOCKPILE SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), THE CONTRACTOR SHALL APPLY SEED AND ANCHORED STRAW MULCH, SOD, OR OTHER APPROVED STABILIZATION MEASURES TO THE FACE OF THE STOCKPILE WITHIN THREE (3) CALENDAR DAYS OF ACTIVITY HAVING CEASED ON THE RESPECTIVE FACE. FOR SLOPES 3:1 OR FLATTER, THE CONTRACTOR SHALL APPLY STABILIZATION MEASURES TO THE FACE OF THE STOCKPILE WITHIN SEVEN (7) CALENDAR DAYS OF ACTIVITY HAVING CEASED TO THE FACE OF THE STOCKPILE WITHIN SEVEN (7) CALENDAR DAYS OF ACTIVITY HAVING CEASED ON THE FACE. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.	
18.	FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL EVENT. DRAINAGE COURSES AND SWALE FLOW AREAS MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.	
19.	WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE SHALL BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE SHALL BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.	
20.	ALL SEDIMENT TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS SHALL HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.	
21.	SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.	
22.	SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE SHALL BE DIRECTED TO AN MDE APPROVED SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.	
23.	PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NOT LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT FOR SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SEVEN (7) CALENDAR DAYS FOR FLATTER SLOPES. WHEN PROPERTY IS BROUGHT TO FINISHED DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.	
24.	TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED WITH PERMISSION OF THE MDE INSPECTOR WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. UPON REMOVAL OF SEDIMENT CONTROL DEVICES, THE AREA DISTURBED BY REMOVAL SHALL BE STABILIZED WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED, WITHIN 24 HOURS OF SAID REMOVAL. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.	

 B. S. D. PARAMER, M., GART, AND BORNON AREAS CPT-SPE BALL BE MOTICITE PY SEDURIT S. S. D. PARAMER, M. S. SANT, AND BORNON AREAS CPT-SPE BALL BE MOTICITE PY SEDURIT S. S. D. PARAMER, M. S. SANT, AND BALL STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION S. S. D. PARAMER, LOSING, M. PARAMER, M. N. ACE DERING GRAINS, SELECED PET-MATCH. S. S. D. PARAMER, LOSING, M. PARAMER, M. N. ACE DERING GRAINS, SELECED PET-MATCH. S. S. D. PARAMER, M. VARIANE, STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. D. MARTINE, SIMULATION AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. D. MARTINE, SIMULATION AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. D. MARTINE, SIMULATION AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. P. MARTINE, SIMULATION AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. P. MARTINE, SIMULATION AND AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. P. MARTINE, SIMULATION AND THE DELINE VERDER AND VERDER SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. P. MARTINE, SIMULATION AND AND THE DELINE VERDER AND VERDER SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. P. MARTINE, SIMULATION AND AND THE DELINE VERDER AND VERDER SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. P. MARTINE, SIMULATION AND AND THE DELINE VERDER AND VERDER SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. P. MARTINE, SIMULATION AND AND THE DELINE VERDER AND THE DELINE VERDER AND VERDER SPECIFICATIONS FOR VEGETATIVE STABILIZATION C. P. MARTINE, SIMULATION AND AND THE DELINE VERDER AND	5. OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY SHALL HAVE PRIOR APPROVAL BY ME AND OTHER APPLICABLE STATE, FEDERAL, AND LOCAL AGENCIES; OTHERWISE APPROVAL SHALL BE GRANTED	E SECTION B-4-2: STDS & SPEC AMENDMENTS
 If a model and the set of the s	BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE SHALL BE PROTECTED BY SEDIMEN' CONTROL MEASURES AND STABILIZED.	A. SOIL PREPARATION
 a. STELL STATUTE (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	6. SITE INFORMATION:	1. TEMPORARY STABILIZATION
 SECTION B-1: STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION SPECIAL MICHAEL STABLE STABLES AND SECTIONS AND SPECIFICATIONS FOR VEGETATIVE STABLES AND SECTIONS AND AND AND AND AND AND AND AND AND AND	 A. AREA DISTORBED <u>0.11</u> ACRES B. TOTAL CUT <u>110</u> CUBIC YARDS C. TOTAL FILL <u>10</u> CUBIC YARDS D. OFF-SITE WASTE / BORROW AREA LOCATION <u>TO BE DETERMINED BY CONTRACTOR. AREA MUST HAVE ACTIVE SEDIMENT CONTROL PERMIT.</u> 	a. SEEDBED PREPARATION AGRICULTURAL OR CON MOUNTED ON CONSTRU DRAGGED SMOOTH, BUT TRACKED WITH RIDGES
 DEL SEDUNT CONTRUCT MARKINGS WUST FEXALE MANN. DECUMPT VESTION FOR AN AND VESTION FERME STARLENGT. DECUMPT VESTION FERMES DES CROMPODORE. DECUMPT VESTION FERMENS DES CROMPOS AS INFORMANT STARLEZ ORIGINAL RECOMMENTATIONS FERMENSES. DENTROCH MARK STARLEZATION - CUT SUDES DENTROCH MARK STARLEZATION PERMER SECTION SACTOR STARLEZ. DENTROCH MARK STARLEZATION PERMER SECTION AND STARLEZ. DENTROCH MARK STARLEZATION PERMER SECTION SACTOR STARLEZ. DENTROCH MARK STARLEZATION PERMER SECTION AND STARLEZ. DENTROCH MARK STARLEZATION PERMER SECTION AND STARLEZ. DENTROCH MARK STARLEZATION PERMER SECTION SACTOR STARLEZ. DENTROCH MARK STARLEZATION PERMER SECTION AND STARLEZ. DESTIGUE AND ARTICLE STARLE MARK SECTION SACTOR STARLEZ. DESTIGUE AND ARTICLE STARLE MARK STARLEZA	SECTION B-4: STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION	b. APPLY FERTILIZER AND
 DEGULAT LACETAINT ESTABLISHENT PERMANENT STABLISHENT PERMANENT STABLISHENT AREDIARE MEETATIVE STABLISHENT END MARE RECESSARY REPARES, REPLACEUNTS AND CONTROLS ESSURED AREDIARE MEETATIVE STABLISHENT END MARE RECESSARY REPARES, REPLACEUNTS AND CONTROLS ESSURED AREDIARE MEETATIVE STABLIST FOR RECOMPOSITIES BER ENDONDECOVER. PERMANENT STABLIST THAN AND SECOND PERMANENT STABLIST THAN AND SECOND MEETATIVE STABLIST AND AND RECOMPOSITIES BER ENDONDECOVER. PERMANENTISTER STABLIST FOR PERMANENT RECEMPORTS. MEETATIVE STABLIST FOR PERMANENT SECOND ARE SHOWN IN TABLE B.6. DEREMANE STABLIST FOR PERMANENT SECOND ARE SHOWN IN TABLE B.6. DEREMANE STABLIST AND AND/ON PERMANENTISTED ON THE INFERT IN HEIRT. PERPARE SECOND AND APPLY SECOND THE EXCERNING ARE SHOWN IN TABLE B.6. DEREMANE STABLIST AND AND/ON ON ALL OF SHOPES AS THE WARD ARE BLY. CONSTRUCT AND STABLIST AND AND/ON AND ALL OF SHOPES AS THE WARD ARE BLY. DEREMANE STABLIST AND AND/ON AND ALL OF SHOPES AS THE WARD ARE BLY. DEREMANE STABLIST AND AND/ON APPLY SECOND ARE AND STABLIZZ. CONSTRUCT AND STABLIST AND AND/ON PERPARE SECORD AND STABLIZZ. CONSTRUCT AND STABLIST AND AND/ON THE SECOND ON THE SHOP IN AND TABLE BLOWER THOUSY AND THE SECOND THE EXCAVATION, REPARE SECORD AND STABLIZZ. CONSTRUCT AND STABLIZZ AND/ON DESTABLIST AND THE SECOND AND THE SECOND AND THE CONSTRUCT AND STABLIZZ AND AND/ON THE AND/ON THE AND/ON THE SECOND AND THE CONSTRUCT AND STABLIZZ AND AND/ON THE AND/ON THE SECOND AND THE CONSTRUCT AND STABLIZZ AND/ON THE AND/ON THE AND/ON THE SECOND AND THE CONSTRUCT AND STABLIZZ AND/ON THE AND/ON THE AND/ON THE SECOND AND THE CONSTRUCT AND STABLIZZ AND/ON THE AND/ON T	OTE: SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, EEDING, MULCHING AND VEGETATIVE ESTABLISHMENT.	c. INCORPORATE LIME AND MEANS.
 Sector advects for whoth fully Established that where the cessary repairs, REPLACEMENTS and Controls sectors. A Sould TY KOCTATIVE CESTABLISHED REVEATION REQUERES BY CROUNDOUGH THE CORONAL RECOMMENDATIONS ON THE PLANS BEETWEEN 4007-9445 GROUNDOUGH, OVER SEED AND FERTILIZE USING HALF OF THE RECOMMENDATIONS ON THE PLANS BETWEEN 4007-9445 GROUNDOUGH, OVER SEED AND FERTILIZE USING HALF OF THE RETEX BEETING HALF OF SECTION 4-4-15 S	DEQUATE VEGETATIVE ESTABLISHMENT	2. PERMANENT STABILIZATION
 ANDUATE VECTATIVE STABLIZATION HEQUIRES \$25 EROUNDCOVER. IF AN 44CA HAS LESS THAN 400 GROUNCOVER, EXECTED FAILS FOLLOWING THE ORIGNAL RECOMMENDATIONS FOR LINE, FRAILERS SECTED PREPARATION. AND SECTION SECTION SECTION FOR INCREMENTATION FOR INCREMENTATION. IF AN 44CA HAS ENVIRONMENT ADD-5942 GROUNDCOVER, EVER-SEED AND FERTILIZE USING HAILF OF THE RATES GROUND LESS FAILED FOR THE AND SECTION FOR INCREMENTAL STABLIZZATION. IMARTINANCE FERTILIZES RETES FOR FERMANENT SECTION BARE MOON IN TABLE 8.6. IECTION B-L-L: STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABLIZZATION. INCREMENTAL STABLIZE ALL TUPORARY SWALES OR DIRES THAT WILL BE USED TO CONVEY BUILDED AND THY SEED AND MULCH ON ALL CUI SIGNES THAT WILL BE USED TO CONVEY BUILDED AND APPLY SEED AND MULCH ON ALL CUI SIGNES THAT WILL BE USED TO CONVEY BUILDED AND APPLY SEED AND MULCH ON ALL CUI SIGNES THAT WILL BE USED TO CONVEY BUILDED AND APPLY SEED AND MULCH ON ALL CUI SIGNES THAT WILL BE USED TO CONVEY BUILDED AND APPLY SEED AND MULCH ON ALL CUI SIGNES THAT WILL BE USED TO CONVEY BUILDED AND APPLY SEED AND MULCH ON ALL CUI SIGNES AND THE WORK PROBESS. I. PREFORM FHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABLIZZ. I. PREFORM FHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABLIZZ. I. PREFORM FHASE TO SECTION B-4-1, FOURED THAT SEED RED AND SEASON MUL NEEDS AND PREVAMENT STABLIZZ OVERSEED PHASE 1 AREAS AS INCOMPACING AND SPACESS. I. CONSTRUCTION OF GRANDA WAS INSCREMENT ON TO DESECTION OF THE SEEDING SEASON MUL NEEDS AND PREVAMENT STABLIZZ. I. CONSTRUCTION SECTION B-4-1, FOURED STATUTE, CONTENT THE SECTION SEASON MUL NEEDS AND PREVAMENT STATUTE OF A LIFT REACHES IN FELT, OR WILL THE SECTION AND ORENNIA VERSE ON AND APPLY SEAS AS IN THE SECTION OF A LIFT REACHES IN THE AND THAT SEASON AND AREAS SECTION AND APPLY SEED AND ADD STABLIZZ. I. CONSTRUCTION SECTION B-4-4-1, FOURE BTAT WILL READ TO THE SECTION AND ALL PREFORMENT OF THAT AND THAT AND THE SECTION AND AND AREA	NSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND ESEEDINGS WITHIN THE PLANTING SEASON.	a. A SOIL TEST IS REQUIR CONDITIONS REQUIRED I
 P AN AFEA HAS LESS THAN 405 REVINCOVER, ESTABLIZE FOLLOWING THE ORIGINAL RECOMMONATIONS TOR UNE, FERTURES SEEDED REPERANCIAL SEEDING ARE SHOWN IN TABLE 9.6. C F AN AFEA HAS SERVICES. MANTENANCE FERTURES FOR PERANANCIAL SEEDING ARE SHOWN IN TABLE 9.6. MOREWOLLY SECTIONS AND SECTIONS FOR INCREMENTAL STABILIZATION MOREWOLLY SEEDING AND SECTIONS FOR INCREMENTAL STABILIZATION MOREWOLLY SEED AND STABULZE OUT SLOPES CONSTRUCT AND STABULZE ALL TEMPORARY SMALES OF DIKES THAT WILL BE USED TO CONFEY SUBJECT AND AFAD STABULZE ALL TEMPORARY SMALES OF DIKES THAT WILL BE USED TO CONFY DERRORM HAS SHAWL (REFER TO SECOND 4-4-1, FOURSE 91). DERRORM PHASE 1 EXCAVATION, PREPARE SEEDED, AND STABULZE. DERRORM PHASE 1 EXCAVATION, PREPARE SEEDED, AND STABULZE. DERRORM PHASE 1 EXCAVATION, PREPARE SEEDED, AND STABULZE. DERRORM MIL NECESSTAT. DERRO	. ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95% GROUNDCOVER.	SOIL pH BETWEEN 6
 I. MAY MERA HAS BETWEEN AGE-94% GROUNDCOVER, OVER-SUD AND FERTULZE USING HALF OF THE RATES DOT CONTINUES. MANTENANCE FERTULZE RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.G. ECTION B-4-1: STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION. MORTININIAL STABILIZE TO I SLOPES CONSTRUCT AND SADULXE CUT SLOPES IN INCREMENTS WOT TO EXCEED IS FEET IN HEIGHT. REPARE SEEDED AND MUCH ON ALL CUT SLOPES AS THE WORK PROGRESSES. CONSTRUCT ANS STABILIZE ALL EDPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN TO THE DEPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN TO BE SCHOOL TO EXCEED AND STABILIZE. CONSTRUCT ANS STABILIZE ALL EDPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN THE DEPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN THE DEPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN THE DEPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN THE DEPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN THE DEPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN THAN THE DEPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN THAN THE DEPORARY SWILES OF DIKES THAT WILL BE USED TO CONVEY MAY THAN THAN THE DEPORATION OF COMPLEXAND THE DEPORATION CONTON TO THE SUBMANT SEED AND ADALE AND ADALE AND TABLE AND ADALE AND TABLE ALL DEPORARY MAY THAN THE DEPORATION OF COMPLEXAND THE DEPORATION CONTON TO THE SUBMA THANG TO THE ADALES AS THE CONVERT AND THE DEPORATION OF COMPLEXAND THE DEPORATION CONTON TO THE SUBMANT SEED AND ADALE AND ADALE AND THE DEPORATION CONTON THE SUBMA THANG THE CONVERTION OF COMPLEXAND THE DEPORATION CONTON TO THE SUBMA THANG TO THE SUBMA THANG THE DEPORATION CONTON TO THE SUBMA THANG THAN THE DEPORATION CONTON TO THE SUBMA THANG TO THE SUBMA THANG TO THE SUBMA THANG THAN THAN THE DEPORATION CONTON TO THE SUBMA THANG THAN THAN THE DEPORATION CONTON TO	. IF AN AREA HAS LESS THAN 40% GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING.	 SOLUBLE SALTS LES SOIL CONTAINS LES TO PROVIDE THE CONTRACTOR OF CONTRACTOF
 MANINEMANCE FERTUZER RATES FOR PREMAMENT SECTION ARE SHOWN IN TABLE B.6. MARINEMAL STADUATED AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION INCREMENTAL STADUATED - CUT SLOPES EXCAMPTE AND STABULZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FETTI IN HIGHT, PREPARE SECRED AND APPLY SEED AND MUCH ON ALL CUT SLOPES SATING OF AREN ON THE SLOPE STATUS (STABULZE ALL TEMPORARY SMALES OR DIKES THAT WILL BE USED TO CONVEY RINK AND STABILIZE. CONSTRUCTION SCIENCE EXAMPLE (REFER TO SECTION B-4-1, FRURE B.1): CONSTRUCT AND STABULZE ALL TEMPORARY SMALES OR DIKES THAT WILL BE USED TO CONVEY RINK AND ON THE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. DERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS INCREMENTS NOT TO STOSLIE PREVAILS USES THAT WILL BE USED TO CONVEY RINK AND CONTON OF TO FOSLIE A REQUERY THE SLOPES AND REPARE SEEDBED, AND STABILIZE. OVERSEED PREVAILS IN STABULZE ALL REPORTION OF TO FOSLIE (FREQUERY) AND STABILIZE. OVERSEED PREVAILS IN SCIENCE AND REPARE SECORD IN THE OFFANION OF TO FOSLIE (FREQUERY) AND STABILIZE. OVERSEED PREVAILS IN SCIENCE AND REPARE SECORD ON THE SLOPE AND ONLY OF THE SECOND THE SLOPE AND MUCH ON ALL CUT SLOPES AS THE WORK PROORESSES. TOPSOLING IS LUTIED TO TO TEMPORARY SMALES OR DIRAGENT SECOND TO THE SECOND ON THE SLOPES IN TREMENTS NOT TO EXCEED IS FEEL IN HIGHT, PREPARE SECORD ON THE SLOPES AND REPORTED SECOND THE SLOPES IN TREMENTS NOT TO EXCEED IS FEEL IN HIGHT, PREPARE SECOND ON THE SLOPES IN TREMENTS NOT TO EXCEED IS FEEL IN HIGHT, PREPARE SECOND ON THE SLOPES IN TREMENTS NOT TO EXCEED IS FLECT IN WHOTH, PREPARE SECOND ON THE SLOPES IN TREMENTS NOT TO EXCEED IS FLECT IN WHOTH, PREPARE SECOND ON THE SLOPES IN TREMENTS NOT TO EXCEED IS FLECT IN HIGHT, PREPARE SECOND ON THE SLOPES IN TREMENTS NOT TO EXCEED IS FLECT IN HIGHT, PREPARE SECOND ON THE SLOPES IN TREMENTS NOT TO EXCEED IS STATE. TOPSOL SLAVES STATE THE PREPARE SECOND ON THE	. IF AN AREA HAS BETWEEN 40%-94% GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.	SOIL CONTAINS 1.5 SOIL CONTAINS SUF
 NOREMENTAL STABILIZATION - OUT SLOPES NOREMENTAL STABILIZATION - OUT SLOPES PERCONNECT AND STABILIZE ALL CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDED AND APPLY SEED AND MULCH ON ALL OUT SLOPES AS THE WORK PROGRESSES. CONSTRUCT NUS STAULIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION. D. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OPERFORM PHASE 1 SUPPERS IN INCREMENTS NOT TO EXCEED IS FEET. IN HEIGHT, PREPARE SEEDBED AND APPLY SEED AND DUCK TO TEMPORARY STABILIZATION. TOPSCIL STABILIZE THL SLOPES IN INCREMENTS NOT TO EXCEED IS FEET. IN HEIGHT, PREPARE SEEDBED AND APPLY SEED ON DUCK THE OWNER PRACTICE(S), AS INCRESSARY, TO INTERCEPT SURFACE RUNGEF AND CONVEY IN TOOM THE SLOPE IN A NON-ERGISE MANNER. ORD FUNCTION SEQUENCE EXAMPLE (REFER TO SECTION B-4-1, FIGURE B.1): CONSTRUCT AND STABILIZE ALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS INCRESSARY, TO UNERCEPT SURFACE RUNGEF AND CONVEY IT DOWN THE SLOPE IN A NON-ERGISE MANNER. THE CONFERTION FEEDBED AND STABILIZE. PREPARE SEEDBED AND STABILIZE. PREPARE SEEDBED AND STABILIZE. PREPARE SEED	. MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.	 APPLICATION OF AMENE CONDITIONS.
 EKGAVATE AND STABLIZE OUT SLOPES IN INCREMENTS NOT TO EXCEED IS FEET IN HEIGHT, PREPARE SEEDED AND AND YELL SCANADON ALL OUT SLOPES AS THE WORK PROGRESSES. CONSTRUCT AND STABLIZE ALL TEMPORARY SINALES OR DIKES THAT WILL BE USED TO CONVEY RUNNER FACOND THE EXCAVATION. REPEARE SEEDED, AND STABLIZE. PERTORM PHASE 2 EXCAVATION, PREPARE SEEDED, AND STABLIZE. PERTORM PHASE 1 SECOND THE OPERATION SHOULD BE CONTINUOUS FROM BRUBBING THROUGH MICREMENTAL STABLIZZ FULL SLOPES IN INCREMENTS NOT TO EXCEED IS FEET IN HEIGHT PREPARE STABLIZE SLOPES AND MULTICH ON THE MEDARARY STABLIZATION. NOREMENTAL STABLIZZ FULL SLOPES IN INCREMENTS NOT TO EXCEED IS FEET IN HEIGHT PREPARE TORECONSTRUCT AND STABLIZZ FULL SLOPES IN INCREMENTS NOT TO EXCEED IS FEET IN HEIGHT PREPARE TORE SLOPES AND MULTICH WARN THE RUNNEL HEIGHT OF A LIFT REACHES IS FEET, OR WHEN THE GRADING OF THE GRADING ON THE FLANG. TORECONSTRUCT AND STABLIZZ FULL SLOPES IN INCREMENTS NOT TO EXCEED IS FEET IN HEIGHT PREPARE TORE ON THE FLANG OF THE FLANGARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INITIAL TEMPORARY SMALES CONTENT, LOW IN USAL-MRCS. TORSILM MITHE LIANG CONVEY IT DOWN THE SLOPE IN A NON-ERGISVE MANNER. THE SOLINA DA STABLIZZ ALL TEMPORARY SMALES CONTENTANCE PRACTICE(S), AS NECESSARY, TO INITIAL MAD FRANK PRESS TO TO DURAT RUNNER RUNNER	. INCREMENTAL STABILIZATION - CUT SLOPES	c. GRADED AREAS MUST E
 2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO SECTION B-4-1, FIGURE B.1): a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT MILL BE USED TO CONVEY RUNDER TO STABILIZE. b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS INCLUDE BE AND STABILIZE. OVERSEED PHASE 1 AREAS AS INCLUDE OVERSEED PREVIOUSLY SEEDED AREAS AS INCLUDE AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS INCLESSARY. moter convertion of GRADING AND PLACEMENT OF TOPSOIL (P REQUIRED) AND PERMANENTS BED AND MULTION OF THE OWER TO STABILIZE OVERSEED PREVIOUSLY SEEDED AND STABILIZE OVERSEED THE COMPETING OF GRADING CRESSSARY. INCREMENTAL STABILIZATION - FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDED AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MAINER. AT THE END OF EACH DAY, INSTALL TEMPORARY STABILIZE. CONSTRUCT AND STABILIZE ALL TEMPORARY SHALES OR DIKES THAT MILL BE USED TO DIVERT RUNDER REARCE RUNDER AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MAINER. THE SOL MATERIAL SUBJECT ON SCHOLE DAY ANCE PRACTICE(S). AS INCEESSARY, TO INTERCEPT SUBFACE RUNDER AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MAINER. THE SOL MATERIAL TEMPORARY SHALES OR DIKES THAT MILL BE USED TO DIVERT RUNDER REARCE RUNDER AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MAINER. THE SOL MATERIAL TEMPORARY SHALES OR DIKES THAT MILL BE USED TO DIVERT RUNDER RAVE RUNDER AND DOWN THE SLOPE IN A NON-EROSIVE MAINER. THE SOL DIVERT RUNDER REARCE RUNDER AND STABILIZE.	1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.	DLAN, THEN SCARIFIED d. APPLY SOIL AMENDMEN A SOIL TEST
 CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION. PERFORM PHASE 1 EXCAVATION. PREPARE SEEDBED, AND STABILIZE. PERFORM PHASE 2 EXCAVATION. PREPARE SEEDBED AND STABILIZE. OVERSEED PHASE 1 AREAS AS INCESSARY. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS STORE CONCE EXAVID. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS INCESSARY. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS INCESSARY. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS INCESSARY. OPSCILLS EXAVID. NOREMENTAL STABILIZATION IN OUT OF TEMPORARY STABILIZE. OVERSEED PREVIOUSLY SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION. NOREMENTAL STABILIZZ FILL SLOPES IN INCREMENTS NOT TO EXCEED IS FEET IN HEIGHT. PREPARE SEEDBED AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED IS FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE VERTICAL HEIGHT OF A LIFT REACHES IS FEET, OR WHEN THE SEEDBED AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED IS FEET, IN HEIGHT. PREPARE SEEDBED AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED IS FEET, IN HEIGHT. PREPARE SEEDBED AND STABILIZE FILL PREVIDENCE IN A NON-EROSIVE MANNER. ONTHE TEXTURE OF THE VERTICAL HEIGHT OF A LIFT REACHES IS FEET, OR WHEN THE SEEDBED AND STABILIZE FILL DENDER IN THE SLOPE IN A NON-EROSIVE MANNER. THE ORIGINAL SADIL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SUFFACE NUMOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER. OFFORMING IN THE PLACESSING AND PREVAMENT SEED AND MUCH THE PLACEMENT OF FILL DUCKS THE METHOD SHOWN ON THE FLUX ONTIGUTE INT FROME ORDERING THE SEEDBED, AND STABILIZE. OFFORT TH	2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO SECTION B-4-1, FIGURE B.1):	e. MIX SOIL AMENDMENTS
 b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. b. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED AND STABILIZE OVERSEED PHASE 1 AREAS AS INCCESSARY. c) PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE OVERSEED PREVIOUSLY SEEDED AREAS AS INCCESSARY. NOTE: CONCE EXCAVATION, ARS BEQUIN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING TREOUGH PURPOSE IS TO PROVIDE. B. TOPSOLLIS PLACED OVER PURPORARY STABILIZE TO USE SEED AND DYNAMIC PREVIOUSLY SEEDED AND PERFORM THAN STABILIZE TO PROVIDE. CONSTRUCT AND STABILIZE FUL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDEED AND APPLY SEED AND MULCH ON ALL CLOSESTARY TO EXCEED 15 FEET, N HEIGHT, PREPARE SEEDEED AND APPLY SEED AND MULCH ON ALL CLOSESTARY TO EXCEED 15 FEET, N HEIGHT, PREPARE SEEDEED AND APPLY SEED AND MULCH ON ALL CLOSESTARY TO EXCEED AND APPLY SEED AND MULCH ON ALL CLOSESTARY TO EXCEED TO DYNER. C. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OFERATION CEASES AS PRESCRIBED IN THE PLANS. C. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OFERATION CEASES AS PRESCRIBED IN THE PLANS. C. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OFERATION CEASES AS PRESCRIBED IN THE PLANS. C. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OFERATION CEASES AS PRESCRIBED IN THE PLANS. C. STABILIZE NOOF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS INCEESSARY, TO INTERCEPT SUBFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER. C. DARGONNO THE FLANS ADDRESS THIS AREA. C. DARGONNO THE FLANS AS INCECESSARY, TO INTERCEPT SUBFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER. C. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 1 FILL,	a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.	AREAS SHOULD BE RAP BRANCHES, AND READY HEAVY CHAIN OR OTHE
 c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY. d. PEPFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY. MOTE AND THE OPERATION SHOULD BE CONTINUOUS FROM GRUDBANG THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF OFBOSIL (IF EQUARDED) AND PERMANENT SEED AND APPLY SEED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES. CONSTRUCT AND STABILIZE FILL SLOPES IN INGREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES. CONSTRUCT AND STABILIZE FILL SLOPES IN INGREMENTS NOT TO EXCEED 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS. A THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS INCESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER. C. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE. C. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE. D. PLACEMENT OF FRANCON OF COMPARY STABILIZATION. D. TOPSOL MUST BE FREE COMPARY AND READ AND STABILIZE. D. PLACEMENT OF COMPARY STABILIZE AND APPROVING A	b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.	PERMIT NORMAL SEEDBI LEAVING THE SOIL IN A
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		c. TOPSOIL MUST NOT BE

-PHASE 1 EXCAVATION

- PROPER GRADING AND SEEDBED PREPARATION.
- C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

 - TRADEMARK, AND WARRANTY OF THE PRODUCER.
 - 100% WILL PASS THROUGH A #20 MESH SIEVE.
 - DISKING OR OTHER SUITABLE MEANS. OF TOPSOIL.

PHASE 2 EXCAVATION -PHASE 3 EXCAVATION Figure B.1: Incremental Stabilization – Cut -TEMPORAY DIKE/SWALE TO BE PLACED AT THE END OF EACH WORK DAY TO BE USED UNTIL SLOPE IS COMPLETELY STABILIZED PHASE 3-EXCAVATION PHASE 2 <u>15 FT MAX</u> EXCAVATION SILT FENCE / PHASE 1 EXCAVATION - DIKE/SWALE EXISTING GROUND Figure B.2: Incremental Stabilization – Fill



SECTION B-4-3: STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

A. SEEDING

- 1. SPECIFICATIONS
- a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
- b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
- c. INOCULANTS THE INOCULANTS FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANTS AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 - 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE INOCULANTS LESS EFFECTIVE.
- d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
- 2. APPLICATION
 - a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
 - INCORPORATE SEED INTO SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY SEEDING TABLE B.1. PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
 - APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
 - b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
 - CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST ¼" OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
 - APPLY SEED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
 - c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER)
 - IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN - MAXIMUM OF 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS): 200 POUNDS/ACRE; K20 (POTASSIUM): 200 POUNDS/ACRE.
 - LIME USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
 - MIX SEED AND FERTILIZER ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY WITHOUT INTERRUPTION.
 - WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
- B. MULCHING
- 1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
- a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
- b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
- WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
- WCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
- WCFM SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED. FERTILIZER, AND OTHER ADDITIVES TO FORM A HOMOGENOUS SLURRY. THE MULCH MATERIAL SHALL FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDINGS.
- WCFM SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
- WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 mm., DIAMETER APPROXIMATELY 1 mm., pH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6% MAXIMUM, AND WATER HOLDING CAPACITY OF 90% MINIMUM.

2. APPLICATION

- a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
- b. WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF 1"-2". APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS/ACRE.
- c. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 LBS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING

- a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
- A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2". THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
- WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 LBS. ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK A R OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.

SECTION	[

<u>NOTES</u>

SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES. SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE ½ OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX. CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 3 OF THE RATE LISTED ABOVE.

- A. SEED MIXTURES 1. GENERAL USE

н ΡI

LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S --RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG. •• USE OF CURLEX, PVC, OR PLASTIC NETTING IS PROHIBITED ON STATE OF MARYLAND DGS PROJECTS. MULCH AND RESTRAINING MATERIALS MUST BE BIODEGRADABLE.

B-4-4: STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE.

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.b AND MAINTAIN UNTIL THE NEXT SEEDING SEASON. TABLE B.1: TEMPORARY SEEDING FOR SITE STABILIZATION

	SEEDING RATE		SEEDING	RECOMMENDED SEEDING DATES			
PLANT SPECIES	LB/AC	LB/1000 SF	(INCHES)	HARDINESS ZONE <u>7B</u>			
COOL-SEASON GRASSES							
NNUAL RYEGRASS LOLIUM PERENNE SSP. MULTIFLORUM)	40	1.0	0.5	FEB 15 TO APRIL 30, AUG 15 TO NOV 30			
ARLEY HORDEUM VULGARE)	96	2.2	1.0	FEB 15 TO APRIL 30, AUG 15 TO NOV 30			
DATS AVENA SATIVA)	72	1.7	1.0	FEB 15 TO APRIL 30, AUG 15 TO NOV 30			
VHEAT TRITICUM AESTIVUM)	120	2.8	1.0	FEB 15 TO APRIL 30, AUG 15 TO NOV 30			
EREAL RYE SECALE CEREALE)	112	2.8	1.0	FEB 15 TO APRIL 30, AUG 15 TO DEC 15			
VARM-SEASON GRASSES							
OXTAIL MILLET SETARIA ITALICA)	30	0.7	0.5	MAY 1 TO AUG 14			
EARL MILLET PENNISETUM GLAUCUM)	20	0.5	0.5	MAY 1 TO AUG 14			

FERTILIZER RATE (10-20-20): 436 LB/AC (10 LB/1000 SF)

LIME RATE: 2 TONS/AC (90 LB/1000 SF)

OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.

2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.

3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

SECTION B-4-5: STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

a. SELECT ONE OR MORE MIXTURES LISTED IN TABLE B.2 BELOW.

b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.

c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.

TABLE B.2: PERMANENT SEEDING FOR SITE STABILIZATION

d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3½ POUNDS PER 1,000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

HARDINESS ZONE: <u>7B</u>				FERT (1	ILIZER 0–20–	RATE ·20)	LIME	
PLANT SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	Ν	P ₂ O ₅	K₂O	RATE	
UPLAND								
LURID SEDGE (CAREX LURIDA)				SF)	SF)	SF)	SF)	
SOUTHEASTERN WILDRYE (ELYMUS GLABRIFLORUS)	20	FEB 15 TO APRIL 30,	⅛"то ¼"	B/AC 1000	B/AC 1000	B/AC 1000	NS/A(1000	
LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM)		AUG 15 TO NOV 30		45 L 0 LB/	90 L	90 L 0 LB/	2 TON	
EASTERN GAMMAGRASS (TRIPSACUM DACTYLOIDES)				(1.C	(2.0	(2.0	06)	
WETL	AND/WETLAND [DIRECTLY ADJACENT						
LURID SEDGE (CAREX LURIDA)				SF)	SF)	SF)	C SF)	
SOUTHEASTERN WILDRYE (ELYMUS GLABRIFLORUS)	20	FEB 15 TO APRIL 30,	⅛" то ¼"	45 LB/AC LB/1000	90 LB/AC LB/1000	90 LB/AC LB/1000	2 TONS/AC LB/1000	
LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM)		AUG 15 TO NOV 30						
EASTERN GAMMAGRASS (TRIPSACUM DACTYLOIDES)				(1.C	(2.0	(2.0	06)	

*FREQUENT FREEZING AND THAWING OF WET SOILS MAY RESULT IN FROST-HEAVING OF MATERIALS PLANTED IN LATE FALL, IF PLANTS HAVE NO SUFFICIENTLY ROOTED IN PLACE.

- 2. TURFGRASS MIXTURES
- WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
- PURPOSE.

- CULTIVARS MAY BE BLENDED.
- THE MIXTURE BY WEIGHT.

NOTE: TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND."

NOTE: CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVARS PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

- c. IDEAL TIMES OF SEEDING

- 7b)
- POSE NO DIFFICULTY.
- SEASON, OR ON ADVERSE SITES.
- B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
- 2. GENERAL SPECIFICATIONS
 - THE JOB FOREMAN AND INSPECTOR.
 - TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
 - THE SECTION.
 - MAY ADVERSELY AFFECT ITS SURVIVAL.
 - ITS INSTALLATION.
- 2. SOD INSTALLATION

 - AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
- 3. SOD MAINTENANCE
 - THE DAY TO PREVENT WILTING.
 - CONTENT.
 - UNLESS OTHERWISE SPECIFIED.

a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES

b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR

 KENTUCKY BLUEGRASS – FULL SUN MIXTURE – FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND THE EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS/1000 SQUARE FEET. A MINIMUM OF THREE BLUEGRASS CULTIVARS SHOULD BE CHOSEN, RANGING FROM A MINIMUM OF 10% TO A MAXIMUM OF 35% OF THE MIXTURE BY WEIGHT.

 KENTUCKY BLUEGRASS/PERENNIAL RYE – FULL SUN MIXTURE – FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE/1000 SQUARE FEET. A MINIMUM OF 3 KENTUCKY BLUEGRASS CULTIVARS MUST BE CHOSEN, WITH EACH CULTIVAR RANGING FROM 10%-35% OF THE MIXTURE BY WEIGHT.

• TALL FESCUE/KENTUCXY BLUEGRASS – FULL SUN MIXTURE – FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95%-100%; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0-5%. SEEDING RATE: 5 TO 8 POUNDS/1000 SQUARE FEET. ONE OR MORE

• KENTUCKY BLUEGRASS/FINE FESCUE - SHADE MIXTURE - FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30-40% AND CERTIFIED FINE FESCUE AND 60-75%. SEEDING RATE: 1-1/2 TO 3 POUNDS/1000 SQUARE FEET. A MINIMUM OF 3 KENTUCKY BLUEGRASS CULTIVARS MUST BE CHOSEN, WITH EACH CULTIVAR RANGING FROM A MINIMUM OF 10% TO A MAXIMUM OF 35% OF

• WESTERN MD: MARCH 15-JUNE 1; AUGUST 1-OCTOBER 1 (HARDINESS ZONES: 5b, 6a)

• CENTRAL MD: MARCH 1-MAY 15; AUGUST 15-OCTOBER 15 (HARDINESS ZONE: 6b)

SOUTHERN MD, EASTERN SHORE: MARCH 1-MAY 15, AUGUST 15-OCTOBER 15 (HARDINESS ZONES: 7a,

d. TILL AREAS AS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2"-4", LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1/3" IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL

e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH $(\frac{1}{2})^{-1}$ EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT

a. CLASS OF TURFGRASS MUST BE MARYLAND STATE CERTIFIED. SOD LABELS SHALL BE MADE AVAILABLE TO

b. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4". PLUS OR MINUS 1/4". AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND

C. STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF

d. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET)

e. SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO

a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD

b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.

d. WATER SOD IMMEDIATELY FOLLOWING ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING,

a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4". WATER SOD DURING THE HEAT OF

b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE

c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3"

NOTE TO CONTRACTOR: "EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED" THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL ONLY



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DGS No. P-006-201-010 MDE (E&S) No. 22-SF-0139 FAP #: STP-CXXXXXX STATE PROJECT #: MD-XX-XX

























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- 2. CONTROL JOINTS SHALL BE FORMED, 1" DEEP BY 1/4" WIDE.
- 1. CONTROL JOINTS SHALL BE EQUALLY SPACED. IF SIDEWALK WIDTH IS GREATER THAN 8' WIDE, THEN ADD A LONGITUDINAL CONTRACTION JOINT ALONG LENGTH OF SIDEWALK.



NOTE: L=W

	A. M4 700 PHC EN	ORTON THOM CONSULT KING FARM E ROCKV DNE (301) 881- MAIL: AMT1@A	AS AND ASSOCIATES, INC. TING ENGINEERS BOULEVARD, 3RD FLOOR VILLE, MD 20850 -2545 FAX (301) 881-0814 AMTENGINEERING.COM
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	THIS PLAN IS FOR PLANTING ONLY, AND O INFORMATION SHOWN IS <u>FOR REFERENCE ONLY</u> PLAN FOR INFORMATION ABOUT ALL LAYOUT, GR OTHER SITE IMPROVMENTS.	THER <u>Y</u> . SEE SITI ADING, AN	E	100% CONSTRUCTION DOCUMENTS
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<u> QTY</u>	BOTANICAL / COMMON NAME	<u>CONT</u>	<u>CAL</u>	
2	QUERCUS ALBA / WHITE OAK	В&В	2"CAL	
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2	QUERCUS MARILANDICA / BLACKJACK OAK	B & B	2"CAL	DATE: 01/20/2023 CAD DWG FILE: LP101-SM855210001.DWG
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9	VACCINIUM STAMINEUM / DEERBERRY	5 GAL	36" USE GR.	UNSITE PLANTING PLAN
23	VIBURNUM ACERIFOLIUM / MAPLELEAF VIBURNUM	5 GAL	IS NOT 24"x	
S No. P-006-201-0	0 SC 010 MDE (E&S) No. 22-SF-0139 FAP #: STP-CXXXXXX	5' ALE: 1"=5'	10' SIHL JI JECT #: MD-XX-XX	LP-101 SHEET 10 OF 12



TREES	<u>CODE</u>	<u>QTY</u>	BOTANICAL / COMMON NAME	<u>CONT</u>	CAL
portuge of the second s	CC TD	9 10	CERCIS CANADENSIS / EASTERN REDBUD SINGLE STEM TAXODIUM DISTICHUM / BALD CYPRESS	B & B B & B	0.75"C 2"CAL
SHRUBS	CODE	<u>QTY</u>	BOTANICAL / COMMON NAME	CONT	
(+) (+)	СО	5	CEPHALANTHUS OCCIDENTALIS / BUTTONBUSH	5 GAL	
(+) +)	CA	4	CLETHRA ALNIFOLIA / SUMMERSWEET	5 GAL	







DECIDUOUS TREE PLANTING DETAIL FOR REFORESTATION NOT TO SCALE

GENERAL NOTES:

EXPERT

CROWN

- 1. THE PURPOSE OF THIS BUFFER MANAGEMENT PLAN IS TO COMPLY WITH THE BUFFER MITIGATION AND ESTABLISHMENT REQUIREMENTS FOR THE FOLLOWING PROJECT: HISTORIC ST. MARY'S CITY STATE HOUSE ACCESSIBLE RESTROOM
- 2. THE STREET ADDRESS OF THE PROPERTY IS: 47418 OLD STATE HOUSE ROAD, ST. MARY'S CITY, MD 20686 3. THE PROPERTY IS IDENTIFIED AS: TAX MAP 0063, PARCEL 0350
- 4. THE CRITICAL AREA DESIGNATION IS RCA.

PLANTING DATE AND SEQUENCE OF IMPLEMENTATION:

- 1. PLANTING WILL BEGIN ON OR ABOUT
- 2. REMOVE TURF GRASS, WEEDS, AND DEBRIS. PREPARE SITE FOR PLANTING BY TILLING, DIGGING, AND INCORPORATING TOPSOIL OR OTHER SOIL CONDITIONERS.
- 3. PRIOR TO PLANTING, PROTECT PLANTS FROM ADVERSE WEATHER CONDITIONS AFTER DELIVERY UNTIL THEY ARE PLANTED. PLANTS SHOULD BE PLANTED WITHIN 72 HOURS OF DELIVERY.
- 4. INSTALL PLANTS IN ACCORDANCE WITH NURSERY SPECIFICATIONS IN THE LOCATIONS SHOWN ON THE PLAN. PLANT THE LARGEST STOCK FIRST.
- 5. PRUNE ONLY DEAD OR BROKEN BRANCHES ON NEW STOCK PRIOR TO INSTALLATION. 6. STAKE TREES ONLY IF NECESSARY DUE TO SITE CONDITIONS OR STOCK SIZE.
- 7. WATER PLANTS THOROUGHLY.
- 8. MULCH AROUND NEW PLANTS TO MAINTAIN MOISTURE LEVELS AND REDUCE COMPETITION FROM WEEDS AND INVASIVE SPECIES.

SPECIFICATIONS:

- 1. ALL PLANTINGS SHOULD BE NATIVE TO THE COASTAL PLAIN BASED ON THE U.S. FISH AND WILDLIFE SERVICE PUBLICATION TITLED NATIVE PLANTS FOR WILDLIFE HABITAT AND CONSERVATION LANDSCAPING, CHESAPEAKE BAY WATERSHED.
- 2. CANOPY TREES ARE THOSE THAT REACH A HEIGHT OF AT LEAST 35 FEET AT MATURITY. CANOPY TREES WILL BE BALLED AND BURLAPPED OR CONTAINER STOCK. STOCK THAT IS 2-INCH CALIPER IS CREDITED AT 200 SQUARE FEET. STOCK THAT IS ³/₄-INCH CALIPER IS CREDITED AT 100 SQUARE FEET. HEIGHTS MAY VARY.
- 3. UNDERSTORY TREES ARE THOSE THAT REACH A HEIGHT OF 12 TO 35 FEET AT MATURITY. UNDERSTORY TREES WILL BE BALLED AND BURLAPPED OR CONTAINER STOCK. STOCK THAT IS ¾-INCH CALIPER IS CREDITED AT 75 SQUARE FEET. HEIGHTS MAY VARY.
- 4. LARGE SHRUBS ARE THOSE THAT REACH A HEIGHT OF AT LEAST SIX FEET AT MATURITY. LARGE SHRUBS WILL BE BALLED AND BURLAPPED OR CONTAINER STOCK AND WILL BE AT LEAST THREE FEET HIGH.
- 5. SMALL SHRUBS ARE THOSE THAT REACH A HEIGHT OF UP TO SIX FEET AT MATURITY. SMALL SHRUBS WILL BE BALLED AND BURLAPPED OR CONTAINER STOCK AND WILL BE AT LEAST 18 INCHES HIGH.
- 6. HERBACEOUS PLANTS AND GRASSES ARE NONWOODY VEGETATION THAT IS OFTEN DORMANT DURING THE WINTER. HERBACEOUS PLANTS AND GRASSES WILL BE CONTAINER STOCK. SIZES AND HEIGHTS MAY VARY. A SEED MIX MAY BE USED FOR LARGER AREAS OF HERBACEOUS PLANTS AND GRASSES AT THE DISCRETION OF THE LOCAL GOVERNMENT

PLASTIC OF AN OPEN WEAVE MESH, 4' TALL, 6" DIAMETER INSTALLED PER MANUFACTURER'S RECOMMENDATIONS SET EXPOSED ROOT FLARE 1" - 3" ABOVE FINISH GRADE

3" HARDWOOD MULCH ON ENTIRE PLANTING PIT EXCEPT KEEP MULCH 3" AWAY FROM TRUNK

REMOVE BURLAP, TWINE AND WIRE BASKET FROM AT LEAST THE TOP 1/2 OF ROOT BALL; REMOVE ALL SYNTHETIC TWINE AND SYNTHETIC BURLAP - SLOPE SIDES OF PLANTING PIT AND SCARIFY THE SIDES

MAINTENANCE PLAN:

- NOT OCCUR.

MONITORING AND REQUIRED SURVIVAL:

BUFFER MANAGEMENT AND PROTECTION STANDARDS:

- PHONE: ______ EMAIL: ____

CERTIFICATION:

I CERTIFY THAT THE INFORMATION SUBMITTED ON THIS PLAN AND FORM IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I UNDERSTAND THAT LOCAL GOVERNMENT PERSONNEL WILL CONTACT ME AND ARRANGE TO INSPECT THE WORK. I WILL ABIDE BY THIS PLAN AS SUBMITTED AND APPROVED AND WILL NOT CONDUCT ANY WORK BEYOND THE LIMITS OF THIS PLAN.

OWNER SIGNATURE INSPECTION AGREEMENT:

STAFF NAME

INSPECTING THE PLANTINGS AT THE APPROPRIATE TIMES.

OWNER SIGNATURE BUFFER MANAGEMENT PLAN APPROVAL:





<u>QTY</u>

10

<u>QTY</u>

4

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23



329343-09

NOT TO SCALE 329333-13

1. MONITOR THE PLANTINGS TWICE WEEKLY TO REDUCE TRANSPLANT STRESS FROM WATER DEFICIENCY NUTRIENT DEFICIENCY, INVASIVE SPECIES COMPETITION, PEST DAMAGE, AND DISEASE. 2. WATER AS NECESSARY BUT AT LEAST ONCE EVERY TEN DAYS WITHOUT RAINFALL FROM MAY THROUGH SEPTEMBER, DEPENDING ON SOIL MOISTURE LEVELS. MONITOR TO ENSURE THAT OVERWATERING DOES

3. IF NEEDED, USE A LOW NITROGEN, SLOW RELEASE FERTILIZER IN LATE FALL OR EARLY SPRING. 4. TWO YEARS FROM THE PLANTING DATE, THE PLANTINGS SHALL BE INSPECTED AND ASSESSED TO DETERMINE THE NEED FOR REPLACEMENT PLANTINGS.

1. THE PLANTING AREA WILL BE MONITORED FOR TWO YEARS FROM THE PLANTING DATE. SURVIVAL OF ALL PLANTS IS REQUIRED. ANY PLANTS THAT DO NOT SURVIVE MUST BE REPLACED. 2. IF THE LOCAL GOVERNMENT DETERMINES THAT THE SURVIVAL IS NOT ADEQUATE, THE MONITORING PERIOD

MAY BE EXTENDED, AND ADDITIONAL INSPECTIONS REQUIRED AT THE LOCAL GOVERNMENT'S DISCRETION.

1. REMOVAL OF NATURAL VEGETATION WITHIN THE BUFFER AND EXPANDED BUFFER IS PROHIBITED. CUTTING, CLEARING, PRUNING, AND REMOVAL OF INVASIVE OR NOXIOUS VEGETATION ARE PERMITTED ONLY IN ACCORDANCE WITH AND AS SHOWN ON THIS BUFFER MANAGEMENT PLAN.

2. THE BUFFER AND EXPANDED BUFFER ON THIS PROPERTY SHALL BE PLANTED IN ACCORDANCE WITH THIS BUFFER MANAGEMENT PLAN. ALL EXISTING AND PLANTED VEGETATION WITHIN THE BUFFER SHALL BE PERMANENTLY MAINTAINED AND MAY NOT BE CUT, CLEARED, OR REMOVED. SURVIVAL OF THE NEW PLANTINGS SHALL BE AS DESCRIBED IN THE MONITORING AND REQUIRED SURVIVAL NOTES.

3. NEW LAWN AREAS SHALL NOT BE CREATED WITHIN THE BUFFER AND EXPANDED BUFFER UNLESS SPECIAL CIRCUMSTANCES EXIST, AND THEY ARE SPECIFICALLY ADDRESSED IN THIS BUFFER MANAGEMENT PLAN. 4. THIS BUFFER MANAGEMENT PLAN MAY BE AMENDED OR MODIFIED, SUBJECT TO APPROVAL BY THE LOCAL GOVERNMENT. ADDITIONAL INFORMATION CAN BE OBTAINED FROM THE PLANNING AND ZONING OFFICE AT:

DATE

DATE

, THE OWNER OF THE SUBJECT PROPERTY ADDRESSED HEREIN, DO HEREBY GRANT PERMISSION TO THE APPROVING AUTHORITY TO ACCESS MY PROPERTY FOR THE PURPOSE OF

THIS BUFFER MANAGEMENT PLAN HAS BEEN REVIEWED AND APPROVED FOR CONSISTENCY WITH THE LOCAL CRITICAL AREA PROGRAM AND THE PROVISIONS OF COMAR 27.01.09.01-1-8.

CRITICAL ONSITE QA 2 * Quercus alba QC 2 * Quercus coccined QM 2 * Quercus marilar AA 8 Aronia arbuitfolia RC 6 * Rhododendron c RG 7 Rhus glabra SE 3 * Sambucus canad VS 9 * Vaccinum stamin VM 23 VM Criburnum acerifoli OFFSITE CC 9 Cercis canadensis TD 7 *Taxodium distichu* TD 3 * Taxodium distichu CO 5 * Cephalanthus occ CA 4 * Clethra alnifolia

			— N			
BOTANICAL / COMMON NAME	<u>CONT</u>	CAL	Å			
CERCIS CANADENSIS / EASTERN REDBUD SINGLE STEM	B & B	0.75"CAL		A. M	ORTON THOM CONSULT	IAS AND ASSOCIATES, INC. TING ENGINEERS
QUERCUS ALBA / WHITE OAK	B & B	2"CAL		700 PHC	KING FARM E ROCKV NE (301) 881-	3OULEVARD, 3RD FLOOR /ILLE, MD 20850 /2545 FAX (301) 881-0814
QUERCUS COCCINEA / SCARLET OAK	B & B	2"CAL		EN	Mail: Amt1@A	AMTENGINEERING.COM
QUERCUS MARILANDICA / BLACKJACK OAK	B & B	2"CAL				
TAXODIUM DISTICHUM / BALD CYPRESS	B & B	2"CAL				
BOTANICAL / COMMON NAME	<u>CONT</u> 5 GAL					
CEPHALANTHUS OCCIDENTALIS / BUTTONBUSH	5 GAI					
CLETHRA ALNIFOLIA / SUMMERSWEET	5 GAL					
RHODODENDRON CANESCENS / WILD AZALEA	5 GAL					
RHUS GLABRA / SMOOTH SUMAC	5 GAL					
SAMBUCUS CANADENSIS / AMERICAN ELDERBERR	Y 5 GAL			REGIS	TRATION S	TAMP
VACCINIUM STAMINEUM / DEERBERRY	5 GAL				Sutter State	OF MAD'
VIBURNUM ACERIFOLIUM / MAPLELEAF VIBURNUM	5 GAL				S H	MARIE
					AND	
					N-0 CA	e ARCHUIDAU 16(2023
TICAL AREA MITIGATION PLANT LIST	MITIGATIO	DN TOTAL	-	"I HEREBY	PROFESS CERTIFY THAT TH	IONAL CERTIFICATION HESE DOCUMENTS WERE PREPARED OR
a White oak 2" Cal., B&B ccinea Scarlet oak 2" Cal., B&B	350 350	700		API L	PROVED BY ME, A PROFESSIC THE LAWS OF ICENSE NO. 3256	AND THAT I AM A DULY LICENSED DNAL ENGINEER UNDER THE STATE OF MARYLAND." 1 EXPIRATION DATE 01-06-2024
rilandica Blackjack oak 2" Cal., B&B itfolia Red chokeberry 5 GAL.	350 50	700 400		PROJE	СТ	
ron canescensWild azalea5 GAL.Smooth sumac5 GAL.	cluster wit	h shade trees: 350		HIST	ORIC S	T. MARY'S CITY
anadensisAmerican elderberry5 GAL.amineumDeerberry5 GAL.amife lineMarkelese fille5 Object	- cluster wit	h shade trees		STAT	EHOU	SE ACCESSIBLE
densis Eastern Bodbud 75" Cal. B&I	MITIGATIO	1150 DN TOTAL 675			RES	TROOM
istichum Bald Cypress 2" Cal., B&B	200	1400		47418	OLD S	TATE HOUSE RD.
<i>us occidentalis</i> Buttonbush 5 GAL. <i>folia</i> Summersweet 5 GAL.	cluster wit	h shade trees: h shade trees		ST.N	/IARY'S	CITY, MD 20686
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DGS No. P-006-201-010 MDE (E&S) No. 22-SF-0139	FAP #: STP-CXXXX	XX STATE	Find States PROJECT #: MD-XX-XX	SHE	ET 1:	2 OF 12

DIVISION 1 - GENERAL REQUIREMENTS

THE STRUCTURAL DRAWINGS INDICATE THE FINAL CONDITION/CONFIGURATION OF THE BUILDING STRUCTURE. MEANS AND METHODS USED BY THE CONTRACTOR TO ACHIEVE THE FINAL CONDITION/CONFIGURATION OF THE BUILDING STRUCTURE ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

STRUCTURAL DETAILS SHOW BASIC STRUCTURAL CONDITIONS. IT IS INTENDED THAT THESE DRAWINGS BE USED IN CONJUNCTION WITH THE CONTRACT DOCUMENTS FROM ALL DISCIPLINES. STRUCTURAL WORK MUST BE COORDINATED WITH THE DOCUMENTS OF THE OTHER DISCIPLINES CONTAINED IN THE CONTRACT SET.

SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS SHALL BE SUBMITTED BY THE CONTRACTOR.

WHEN THE STRUCTURAL CONTRACT DOCUMENTS HAVE BEEN REPRODUCED FOR SHOP DRAWING PREPARATION THE COMPANY WHICH PREPARED THE SHOP DRAWINGS SHALL ASSUME THE SOLE RESPONSIBILITY FOR ALL STRUCTURAL INFORMATION SHOWN ON THE SHOP DRAWINGS AS IF THEY WERE PREPARED BY THAT COMPANY. THE COMPANY PREPARING THESE SHOP DRAWINGS SHALL CHECK ALL DIMENSIONS, ELEVATIONS, AND OTHER STRUCTURAL INFORMATION IN THE REPRODUCED CONTRACT DOCUMENTS.

AT THE TIME OF SHOP DRAWING SUBMISSION THE CONTRACTOR SHALL STATE IN WRITING ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS BEFORE SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY. THE CONTRACTOR SHALL ALLOW A MINIMUM OF 10 WORKING DAYS FOR STRUCTURAL

REVIEW OF SHOP DRAWINGS LOADS GREATER THAN THE DESIGN LIVE LOADS SHALL NOT BE PLACED ON THE

STRUCTURE DURING OR AFTER CONSTRUCTION. SEE MECHANICAL OR ARCHITECTURAL DRAWINGS FOR HOLES IN SLABS NOT SHOWN.

THE TERM DELEGATED DESIGN SHALL MEAN THAT THE SELECTED BUILDING COMPONENT IS DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER REGISTERED IN THE LOCAL JUSRISDICTION. DESIGN CALCULATIONS AND SHOP DRAWINGS FOR THE SELECTED BUILDING COMPONENTS SHALL BE SIGNED AND SEALED AND SUBMITTED FOR REVIEW. THE DELEGATED DESIGN ENGINEER SHALL SUBMIT A CERTIFICATE OF LIABILITY INSURANCE WITH THE SIGNED AND SEALED CALCULATIONS AND SHOP DRAWINGS.

CONTRACTOR SHALL HAVE ALL TEMPORARY FORMWORK, SHEETING, SHORING, AND UNDERPINNING, ETC., NECESSARY TO CONSTRUCT THE STRUCTURE DESIGNED BY A QUALIFIED REGISTERED ENGINEER REGISTERED IN THE LOCAL JURISDICTION. THE CONTRACTOR SHALL SUBMIT ONE COPY OF ALL TEMPORARY FORMWORK, SHEETING, SHORING, UNDERPINNING, ETC., SIGNED AND SEALED BY THE REGISTERED ENGINEER ALONG WITH A CERTIFICATE OF PROFESSIONAL LIABILITY INSURANCE FOR THE QUALIFIED REGISTERED ENGINEER. THIS SUBMISSION WILL NOT BE A SHOP DRAWING SUBMITTED FOR

REVIEW. THIS SUBMISSION WILL BE FOR RECORD PURPOSES TO DEMONSTRATE THE DESIGN HAS BEEN PERFORMED BY A REGISTERED PROFESSIONAL ENGINEER. ADVANCED CONSULTING ENGINEERS, P.A. WILL NOT BE RESPONSIBLE FOR TEMPORARY

FORMWORK, SHEETING, SHORING, UNDERPINNING, ETC. NECESSARY TO INSTALL WORK CONTAINED WITHIN THESE DOCUMENTS. ALL WORK SPECIFIED HEREIN SHALL BE INSPECTED IN ACCORDANCE WITH THE BUILDING

CODE, ALL LOCAL ORDINANCES AND THE CONTRACT DOCUMENTS. ALL INSPECTION WORK MUST BE PERFORMED UNDER THE DIRECT SUPERVISION OF AN ENGINEER REGISTERED IN THE LOCAL JURISDICTION.

ADVANCED CONSULTING ENGINEERS, P.A., WILL NOT PERFORM THE REQUIRED INSPECTION AS PART OF THEIR DESIGN SERVICE. ADVANCED CONSULTING ENGINEERS, P.A., MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS BUT, SUCH VISITS ARE NOT BE CONSTRUED AS MEETING INSPECTION REQUIREMENTS.

ALL RAILINGS, GLASS, AND EXTERIOR CEILINGS SHALL BE DESIGNED FOR LOADS INDICATED ON THE DRAWINGS AND IN THE LOCAL BUILDING CODE. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND STAMPED BY REGISTERED PROFESSIONAL ENGINEER REGISTERED IN THE LOCAL JURISDICTION.

THE CONTRACTOR SHALL SUBMIT PLANS SHOWING ALL PENETRATIONS THROUGH THE FRAMED SLABS. THE OPENINGS SHALL BE ACCURATELY LOCATED, SIZED, AND DIMENSIONED.

DESIGN CRITERIA: BUILDING CODE: IBC 2018 WITH LOCAL AMENDMENTS

SEISMIC: I_E = 1.0

OCCUPANCY CATEGORY: I

- SITE CLASS: D $S_{S} = 0.113$
- $S_1 = 0.041$ $S_{DS} = 0.121$
- $S_{D1} = 0.066$ R = 2 FOR ORDINARY REINFORCED MASONRY SHEAR WALLS $C_{\rm S} = 0.010$

SEISMIC DESIGN CATEGORY: A SEISMIC FORCE RESISTING SYSTEM: ORDINARY REINFORCED MASONRY SHEAR WALLS DESIGN BASE SHEAR = 1 K ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

- WIND V = 114 MPH
- EXPOSURE: C APPLICABLE INTERNAL PRESSURE COEFFICIENTS: +/- 0.18 COMPONENTS AND CLADDING PRESSURES:
- ± 25.8 PSF MINIMUM ZONE 4(OVER 1000 SQ FT TRIBUTARY AREA) ± 25.8 PSF MINIMUM – ZONE 5(OVER 1000 SQ FT TRIBUTARY AREA) ± 33.7 PSF MAXIMUM – ZONE 4(UNDER 10 SQ FT TRIBUTARY AREA)
- ± 41.8 PSF MAXIMUM ZONE 5(UNDER 10 SQ FT TRIBUTARY AREA) SNOW:
- $P_g = 20 PSF$ l_s = 1.0 C_E = 1.0
- C⊤ = 1.0 P_F = 13.0 PSF
- LIVE LOADS: ROOF = 30 PSF (MINIMUM).
- FLOORS = 100 PSFDEAD LOADS:
- ROOF = 25 PSFFLOOR DEAD = 85 PSF (INCLUDING FLOOR FINISH, 6" CONCRETE SLAB, METAL DECK, MEP, CEILING, AND MISCELLANEOUS.)

FOOTINGS ARE DESIGNED FOR AN ASSUMED BEARING CAPACITY OF 2,000 PSF. FOOTINGS SHALL BEAR ON NATURAL UNDISTURBED SOIL, 1'-0" BELOW ORIGINAL GRADE OR ON ENGINEERED CONTROLLED FILL AS SPECIFIED BY A GEOTECHNICAL ENGINEER. BOTTOM OF EXTERIOR FOOTING SHALL BE A LOCATED AT A MINIMUM DEPTH TO MEET LOCAL

JURISDICTION REQUIREMENTS FOR FROST PROTECTION. THE SOIL BEARING PRESSURE SHALL BE VERIFIED BY QUALIFIED INSPECTORS. IF BEARING CAPACITY IS FOUND TO BE LESS THAN THE CAPACITY ABOVE, THE FOOTINGS WILL HAVE TO BE REDESIGNED. THE CONTRACTOR SHALL PROVIDE FROST PROTECTION FOR ALL FOUNDATION SUBGRADES

DURING CONSTRUCTION. NO FOOTINGS SHALL BE CAST ON FROZEN SUB-GRADE MATERIAL. FROST PROTECTION SHALL BE MAINTAINED AFTER THE FOOTINGS HAVE BEEN CAST TO INSURE THAT NO BEARING MATERIAL BECOMES FROZEN PRIOR TO BACK-FILLING. ALL FILL UNDER SLABS ON GROUND SHALL BE COARSE GRANULAR MATERIAL COMPACTED

IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. ALL SLABS ON GROUND SHALL BE POURED CONTINUOUSLY TO FORM RELATIVELY SQUARE AREAS NOT EXCEEDING 225 SQUARE FEET.

DO NOT BACKFILL AGAINST FOUNDATION WALLS UNTIL SUPPORTING SLABS ARE IN PLACE AND HAVE ATTAINED REQUIRED STRENGTH. IF A WALL REQUIRES BACKFILLING PRIOR TO PLACEMENT OF SUPPORTING SLAB THE CONTRACTOR SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER REGISTERED IN THE LOCAL JURISDICTION TO DESIGN BRACING. BRACE THE WALL UNTIL THE SLAB IS IN PLACE AND HAS ACHIEVED DESIGN STRENGTH. **DIVISION 3 - CONCRETE**

SLABS ON GROUND SHALL BE 4" THICK CONCRETE REINFORCED WITH 6"X6" W1.4XW1.4 WWF OVER VAPOR BARRIER AND 4" WASHED GRAVEL UNLESS OTHERWISE NOTED. SEE SPECIFICATIONS FOR VAPOR BARRIER. SEE GEOTECHNICAL REPORT FOR WASHED GRAVEL SPECIFICATION.

WELDED WIRE FABRIC SHALL HAVE ENDS LAPPED ONE FULL MESH AND SHALL EXTEND INTO SUPPORTING BEAMS OR WALLS EXCEPT AT SLABS ON GROUND.

ALL SPLICES IN REINFORCING SHALL BE CLASS "B" SPLICES IN ACCORDANCE WITH ACI-318 (LATEST LOCAL APPROVED EDITION) EXCEPT AS NOTED IN THE PLANS. BEND HORIZONTAL WALL REINFORCING 1'-0" MINIMUM AROUND ALL CORNERS OR PROVIDE 4'-0" LONG CORNER BARS TO MATCH HORIZONTAL REINFORCING.

ALL CONCRETE NOT EXPOSED TO WEATHER SHALL BE F'C = 3,000 PSI, NORMAL WEIGHT CONCRETE AT 28 DAYS UNLESS NOTED OTHERWISE ON THE PLANS. ALL CONCRETE EXPOSED TO WEATHER SHALL BE F'C = 4500 PSI, NORMAL WEIGHT, AIR-

ENTRAINED CONCRETE AT 28 DAYS UNLESS NOTED OTHERWISE ON THE PLANS. ALL REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL CONFORMING TO ASTM DESIGNATION A-615 (LATEST LOCAL APPROVED EDITION), FY=60,000 PSI). ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE ACI'S "MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES" (ACI-315,

LATEST LOCAL APPROVED EDITION). UNLESS OTHERWISE NOTED IN STRUCTURAL DRAWINGS, PROVIDE CONCRETE PROTECTION FOR REINFORCING AS FOLLOWS:

CAST AGAINST EARTH ------ 3" EXPOSED TO EARTH OR WEATHER: NO.6 AND LARGER BARS ------ 2" NO.5 AND SMALLER BARS ------ 1-1/2"

APPROVED EDITION).

ACI-318

ACI-214

ACI-211

ACI-304

NOT EXPOSED TO EARTH OR WEATHER: SLABS, WALLS, JOISTS ------ 3/4" BEAMS, GIRDERS, COLUMNS ------ 1-1/2" TO TIES, STIRRUPS, OR SPIRALS

ALL FORMWORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "FORMWORK FOR CONCRETE", SPECIAL PUBLICATION NO.4 AND ACI'S "STANDARD RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" (ACI-347, LATEST LOCAL

ALL CONCRETE WORK SHALL CONFORM TO THE LATEST APPROVED (BY LOCAL GOVERNMENT) EDITIONS OF THE FOLLOWING A.C.I. AND A.S.T.M. DOCUMENTS:

SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS ACI-301 CODE COMPRESSION TESTS ACI-306 COLD WEATHER ACI-315 DETAILING ACI-347 FORMWORK HOT WEATHER ACI-305

PROPORTIONS OF CONCRETE PLACING CONCRETE ASTM-C94 READY-MIX CONCRETE

ALL FIELD AND LAB TESTING OF CONCRETE SHALL CONFORM TO THE LATEST APPROVED (BY LOCAL GOVERNMENT) EDITIONS OF ASTM: ASTM C-31 FIELD CYLINDER SPECIMENS

ASTM C-143 SLUMP TEST ASTM C-231 AIR CONTENT (WHEN REQUIRED) ASTM C-39 LAB TESTING CYLINDERS

CONTENT IS STRICTLY PROHIBITED.

ASTM C-172 SAMPLING FRESH CONCRETE ASTM C-42 HARDENED CORES (WHEN REQUIRED)

WHEN APPLICABLE THE CONTRACTOR SHALL HAVE AT THE SITE A FORMWORK PLAN SHOWING SIZES AND STRENGTHS OF FORMWORK, SEQUENCE OF CONSTRUCTION, AND DETAILED PLANS OF FORMWORK REMOVAL AND RESHORING. THE FORMWORK PLAN SHALL BE SIGNED AND STAMPED BY AN ENGINEER REGISTERED IN THE LOCAL JURISDICTION.

A CONCRETE STRUCTURE MAY NOT SUPPORT ITS DESIGN LIVE LOAD FOR 28 DAYS. CONTRACTOR MUST SUBMIT A CONCRETE DESIGN MIX IN ACCORDANCE WITH ACI-318 (LATEST LOCAL APPROVED EDITION). SUCH DESIGN MIX SHALL BE ACCOMPANIED BY THE APPROPRIATE GRAPHS AND BACKGROUND DATA. CONCRETE DESIGN MIX SHALL INDICATE 7 AND 28 DAY STRENGTHS, CEMENT CONTENT AND WATER CEMENT RATIO, FINE AND COARSE AGGREGATES AND ADMIXTURES FOR EACH DESIGN STRENGTH. THE ADDITION OF WATER AT THE PLANT OR IN THE FIELD GREATER THAN 1% MORE THAN THE SPECIFIED WATER

DIVISION 4 – MASONRY

ALL CONCRETE MASONRY SHALL CONFORM TO THE LATEST EDITION OF ASTM SPECIFICATIONS C90 AND C145. ALL MORTAR SHALL CONFORM TO ASTM C270 AND SHALL BE TYPE "S" MINIMUM. ALL BRICK AND MASONRY CONSTRUCTION SHALL BE PROVIDED WITH STANDARD GALVANIZED "DUR-O-WAL" OR EQUAL HORIZONTAL JOINT REINFORCING AT 16" O/C UNLESS HEAVIER REINFORCING IS NOTED ON THE DRAWINGS. CALCIUM CHLORIDE AND OTHER CHLORIDES MAY NOT BE USED AS ADMIXTURES. ALL MASONRY CONSTRUCTION MUST BE PROTECTED FROM FREEZING. THE REQUIREMENTS OF THE "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI 530.1 - LATEST EDITION) SHALL BE FOLLOWED. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476 WITH A MINIMUM STRENGTH OF 2500 PSI. PRIOR TO CONSTRUCTION A MIX DESIGN OF THE GROUT SHALL BE SUBMITTED WITH COMPRESSIVE STRENGTH TESTS PERFORMED IN ACCORDANCE WITH ASTM C1019.

CONCRETE MASONRY WALLS ARE TO HAVE CONTROL JOINTS AT NO MORE THAN 20'-0" O.C. MAXIMUM. REFER TO THE ARCHITECTURAL DRAWINGS FOR LOCATIONS, U.N.O.

THE MINIMUM REQUIRED COMPRESSIVE STRENGTH (F'M AT 28 DAYS) OF BRICK MASONRY CONSTRUCTION, CONCRETE MASONRY CONSTRUCTION, AND BRICK AND CONCRETE MASONRY CONSTRUCTION IS AS FOLLOWS:

MIN. REQUIRED F'M AT 28 DAYS 2000 PSI. (MIN. CMU BLOCK COMPRESSIVE STRENGTH OF 2,800 PSI).

PROVIDE 8" MINIMUM BRICK OR 100% SOLID MASONRY BELOW ALL BEARING LINES. PROVIDE 16" MINIMUM BRICK OR 100% SOLID MASONRY BELOW ALL LINTELS AND/OR MINOR WALL BEARING BEAMS. BRICK PIERS SHALL BE FULLY BONDED INTO ADJACENT WALLS. NO BRICK AT EXPOSED CMU WALLS. LINTEL SCHEDULE:

LINTELS OVER OPENINGS IN MASONRY PARTITIONS NOT OTHERWISE SPECIFIED SHALL BE LOOSE ANGLE LINTELS AS FOLLOWS FOR EACH 4" WIDTH:

0'-0" TO 3'-0" 3-1/2" x 3-1/2" x 3/8" ANGLE 3'-1" TO 5'-0" 4" x 3-1/2" x 3/8" ANGLE 5'-1" TO 6'-0" 5" x 3-1/2" x 3/8" ANGLE 6'-1" TO 8'-0" W8x18 + HUNG PLATE WITH 3/8"x7"x7" BEARING PLATE EACH END

ALL ANGLES SHALL HAVE THEIR SHORT LEG HORIZONTAL AND 6" MINIMUM BEARING ON MASONRY. PROVIDE 4" MINIMUM OF BEARING IF THE ANGLE IS SUPPORTED BY A STEEL BEAM OR STEEL COLUMN. FOR 6" CMU MASONRY PARTITIONS REINFORCED CMU LINTELS MAY BE USED FOR OPENINGS UP TO 10'-0".

DIVISION 5 – METAL DECKING, STEEL JOISTS, STRUCTURAL STEEL, AND COLD-FORMED STEEL

PROVIDE G60 GALVANIZED ROOF DECK UNLESS OTHERWISE NOTED.

WELD WASHERS ARE REQUIRED FOR ANY UNCOATED DECK THICKNESS OF LESS THAN .028" OR 22 GAGE.

DO NOT SUPPORT LIGHTS, SPRINKLERS, PIPES, CEILING, ETC FROM THE METAL FLOOR DECK OR METAL ROOF DECK.

POUR STOPS, SCREED ANGLES, ETC., ARE TO BE PROVIDED AT SLAB POUR EDGES AND AS REQUIRED TO PREVENT THE CONCRETE FROM LEAKING THROUGH THE FORMS. THE EDGE OF DECK, FLOOR AND ROOF SHALL BE COORDINATED WITH THE CONTRACT DOCUMENTS BY THE CONTRACTOR.

ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM SPECIFICATION A36, A992, A500, OR A53 (CODE APPLICABLE EDITION), FOR WHICH MILL TEST REPORTS SHALL BE SUBMITTED TO THE ARCHITECT. ALL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE AISC MANUAL, AISC SPECIFICATION AND AISC CODE OF STANDARD PRACTICE. ALL CONNECTIONS SHALL DEVELOP THE FULL STRENGTH OF THE BEAM. IN GENERAL, FIELD CONNECTIONS SHALL BE MADE WITH 3/4" A-325 HIGH TENSILE BOLTS AND WASHERS UNLESS OTHERWISE NOTED, BOLTS SHALL BE SNUG TIGHT, AND SHOP CONNECTIONS SHALL BE WELDED. ALL STEEL SHALL BE FABRICATED WITH NATURAL CAMBER UP.

ALL STRUCTURAL STEEL GRADES ARE AS FOLLOWS UNLESS NOTED OTHERWISE: WIDE-FLANGE SHAPES FY=50 KSI ASTM A992 EV=36 KSI ASTM A36 ANGLES, CHANNELS & PLATES TUBES, COLD FORMED FY=46 KSI ASTM A500 GRADE B FY=35 KSI ASTM A53 GRADE B PIPES, HOT FORMED

ALL WELDING AND WELD INSPECTION SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING CODE - STEEL", AWS D1.1 (LATEST LOCAL APPROVED) OF THE AMERICAN WELDING SOCIETY, THESE WELDS SHALL BE MADE ONLY BY OPERATORS QUALIFIED BY PRESCRIBED TESTS IN THE "STRUCTURAL WELDING CODE IN BUILDING CONSTRUCTION" OF THE AMERICAN WELDING SOCIETY. ACCEPTANCE OF THE WELDS TO BE SUBJECT TO THE INSPECTION AND REVIEW OF AN AWS QUALIFIED INSPECTOR.

CONNECTIONS DETAILED BY THE FABRICATOR SHALL MEET THE FOLLOWING REQUIREMENTS:

- ALL CONNECTIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER IN THE LOCAL JURISDICTION. THE DESIGN OF THE STEEL CONNECTIONS IS CONSIDERED DELEGATED DESIGN. SUBMIT SIGNED AND SEALED CALCULATIONS AND SIGNED AND SEALED STEEL SHOP DRAWINGS.
- BCONNECTIONS MAY BE DESIGNED AND DETAILED IN ACCORDANCE WITH PART 10 OF THE AISC MANUAL – 13TH EDITION.
- WHERE BEARING TYPE CONNECTIONS ARE SPECIFIED. SHEAR VALUES FOR THREADS INCLUDED IN THE SHEAR PLANE SHALL BE USED, EXCEPT AS FOLLOWS: SPECIAL CONNECTIONS FOR REACTIONS EXCEEDING 45 KIPS MAY BE DESIGNED AND DETAILED USING LARGE DIAMETER BOLTS AND/OR HIGHER STRENGTH BOLTS AND/OR BOLT STRENGTHS FOR THREADS EXCLUDED FROM THE SHEAR PLANE.
- BOLTS IN MOMENT RESISTING CONNECTIONS SHALL BE SLIP CRITICAL TYPE. BEAMS FRAMING INTO THE WEAK AXIS OF THE COLUMN SHALL FRAME DIRECTLY INTO THE WEB OF THE COLUMN WHENEVER POSSIBLE.

ALL STRUCTURAL STEEL SHALL BE SHOP PAINTED WITH A RUST INHIBITIVE PRIMER (RED OXIDE). IT WILL NOT BE NECESSARY TO MASK OUT AREAS FOR WELDING. IT WILL BE NECESSARY TO MASK OUT AREAS FOR FRICTION TYPE BOLTED CONNECTIONS.

THE SYMBOL I01 ADJACENT TO A BEAM OR PORTIONS OF A BEAM INDICATES THE NUMBER OF 3/4" DIAMETER HEADED STUDS TO BE WELDED TO THE TOP OF THE BEAM OR PORTION OF THE BEAM. STUDS SHALL EXTEND 1-1/2" ABOVE THE DECK AFTER INSTALLATION. THE NUMBER OF STUDS HAS BEEN DETERMINED IN ACCORDANCE WITH SECTION 13 OF THE AISC SPECIFICATION (AISC 360-05).

ø	DIAMETER	LLH	LONG LEG HORIZONTAL
AHU	AIR HANDLING UNIT	LLV	LONG LEG VERTICAL
ARCH.	ARCHITECTURAL	MAX.	MAXIMUM
B.O.S.	BOTTOM OF STEEL	MECH.	MECHANICAL
BOTT	воттом	MIN.	MINIMUM
BP	BEARING PLATE, BASE PLATE	N.W.	NORMAL WEIGHT (CONCRETE)
CFS	COLD FORMED STEEL	0.C.	ON CENTER
C.J.	CONTRACTION JOINT	PCF	POUNDS PER CUBIC FOOT
CL	CENTERLINE	PL.	PLATE
CONC	CONCRETE	PLF	POUNDS PER LINEAL FOOT
CONT.	CONTINUOUS	PSF	POUNDS PER SQUARE FOOT
CMU	CONCRETE MASONRY UNIT	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	REINF	REINFORCED, REINFORCEMENT
DN	DOWN	REQ'D	REQUIRED
E.F.	EACH FACE	RTU	ROOF TOP UNIT
E.J.	EXPANSION JOINT	SCJ	SLAB CONTRACTION JOINT
EL.	ELEVATION	SIM	SIMILAR
ELEV.	ELEVATION	S.O.G.	SLAB ON GRADE
E.O.S.	EDGE OF SLAB	T.O.S.	TOP OF STEEL
EQ.	EQUAL	TYP.	TYPICAL
E.W.	EACH WAY	U.N.O.	UNLESS NOTED OTHERWISE
EX.	EXISTING	VERT	VERTICAL
FT.	FOOT	V.I.F.	VERIFY IN FIELD
FTG	FOOTING	w/	WITH
GA	GAGE	HBE	HEADER BY CFS ENGINEER
HORIZ	HORIZONTAL		
IN.	INCH		
KSF	KIPS PER SQUARE FOOT		
KSI	KIPS PER SQUARE INCH		
LLH	LONG LEG HORIZONTAL		

DIVISION 6 - STRUCTURAL WOOD PRODUCTS

ALL WOOD PRODUCTS SHALL BE FIRE RETARDANT TREATED (FRT) PER THE ARCHITECT APPROPRIATE FASTENERS SHALL BE USED TO RESIST CORROSIVE REACTION FROM TREATMENT.

WOOD TRUSS NOTES:

PREENGINEERED WOOD TRUSSES SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE DESIGN SPECIFICATION FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES TPI1-02 AND BRACING OF WOOD TRUSSES: COMMENTARY AND RECOMMENDATIONS BCSI-1 AS PUBLISHED BY TPI AND WTCA AND IN ACCORDANCE WITH THE 2005 EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. PROVIDE ANCHORAGE AS INDICATED ON THE DRAWINGS, BUT IN NO CASE SHALL THE ANCHORAGE FOR EACH TRUSS BE LESS THAN ONE SIMPSON H7Z TIE OR PROVIDE UPLIFT CAPACITY TO RESIST THE UPLIFTS SHOWN ON THE TRUSS SHOP DRAWINGS IF THESE UPLIFTS EXCEED THE CAPACITY OF THE TIES INDICATED ON THESE DRAWINGS. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL OVER BUILT ROOF FRAMING IS TO BE OF PREENGINEERED WOOD TRUSSES.

PREENGINEERED WOOD TRUSSES AND WOOD TRUSS JOISTS ARE TO BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE LOCAL JURISDICTION. SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED FOR REVIEW. FOR SPECIFIC LOADS AND LOADING CONDITIONS, SEE THE PLANS AND DIVISION 1 NOTES. THE DESIGN OF WOOD TRUSSES SHALL MEET OR EXCEED THE MINIMUM GRAVITY LOADS SET FORTH IN THESE DOCUMENTS AND THE MINIMUM WIND LOAD PER THE APPROPRIATE BUILDING CODE OR REFERENCED STANDARD.

C. ALL MEMBERS AND CONNECTIONS AND ATTACHMENTS MUST BE DESIGNED FOR THE APPROPRIATE DEAD, LIVE, AND WIND LOADS AND FOR ALL COMBINATIONS SPECIFIED IN THE 2010 BUILDING CODE OF NEW YORK STATE (INCLUDING WIND UPLIFT).

PREENGINEERED WOOD TRUSS MANUFACTURER MUST PROVIDE THE NECESSARY PERMANENT LATERAL BRIDGING/BRACING BETWEEN THE TRUSSES AND TO ADJACENT STRUCTURAL ELEMENTS THAT IS REQUIRED FOR INDIVIDUAL TRUSS MEMBERS (BASED ON HIS DESIGN OF THE MEMBERS) AND TO INSURE TRUSS STABILITY. THE PERMANENT BRACING PLAN MUST BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE LOCAL JURISDICTION AND ONE COPY SUBMITTED TO ADVANCED CONSULTING ENGINEERS FOR RECORD ONLY. ADVANCED CONSULTING ENGINEERS HAS INDICATED THE STRUCTURAL ELEMENTS OF THE OVERALL BUILDING LATERAL LOAD RESISTING SYSTEM AND GRAVITY LOAD SYSTEM AND THE PERMANENT ATTACHMENT OF THESE ELEMENTS TO ONE ANOTHER CONTRACTOR MUST PROVIDE THE NECESSARY TEMPORARY BRACING TO ASSURE TRUSS STABILITY DURING CONSTRUCTION AND UNTIL ALL PERMANENT BRIDGING/BRACING OF THE TRUSS MANUFACTURER IS IN PLACE AND UNTIL ALL OTHER PERMANENT STRUCTURAL ELEMENTS AND ATTACHMENTS ARE IN PLACE. NOTE THAT ADEQUATE BEARING FOR TRUSSES IS PART OF THE TRUSS MANUFACTURER'S DESIGN IN REGARD TO THE TRUSS. ANY HORIZONTAL DEFLECTIONS OF THE ROOF TRUSSES DUE TO THE TRUSS

CONFIGURATION (LE., SLOPED BOTTOM CHORD) SHALL BE ACCOUNTED FOR IN THE TRUSS CONNECTION DETAILS AND SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

ALLOWANCE SHALL BE MADE BY THE CONTRACTOR FOR POTENTIAL UPLIFT OF ROOF TRUSS BOTTOM CHORDS THAT MIGHT BE CAUSED BY DISTORTION OF THE TRUSS MEMBERS DUE TO VARIATIONS IN THE MOISTURE CONTENT OF THE TRUSS MEMBERS. ALL LUMBER FOR USE IN THE TRUSSES SHALL BE #2 SOUTHERN PINE (19 PERCENT

MAXIMUM MOISTURE CONTENT IN USE) OR BETTER.

H. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS COMPLETE WITH SIGNED AND SEALED ERECTION PLANS AND CALCULATIONS. SHOP DRAWINGS SHALL INDICATE THE SIZE AND CAPACITY OF ALL CONNECTOR PLATES. SHOP DRAWINGS ALSO INDICATE THE WOOD GRADE, MEMBER SIZES AND WEB CONFIGURATION OF ALL TRUSSES. SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE LOCAL JURISDICTION.

STRUCTURAL WOOD STUDS, JOISTS, BEAMS, AND COLUMNS SHALL BE SOUTHERN PINE NO.2 OR EQUAL. ALL FABRICATION, ERECTION, OTHER PROCEDURES, AND MINIMUM UNIT STRESSES SHALL CONFORM TO THE CURRENT "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION". WOOD EXPOSED TO THE EXTERIOR SHALL BE PRESSURE TREATED.

EXCEPT AS NOTED OTHERWISE, NAILING AND DETAILS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL BUILDING CODE AND THE AFPA'S NATIONAL DESIGN SPECIFICATION FOR STRESS-GRADE LUMBER AND ITS FASTENINGS. IN GENERAL, ALL JOISTS, AND/OR TRUSSES SHALL BE ANCHORED TO SUPPORTING MEMBERS WITH METAL FRAMING ANCHORS. PROVIDE CORNER BRACING AS REQUIRED BY THE IBC CODE. PROVIDE BRIDGING, BRACING, ETC., AS REQUIRED BY TRUSS JOISTS AND/OR TRUSS MANUFACTURER.

CONNECTORS SPECIFIED ON THE DOCUMENTS ARE TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS. SPECIAL ORDER DETAILS SUCH AS SKEW AND SLOPE ANGLES ARE THE RESPONSIBILITY OF THE CONTRACTOR. DETAILS SHALL BE COORDINATED WITH CONNECTION SUPPLIER. CONNECTORS OTHER THAN THOSE STATED ON THE DRAWINGS MAY BE SUBSTITUTED PROVIDED THEY MEET ALL MINIMUM ALLOWABLE LOADS OF THE SPECIFIED CONNECTOR. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION. SUBSTITUTION PROPOSALS SHALL CLEARLY INDICATE THE CONNECTOR LOCATION, MANUFACTURER AND MODEL NUMBER.

PROVIDE ERECTION BRACING FOR ROOF FRAMING TO INCLUDE STRUCTURAL BRACING, CROSS BRACING FOR BOTTOM CHORD BEARING, BOTTOM CHORD RESTRAINT, AND SWAY BRACING. USE IBC FOR NAILING SCHEDULE.

PLYWOOD - ROOF SHEATHING SHALL BE STANDARD APA RATED C-D 32/16 WITH EXTERIOR GLUE PLYWOOD WITH A NOMINAL THICKNESS OF 19/32". NAIL PLYWOOD TO TRUSSES WITH 8D NAILS AT 6" AT SHEET EDGES AND AT 12" AT ALL INTERMEDIATE TRUSSES.

SHEET LIST								
SHEET NUMBER SHEET NAME								
S100	GENERAL NOTES							
S101	S101 PLANS							
S102	S102 SECTIONS							
S103	TYPICAL DETAILS							

Submittal Type	Signed and Sealed by Registered Professional Engineer*	Review and Return	Review and Retained for Record
Shop Drawings			
Structural Steel Shep Drawing		Y	
Shear Stud Layout		 Λ	
Steel Joist Shop Drawing		N/A	
Steel Stair and Railing Shop Drawing (Delegated Design)	N/A	N/A	
Metal Deck Shop Drawing		X	
Architectural Precast Shop Drawing (Delegated Design)	N/A	N/A	
Structural Precast Shop Drawing (Delegated Design)	N/A	N/A	
Reinforcing Steel Shop Drawing		X	
Cold Formed Steel Shop Drawing used for load bearing members or to support exterior cladding (Delegated Design)	N/A	N/A	
Pre-engineered Wood Truss Layout and Shop Drawings (Delegated Design)	x	x	
Pre-engineered Cold Formed Steel Truss Layout and Shop Drawings (Delegated Design)	N 1/A	N //A	
	N/A	N/A	
Concrete Mix Designs		X	
Formwork Shop Drawing (Delegated Design)	X		X
Sheeting Shop Drawing (Delegated Design)	X		X
Shoring Shop Drawing (Delegated Design)	X		X
Mechanical, Electrical, Plumbing & Miscellaneous Penetration Layouts in Slabs, Beams, Walls, etc. (Horizontal and Vertical)		x	
Concrete Masonry Reinforcing Shop Drawing		X	
Concrete Masonry Mix and Grout Design		X	
Glass Storefront / Curtainwall System Shop Drawing (Delegated Design)	N//A	N//A	
Anchor Bolt / Embed Layout		X	
Product Certifications			
Structural Stack Mill Test Departs			v
Structural Steel Mill Test Reports			×
Welder Certifications (Estricator)			×
Welder Certifications (Fabricator)			×
High Strength Bolts			X
Fabricator Qualification Data			X
Frector Qualification Data			X
Aggregate Mill Test Report			X
Cement Mill Certificate			X
Structural Steel Connection Calculations	N/A	N/A	
Steel Stair & Connection Calculations	N/A	N/A	
Glass Storefront / Curtainwall System Calculations	N/A	N/A	
Miscellaneous Steel Calculations	X	X	
Architectural Precast Calculations (Delegated Design)	N/A	N/A	
Structural Precast Calculations (Delegated Design)	N/A	N/A	
Cold Formed Steel Calculations used for load bearing members or to support exterior cladding (Delegated Design)	N/A	N/A	
Pre-engineered Wood Truss Calculations (Delegated Design)	x	x	
Pre-engineered Cold Formed Steel Truss Calculations (Delegated Design)	X	x	
Formwork (Delegated Design)	X		X
Sheeting (Delegated Design)	X		X
Shoring (Delegated Design)	X		X

Delegated Design means that the submittal requires a seal of a registered professional engineer registered in the local jurisdiction. The registered professional

engineer must submit a certificate of proof of professional liability insurance with the shop drawing/calculation submittal. Review and Return means that the submittal will be reviewed and returned to the appropriate party.

Review and Retained for Record means that the submittal is for record purposes to confirm that the item has been designed and signed and sealed by a registere...





3 ROOF FRAMING PLAN 1/4" = 1'-0"

ROOF NOTES:

1. SEE ARCHITECTURAL DRAWINGS FOR ROOF SLOPES AND FINISH MATERIAL OVER PLYWOOD. PLYWOOD SHALL BE 19/32" THICK, APA RATED EXTERIOR GRADE, 32/16 SPAN RATING. 2. PWT DENOTES PREFABRICATED WOOD TRUSSES BY THE WOOD TRUSS FABRICATOR. SEE ADDITIONAL TRUSS NOTES ON S001. ALL WOOD TRUSS SHOP DRAWINGS AND CALCULATIONS ARE TO BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE LOCAL JURISDICTION AND DESIGNED FOR THE FOLLOWING MINIMUM LOADS.

CONCENTRATED LOADS FROM OTHER FRAMING OR EQUIPMENT SUPPORTED BY THE TRUSSES. TOP CHORD

LIVE LOAD 20 PSF MINIMUM SNOW LOAD 20 PSF + CODE REQUIRE DRIFTING LOADS DEAD LOAD 15 PSF (IN ADDITION TO THE SELF WEIGHT OF THE TRUSSES) BOTTOM CHORD

DEAD LOAD 10 PSF (IN ADDITION TO THE SELF WEIGHT OF THE TRUSSES) PREFABRICATED WOOD TRUSS DESIGN SHALL TAKE INTO ACCOUNT ALL UNIFORM AND CONCENTRATED LOADS FROM OTHER FRAMING OR EQUIPMENT SUPPORTED BY THE TRUSSES.

3. ALL NECESSARY FRAMING FOR INFILLS TO CREATE VALLEYS, HIPS, GABLES, ETC., IS TO BE SUPPLIED ALONG WITH ROOF TRUSSES BY ONE SOURCE. GABLES SHALL BE BUILT ON TOP OF TYPICAL TRUSSES TO ENSURE A UNIFORM LOAD ON THE EXISTING STRUCTURE. ANY CONVENTIONAL FRAMING REQUIRED FOR INFILLS SHALL HAVE COMPUTATIONS SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE LOCAL JURISDICTION. 4. TRUSS BEARING IS INDICATED THUS ON THE PLANS (+0'-0") AND IS MEASURED FROM TOP OF INTERIOR SLAB ON GROUND. TRUSS BEARING = (+19'-0") UNLESS NOTED OTHERWISE.

DENOTES REINFORCED CMU WALL.

SL1 L5x3-1/2x3/8" STEEL ANGLE LINTEL PER 4" NOMINAL WIIDTH.

<u>LEGEND</u>



4" CONCRETE SLAB ON 2" EPICORE MSR 20 GAGE DECK. TOTAL SLAB THICKNESS IS 6" U.N.O SEE FLOOR NOTE 1 FOR ADDITIONAL INFORMATION.

FORMED SLAB - 6" NORMAL WEIGHT CONCRETE (f'c = 4,000 psi, 145 pcf) WITH #4 BARS @ 8" o.c. LONGITUDINAL AND #4 BARS @ 12" o.c. TRANSVERSE BOTTOM. 4 3 19/32" THICK, APA RATED EXTERIOR GRADE PLYWOOD. NAIL PLYWOOD TO TRUSSES WITH 8D NAILS AT 6" AT SHEET EDGES AND AT 12" AT ALL INTERMEDIATE TRUSSES.

WITH 8D NAILS AT 6" AT SHEET EDGES AND AT 12" AT ALL INTERMEDIATE TRUSSES.



TYPICAL U.N.O.

#4 BARS @ 16" O.C. 6'-0" LONG. TOP REINFORCEMENT CENTERED OVER SUPPORT.



(3) #5 BOTTOM BARS IN 12" WIDE STRIP UNDER CMU PARTITION, TYP.

PREFABRICATED WOOD TRUSS DESIGN SHALL TAKE INTO ACCOUNT ALL UNIFORM AND



FLOOR NOTES:

DRAWING.

1. FLOOR SYSTEM #1 SHALL BE 4" NORMAL WEIGHT CONCRETE (F'C = 4000 PSI, 145 PCF) WITH 6"X6" W2.9XW2.9 WWF ON 2" 22 GAGE EPICORE MSR DECK-SHORED CONSTRUCTION. TOTAL SLAB THICKNESS SHALL BE 6" UNLESS NOTED OTHERWISE. DECK SHALL BE SHORED PER MANUFACTURERS RECCOMENDATIONS. SHORING IS DELEGATED DESIGN.

2. FLOOR SYSTEM #2 SHALL BE 6" FORMED NORMAL WEIGHT CONCRETE (F'C = 4500 PSI, 145 PCF) WITH #4 BARS AT 8" ON CENTER LONGITUDINALLY AND #4 BARS @ 12" ON CENTER TRANSVERSELY.

3. TOP OF FLOOR SLAB ELEVATION IS PER THE ARCHITECT. SEE ARCHITECTURAL DRAWINGS FOR FLOOR SLAB ELEVATIONS.

4. ALL LOAD BEARING WALLS SHALL BE 8" CMU WALLS. 5. COORDINATE DECK LAYOUT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING

6. COORDINATE ALL OPENINGS THROUGH DECK WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS. FRAME ALL SLAB OPENINGS WITH REINFORCING BARS PER TYPICAL DETAILS.

7. SEE ARCHITECTURAL PLANS FOR ALL WALL LOCATIONS.



FOUNDATION NOTES:

1. SLAB ON GRADE SHALL BE 4" NORMAL WEIGHT CONCRETE (F'C=3000 PSI, 145 PCF) WITH 6"X6"-W1.4XW1.4 WELDED WIRE FABRIC OVER 6 MIL POLYETHYLENE VAPOR BARRIER OVER 6" OF COMPACTED WASHED GRAVEL.

2. TOP OF SLAB ELEVATION 24'-2 7/8" UNLESS NOTED OTHERWISE.

3. (-0'-0") DENOTES TOP OF FOOTING ELEVATION MEASURED FROM TOP OF SLAB ON GRADE ELÈVATION 24'-2 7/8". FOOTING ELEVATIONS ARE FOR BIDDING PURPOSES ONLY AND MAY HAVE TO BE ADJUSTED BASED ON FIELD CONDITIONS ENCOUNTERED DURING EXCAVATION. 4. ALL FOOTINGS SHALL BE LOWERED TO BEAR BELOW ANY UTILITIES. SEE TYPICAL DETAIL. 5. REFER TO THE ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, CIVIL DRAWINGS FOR BELOW GRADE UTILITIES, BELOW GRADE CONDUITS, SLAB DEPRESSIONS, ETC.

6. ALL EXTERIOR MASONRY WALLS SHALL BE REINFORCED WITH #5 BARS AT 32" ON CENTER LOCATED IN THE CENTER OF THE CMU BACKUP UNLESS NOTED OTHERWISE. REFER TO THE REINFORCED MASONRY TYPICAL DETAILS AND SECTIONS. PROVIDE THE FOLLOWING FULL HEIGHT REINFORCED MASONRY PIERS AT EACH SIDE OF EACH OPENING IN THE EXTERIOR WALLS.

WALL TYPE PIER 4" BRICK+2" CAVITY+8" BLOCK 10"X16" WITH 1-#5 BARS EACH FACE NOTE: THE INSIDE FACE OF THE WALL REMAINS FLUSH. THE PIER PROJECTS INTO THE 2" CAVITY. REFER TO THE REINFORCED MASONRY DETAILS.

FOOTING SCHEDULE (2,000 psf)								
MARK	SIZE (LENGTH x WIDTH x THICKNESS)	REINFORCEMENT (EACH WAY BOTTOM)						
WF30	3'-0" WIDE x12" THICK	#5@12"o.c. & (4) #5 CONTINUOUS						
F50X100*	5'-0"x10'-0"x12"	#5 @ 8"o.c.						

* DENOTES TOP BARS REQUIRED IN FOOTING. BAR SIZE & QUANTITY TO MATCH BOTTOM BARS.





1 SECTION 1 3/4" = 1'-0" 2 SECTION 2 3/4" = 1'-0" 3 SECTION 3 3/4" = 1'-0"

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

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LIGHTING LEGEND								
	4" x 4' RECESSED LIGHT FIXTURE WALL SCONCE							
CEILING	G MATERIAL LEGEND							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	GYPSUM BOARD CEILING							
	EXTERIOR SOFFIT							
MECHA	NICAL LEGEND							
\boxtimes	SUPPLY							
	RETURN							
\square	EXHAUST							
SD	SMOKE DETECTOR							

- CENTER FIXTURE OVER DOOR BELOW PROVIDE STRIP VENTS AS REQ.

4 SECOND / BRIDGE REFLECTED CEILING PLAN

A101 1/4" = 1'-0"

REFER TO WALL SECTION FOR

HORIZONTAL FIBER CEMENT-

DOOR	SCH	EDULE - F	IRST FLOOR	LEVE	-							
	DOOR DATA						ł	FRAME DA	ΓA			
MARK	TYPE	SIZE	MATERIAL	GLAZI NG	RATING	HARDWARE	TYPE	MATERIAL	HEAD	JAMB	SILL	REMARKS
100	A	3'-0" x 7'-0"	IHM				F-1	НМ	H-1	J-1		*PAINT DOOR TO MATCH BRIC
DOOR SCHEDULE - SECOND FLOOR / BRIDGE LEVEL												
BOOK												
			DOOR DATA					F	RAME DA	ΓA		
MARK			DOOR DATA	GLAZI		HARDWARE		 	FRAME DA	ГА 		REMARKS
MARK	TYPE	SIZE	DOOR DATA MATERIAL	GLAZI NG	RATING	HARDWARE	TYPE	MATERIAL	FRAME DAT	TA JAMB	SILL	REMARKS
MARK	TYPE	SIZE	DOOR DATA MATERIAL	GLAZI NG	RATING	HARDWARE	TYPE	I MATERIAL	FRAME DA		SILL	REMARKS
MARK	TYPE A	SIZE	DOOR DATA MATERIAL	GLAZI NG	RATING	HARDWARE	TYPE	MATERIAL	HEAD	J-2	SILL S-2	REMARKS *PAINT DOOR TO MATCH SIDING
MARK	A A	SIZE 3'-0" x 7'-0" 3'-0" x 7'-0"	DOOR DATA MATERIAL	GLAZI NG	RATING	HARDWARE	F-1 F-1	MATERIAL HM HM	HEAD	J-2 J-2	S-2 S-2	REMARKS *PAINT DOOR TO MATCH SIDING *PAINT DOOR TO MATCH SIDING
MARK 102 103 104	A A A	SIZE 3'-0" x 7'-0" 3'-0" x 7'-0" 3'-0" x 7'-0"	DOOR DATA MATERIAL	GLAZI NG	RATING	HARDWARE	F-1 F-1 F-1	I MATERIAL HM HM HM	HEAD	TA JAMB J-2 J-2 J-2	S-2 S-2 S-2 S-2 S-2	REMARKS *PAINT DOOR TO MATCH SIDING *PAINT DOOR TO MATCH SIDING *PAINT DOOR TO MATCH SIDING

SHEET NUMBER:

SHEET NUMBER:

3 WALL SECTION A501 3/4" = 1'-0"

2 WALL SECTION A501 3/4" = 1'-0"

1 WALL SECTION A501 3/4" = 1'-0"

	INTERIOR FINISH SCHEDULE							
SYMBOL	MANUFACTURER	PRODUCT NAME, NUMBER & COLOR	PRODUCT DETAILS					
066116 - SOL	ID SURFACE FABRICATIONS							
SS-1	DUPONT	PRODUCT: CORIAN; COLOR: CLAM SHELL; EDGE: EASED; THICKNESS: 12MM (1/2")	FOR USE IN: WINDOW SILLS AT RESTROOMS					
066400 - PLA	STIC PANELING							
FRP-1	MARLITE	PRODUCT: STANDARD FRP; COLOR: P100 WHITE CLASS A; FINISH: PEBBLED; SIZE: 4'-0" X 10'-0" X 3/32"; TRIM MATERIAL: PVC; TRIM INCLUDES EDGE, DIVISION, INSIDE CORNER AND OUTSIDE CORNER; TRIM FINISH: WHITE	FOR USE IN: JANITOR'S CLOSET					
088700 - GLA	ASS FILMS							
GF-1	DECORATIVE FILMS, LLC	PRODUCT: SOLYX; COLOR/PATTERN: DEEP ETCH SXGF-0097; WIDTH: 36"; ADHESIVE: PRESSURE-SENSITIVE	FOR USE IN: DECORATIVE FILM AT WINDOWS					
093013 - TILE	E							
PT-1	CONESTOGA TILE	COLLECTION: FLORIDA TILE; PRODUCT: TIDES; COLOR: SAND CASTLE 28130; FINISH: NA; SIZE: 12" X 24" X 3/8"; GROUT THICKNESS: 3/16"; INSTALL METHOD: VERTICALLY STACKED; GROUT: LATICRETE 90 LIGHT PEWTER	FOR USE IN: TYPICAL WALL FIELD TILE					
PT-2	GARDEN STATE TILE	COLLECTION: CROSSVILLE TILE; PRODUCT: ARGENT; COLOR: UNDER THE SEA A1413; FINISH: UPS (UNPOLISHED); SIZE: 6" X 24" X 3/8"; GROUT THICKNESS: 3/16"; INSTALL METHOD: HORIZONTAL; GROUT: LATICRETE 90 LIGHT PEWTER; CAP TRIM: SCHLUTER JOLLY; FINISH: SATIN NICKEL ANODIZED	FOR USE IN: ACCENT BORDER TILE (INSTALL AT TOP OF PT-1)					
PT-3	GARDEN STATE TILE	PRODUCT: COLESIUM HARDWOOD; COLOR: RELAX BEIGE COL610010000855; FINISH: NA; SIZE: 8" X 40" X 3/8"; GROUT THICKNESS: 3/16"; INSTALL METHOD: HORIZONTAL STAGGERED (OVERLAP SHOULD NOT EXCEED 33%); GROUT: LATICRETE 35 MOCHA; TRIM AT OUTSIDE CORNERS: SCHLUTER JOLLY; FINISH: SATIN ANODIZED NICKEL	FOR USE IN: WALL TILE ON WET WALL					
096723 - RES	SINIOUS FLOORING							
RES-1	RES-TEK	PRODUCT: MAC-GUARD; COLOR: CF BLEND NO. 7 MICRO; COVE BASE HEIGHT: 6"; INSTALLATION NOTE: ADD 3/16" ZINC TERMINATION STRIP TO TOP EDGE OF COVE	FOR USE IN: TYPICAL FLOORING AND FLASH COVE					
099000 - PAI	NT							
EP-1	SHERWIN-WILLIAMS	COLOR: ACCESSIBLE BEIGE SW 7026	FOR USE IN: TYPICAL WALL PAINT					
P-2	SHERWIN-WILLIAMS	COLOR: MOUNTAIN AIR SW 6224; FINISH: FLAT	FOR USE IN: TYPICAL CEILING PAINT AT RESTROOMS					
P-3	SHERWIN-WILLIAMS	COLOR: MOTH WING SW 9174; FINISH: SEMI-GLOSS	FOR USE IN: DOOR AND DOOR FRAME PAINT					
102113.19 - F	PLASTIC TOILET PARTITONS							
TP-1	ASI GLOBAL PARTITIONS	PRODUCT: SOLID PLASTIC; COLOR: METALLIC BRONZE 9513; TEXTURE: HAMMERED	FOR USE IN: RESTROOMS					

FINISH PLAN GENERAL NOTES

1 SHEET ID001 SHALL BE VIEWED IN COLOR.

- 2 DOORS, DOOR FRAMES AND DOOR TRIM SHALL BE PAINTED.
 3 ACCESS PANELS, LOUVERS, AND GRILLS SHALL BE PAINTED TO MATCH ADJACENT WALL PAINT.
- 4 FLOORING MATERIAL TRANSITIONS SHALL OCCUR AT CENTERLINE, UON. 5 WINDOW SILLS SHALL BE SS-1.
- 6 WHERE MORE THAN ONE PAINT COLOR OR FINISH MATERIAL IS INDICATED IN A ROOM, REFER TO INTERIOR FINISH PLAN(S) FOR PAINT/FINISH LOCATIONS AND EXTENTS.
 7 CEILINGS SHALL BE PAINTED P-2, UON.
- 8 THE FINISH SCHEDULE "PRODUCT DETAILS" COLUMN PROVIDES A GENERIC DESCRIPTION OF USE AND INTENT. REFER TO FINISH PLANS AND INTERIOR ELEVATIONS FOR FINISH LOCATIONS.

3 FIRST FLOOR FINISH PLAN ID001 1/4" = 1'-0"

FINISH PLAN REMARKS

 SEE SPECIFICATION SECTION 012300 FOR ALTERNATE FINISHES.

 ENTRY DOORS SHALL HAVE SPLIT FINISH. EXTERIOR SIDE DOOR AND FRAME SHALL BE EXTERIOR

 PAINT COLOR (REFER TO ARCHITECT'S SELECTIONS) AND INTERIOR SIDE DOOR AND FRAME SHALL

 BE P-3.

 TOILET PARTITIONS IN RESTROOMS SHALL BE TP-1.

 INSTALL GF-1 AT ENTIRE WINDOW PANE.

	INTERIOR FINISH ABBREVIATIONS
ACT	ACOUSTICAL CEILING TILE
AP	ACOUSTICAL PANEL
AWC	ACOUSTICAL WALLCOVERING
BR	BUMPER RAIL
CC	CUBICLE CURTAIN
CG	CORNER GUARD
CGS	CEILING SYSTEM
CHR	CHAIR RAIL
СМ	CULTURED MARBLE
CPT	CARPET
CR	CRASH RAIL
СТ	CERAMIC TILE
DM	DECORATIVE METAL
DP	DOOR PROTECTION
DPG	DECORATIVE PLASTIC GLAZING
EP	EPOXY PAINT
FA	FABRIC
FRP	FIBERGLASS REINFORCED PANEL
GL	GLASS
GT	GLASS TILE
HR	HAND RAIL
LR	LEANING RAIL
LVT	LUXURY VINYL TILE
MT	METAL TILE
NS	NATURAL STONE
PLAM	PLASTIC LAMINATE
PNT	PAINT
PSTR	PAINTED STRUCTURE
PT	PORCELAIN TILE
QT	QUARRY TILE
QZ	QUARTZ
RB	RUBBER BASE
RES	RESINOUS POURED FLOORING
RF	RESILIENT FLOORING
RT	RUBBER TILE
SC	SPECIALTY COATING
SCONC	SEALED CONCRETE
SHC	SHOWER CURTAIN
SMP	SOLID MINERAL PROFILE PANELING
SP	SOLID PHENOLIC
SS	SOLID SURFACE
ST	STAIR TREADS
STCONC	STAINED CONCRETE
SV	SHEET VINYL
TF	THERMOFOIL
TP	TOILET PARTITION
TZ	TERRAZZO
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
WC	WALLCOVERING
WD	WOOD
WOM	WALK-OFF MAT
WP	WALL PROTECTION
WT	WINDOW TREATMENT

FINISH TAG LEGEND

NOTE: THE ELEVATION ABOVE SHOWS MENS 202. WOMENS 203 HAS THE SAME FINISH EXTENTS BUT IS A MIRRORED VERSION.

NOTE: THE ELEVATION ABOVE SHOWS MENS 202. WOMENS 203 HAS THE SAME FINISH EXTENTS BUT IS A MIRRORED VERSION.

2A MENS #202 ELEVATION ID001 1/4" = 1'-0"

NOTE: THE ELEVATION ABOVE SHOWS MENS 202. WOMENS 203 HAS THE SAME FINISH EXTENTS BUT IS A MIRRORED VERSION.

2 MENS #202 ELEVATION ID001 1/4" = 1'-0"

NOTE: THE ELEVATION ABOVE SHOWS MENS 202. WOMENS 203 HAS THE SAME FINISH EXTENTS BUT IS A MIRRORED VERSION (WITH A SECOND TOILET IN PLACE OF THE URINAL).

MECHANICAL ABBREVIATIONS

AAV ABS ABV AC AFF AHJ ALT ALUM AMP ANSI APD APPROX ASHRAE ASME ATC ATM AUTO AUX AVG AWG	AUTOMATIC AIR VENT ABSOLUTE ABOVE ALTERNATING CURRENT ABOVE FINISH FLOOR AUTHORITY HAVING JURISDICTION ALTERNATE OR ALTITUDE ALUMINUM AMPERE AMERICAN NATIONAL STANDARDS INSTITUTE AIR PRESSURE DROP APPROXIMATELY AMERICAN SOCIETY OF HEATING, REFRIGERANT AND AIR CONDITIONING AMERICAN SOCIETY OF MECHANICAL ENGINEERS AUTOMATIC TEMPERATURE CONTROL ATMOSPHERE AUTOMATIC AUXILIARY AVERAGE AMERICAN WIRE GAUGE
BAS BHP BLW BLDG BTU	BUILDING AUTOMATION SYSTEM BRAKE HORSE POWER BELOW BUILDING BRITISH THERMAL UNIT
C CAP CCW CENTR CFM CIRC CLG CO COEFF COL CONC CONC CONC CONT CONTR CU FT	CELSIUS CAPACITY COUNTER CLOCKWISE CENTRIFUGAL CUBIC FEET PER MINUTE CIRCUIT CEILING CLEAN OUT COEFFICIENT COLUMN CONCRETE CONDENSATE CONNECTION CONTINUATION CONTRACTOR CUBIC FEET
dB dBA DEG (°) DENS DIA DIFF DN DPT DWG DX	DECIBEL DECIBEL A-WEIGHTED DRY BULB TEMPERATURE DEGREE DENSITY DIAMETER DIFFUSER DOWN DEW POINT TEMPERATURE DRAWING DIRECT EXPANSION
EA EAT EC EDB EER EFF EL ELECT ENT EQUIP ESP EWB EXIST	EACH OR EXHAUST AIR ENTERING AIR TEMPERATURE ELECTRICAL CONTRACTOR ENTERING DRY BULB ENERGY EFFICIENCY RATIO EFFICIENCY ELEVATION ELECTRIC ENTERING EQUIPMENT EXTERNAL STATIC PRESSURE ENTERING WET BULB EXISTING
F FLR FPM FR FT FTG	FAHRENHEIT FLOOR FEET PER MINUTE FROM FEET FITTING
GA GAL GC GI GPM Hg HP HR	GAUGE GALLONS GENERAL CONTRACTOR GALVANIZED IRON GALLONS PER MINUTE MERCURY HORSE POWER HOUR HEATING
1111	

HTG HERTZ (FREQUENCY)

MECHANICAL **ABBREVIATIONS**

Ŵ	KILOWATT
WH	KILOWATT HOUR

LAT LEAVING AIR TEMPERATURE

LBS POUNDS LDB LEAVING DRY BULB LOW PRESSURE LP LTG LIGHTING LWB LEAVING WET BULB MAX MAXIMUM

MBH THOUSAND BTU's MC MECHANICAL CONTRACTOR MFGR MANUFACTURER MIN MINIMUM

N/A NOT APPLICABLE NC NORMALLY CLOSED OR NOISE CRITERIA NIC NOT IN CONTRACT NTS NOT TO SCALE

OA OUTSIDE AIR OD OUTSIDE DIAMETER

OPER OPERATED OPNG OPENING

PC PLUMBING CONTRACTOR PD PRESSURE DROP PH PHASE

PSIG POUNDS PER SQUARE INCH GAUGE QTY QUANTITY

THERMAL RESISTANCE R RA RETURN AIR

REFRIG REFRIGERANT REQD REQUIRED RET RETURN

RH RELATIVE HUMIDITY RPM REVOLUTIONS PER MINUTE

SA SUPPLY AIR SAT SATURATED

SCH SCHEDULE SEER SEASONAL ENERGY EFFICIENCY RATIO SENS SENSIBLE

SP STATIC PRESSURE SQ FT SQUARE FEET

SUP SUPPLY SV SAFETY VALVE

TAB TEST, ADJUST AND BALANCE TEMP TEMPERATURE

TONS TONS OF REFRIGERANT T'STAT THERMOSTAT

TSP TOTAL STATIC PRESSURE TYP TYPICAL UON UNLESS OTHERWISE NOTED

SW SWITCH

VOLT V VEL VELOCITY

WATT W

WB WET BULB WT WEIGHT

XR EXISTING TO REMAIN

MECHANICAL EQUIPMENT **ABBREVIATIONS**

AHU	AIR HANDLING UNIT
EF EWH	EXHAUST FAN ELECTRIC WALL HEATER
HP	HEAT PUMP

MECHANICAL PIPING **ABBREVIATIONS**

CDL	(
RL	ł
	_

G UNIT

CONDENSATE DRAIN LINE REFRIGERANT LIQUID

MECHANICAL PIPING

<u>SYMBOLS</u> • PIPE ELBOW UP G PIPE ELBOW DOWN PIPE TEE UP PIPE TEE DOWN CLEAN OUT

MECHANICAL SYMBOLS

⊤ ●	THERMOSTAT CONNECTION POINT - NEW TO EXISTING
	DISCONNECT POINT -
X NECK SIZE CFM (QTY)	GRILLE, REGISTER & DIFFUSER TAG
	UNDERCUT
\bowtie	SUPPLY DIFFUSER - 4-WAY BLOW
\square	EXHAUST GRILLE OR REGISTER
24x12	INTERIOR CLEAR DUCTWORK DIMENSIONS: WxH
	SUPPLY DUCT TOWARD VIEWER
	SUPPLY DUCT AWAY FROM VIEWER
	RETURN DUCT TOWARD VIEWER
	RETURN DUCT AWAY FROM VIEWER
	EXHAUST DUCT TOWARD VIEWER
	EXHAUST DUCT AWAY FROM VIEWER
	FLEXIBLE DUCT
	FLEXIBLE CONNECTION
	MANUAL VOLUME DAMPER
	MOTORIZED CONTROL DAMPER
	FIRE DAMPER DYNAMIC: VERTICAL OR HORIZONTAL
	SMOKE DAMPER
	COMBINATION FIRE/SMOKE DAMPER
	TRANSITION: SYMMETRIC
	TRANSITION: ASYMMETRIC
	TRANSITION: RECTANGULAR TO ROUND
	90 DEG RADIUS ELBOW
	MITERED ELBOW WITH TURNING VANES
	TEE: 45 DEG ENTRY BRANCH

TEE: CONICAL ROUND BRANCH

THIS SHEET IS PROVIDED FOR EASE OF REFERENCE AND SHALL NOT SUPERSEDE THE REQUIREMENTS OF THE PROJECT'S GENERAL OR SUPPLEMENTAL CONDITIONS OR THE TECHNICAL SPECIFICATIONS. SHOULD ANY CONFLICTS BE FOUND BETWEEN THE NOTES ON THIS SHEET AND OTHER CONTRACT DOCUMENTS, NOTIFY THE ENGINEER IN WRITING PRIOR TO BIDDING OR INSTALLATION.

THIS SHEET HAS BEEN ADAPTED TO BE PROJECT SPECIFIC, HOWEVER, NOT ALL SYMBOLS, ABBREVIATIONS OR GENERAL NOTES MAY APPLY TO THIS PROJECT.

SHEET LIST - MECHANICAL
DESCRIPTION
MECHANICAL COVER SHEET
FLOOR/ROOF PLANS - MECHANICAL
MECHANICAL SCHEDULES AND DETAILS
MECHANICAL SPECIFICATIONS

SCALE: SHEET TITLE:

MECHANICAL COVER SHEET

SHEET NUMBER:

GENERAL NOTES

- ALL REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S REQUIREMENTS.
- 2. PROVIDE ALL CLEARANCES PER MANUFACTURER'S REQUIREMENTS.

NUMBERED NOTES

- 1 PROVIDE INLINE EXHAUST FAN. INSTALL PER MANUFACTURER'S REQUIREMENTS. CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS.
- 2 PROVIDE ARCHITECTURAL EXHAUST AIR LOUVER AT SIZE INDICATED. COORDINATE WITH ARCHITECT FOR FINAL LOCATION. INSTALL PER MANUFACTURER'S REQUIREMENTS.
- 3 PROVIDE SPLIT SYSTEM AIR HANDLING UNIT. EXTEND REFRIGERANT PIPING TO ASSOCIATED OUTDOOR UNIT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
- PROVIDE SPLIT SYSTEM HEAT PUMP ON CONCRETE PAD. EXTEND REFRIGERANT PIPING TO ASSOCIATED INDOOR UNITS. INSTALL PER MANUFACTURER'S REQUIREMENTS.
- 5 CONDENSATE DOWN IN WALL, SPILL TO GRADE. PROVIDE SPLASH BLOCK.
- 6 PROVIDE ELECTRIC WALL HEATER. CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS. INSTALL PER MANUFACTURER'S REQUIREMENTS.

FLOOR/ROOF PLANS - MECHANICAL

SHEET NUMBER:

DUCTLESS SPLIT SYSTEM HEAT PUMP UNIT SCHEMATIC NO SCALE

FAN SCHEDULE												
DESIG	SERVICE	AIR FLOW (CFM) E.S.P.			DRIVE		ΛΟΙ Τ/ΡΗΔSE/ΗΖ	NOTES	MANUE	MODEL		
DEGIO.		MAX.	MIN.	W.G.)		TYPE			NOTED		MODEL	
EF-1	RESTROOMS	200	200	0.75	1000	DIRECT	62 W	120/1/60	1,2,3	GREENHECK	CSP-A250	
EF-2	JANITORS CLOSET	75	75	0.38	650	DIRECT	30 W	120/1/60	1,2,3	GREENHECK	SP-B110ES	
NOTES:												
1.	U.L LISTED											
2.	PROVIDE ISOLATION KIT.											
3.	PROVIDE FAN SPEED CONTROL.											

DESIG. HP-1 NOTES: 1. UL LISTED.

NOT TO SCALE

Generation

BEAM CLAMP

DISCHARGE DUCT

FLEXIBLE CONNECTION

CENTRIFUGAL

STEEL FAN WHEEL

W/DIRECT DRIVE

LOW RPM MOTOR

NO SCALE

FAN OUTLET WITH BACKDRAFT DAMPER

SYSTEM
LOW PRESSURE EXHAUST AIR DUCTWORK

NOTES: 1. ALL DUCTWORK SHALL BE SEALED IN ACCORD 2. LOW PRESSURE SUPPLY, RETURN, OUTSIDE AIR, AND EXHAUST MAINS, 2.0" W.G. AND BELOW SHALL BE TESTED FOR LEAKAGE WITH MAXIMUM LEAKAGE OF 3% 3. REFER TO PROJECT SPECIFICATION FOR FURTHER INFORMATION.

EAN SCHEDUI E

VARIABLE REFRIGERANT FLOW HEAT PUMP OUTDOOR UNIT SCHEDULE

COOLING TC	HEATING TC MBH	ELECTRICAL			APRROX. UNIT	DEMARKS		MODEL	
MBH @ 95°F	@ 47°F	V/PH/HZ	MCA	MOCP	WEIGHT (lbs)		MANUFACIUNEN	MODEL	
34.5	35.6	208/ 1/ 60	19.4	25	152	1,2	LG	LMU300HHV	
LISTED									

2. LOW AMBIENT CONTROL TO 0°F.

VARIABLE REFRIGERANT FLOW AIR HANDLING UNIT SCHEDULE

COOLING MBH		HEATING		ELECTRICAL		ЦD	DEMARKS		MODEL
тс	TC SC MBH @ 47°F		STILE	V/PH/HZ	MCA		REWARKS	MANOLACTORER	MODEL
11.5	10.4	11.9	CEILING CASSETTE	208/1/60	0.25	HP-1	1,2,3,4	LG	LCN098HV4
11.5	10.4	11.9	CEILING CASSETTE	208/1/60	0.25	HP-1	1,2,3,4	LG	LCN098HV4
11.5	10.4	11.9	WALL MOUNTED	208/1/60	0.4	HP-1	1,2,3,5	LG	LSN090HSV5
U.L. LISTE	ED.								
WALL MNT. T'STAT.									
WASHABLE FILTER.									
B.I. CONDENSATE PUMP.									

5. PROVIDE SAUERMAN CONDENSATE PUMP.

DUCT CONSTRUCTION SCHEDULE									
	SMACNA DUCT CONSTRUCTION	SMACNA SEAL CLASS	DUCT STRUCTURE TEST PRESSURE	DUCT LEAKAGE TEST					
	2"	"A"	2.2"	2.0"					
C	ANCE WITH SMACNA SEAL CLASS "A", UNLESS OTHERWISE INDICATED. (SEAL ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS AND DUCT WALL PENETRATIONS)								

ELECTRIC WALL HEATER SCHEDULE ELECTRIC DESIG. SERVICE MANUFACTURER MODEL CAPACITY MCA V/PH/HZ (KW) EWH-1 JANITORS CLOSET 1.8 120V/1Ø/60HZ 15.000 QMARK AWH3180F NOTES: 1. PROVIDE ALL HEATERS WITH FACTORY PROVIDED WALL BRACKET, AND MANUAL STARTER AND DISCONNECT SWITCH BY UNIT MANUFACTURER.

M701 sheet <u>3</u> of <u>4</u>

	MECHANICAL	SPECIFIC	ATIONS
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1. <u>GENERAL</u>:

EXPENSE

- A. CONTRACTOR SHALL THOROUGHLY EXAMINE PREMISES AND OBSERVE ALL CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED. NO ALLOWANCES WILL BE MADE FOR ERRORS OR NEGLIGENCE IN THIS RESPECT.
- B. COORDINATE ALL WORK WITH THE PROJECT SCHEDULE. WORK SHALL BE COORDINATED AND SCHEDULED IN ADVANCE AND APPROVED BY THE ARCHITECT.
- C. ALL AREAS ADJACENT TO THE CONSTRUCTION SITE WILL REMAIN OCCUPIED. CONTRACTOR SHALL MAINTAIN ALL SERVICES (AIR SYSTEMS, SERVICE PIPING, ELECTRICAL, ETC) TO THESE AREAS AS INDICATED, AS REQUIRED AND AS DIRECTED BY THE OWNER'S
- REPRESENTATIVE IN THE FIELD. D. VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTION BEFORE STARTING NEW WORK.
- ALL MATERIAL SHALL BE NEW AND SHALL BE OF FIRST QUALITY. WORKMANSHIP SHALL BE ACCEPTABLE TO THE OWNER AND HIS DECISION AS TO ACCEPTABLE QUALITY IS FINAL, UNACCEPTABLE WORK SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S
- F. 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 STRUCTURE, FURNITURE, AND EQUIPMENT; WHERE SAME ARE NOT DEFINITELY LOCATED BY DIMENSIONS, OBTAIN THIS INFORMATION FROM THE ENGINEER.
- G. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL DUCT AND PIPING OFFSETS, RISERS AND DROPS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. CAREFULLY INVESTIGATE THE CONDITIONS AFFECTING THE WORK, AND ARRANGE SUCH WORK ACCORDINGLY, PROVIDING SUCH FITTINGS AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
- 2. CODES, REGULATIONS AND PERMITS
- A. PERFORM ALL WORK AND PROVIDE ALL MATERIALS IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE, INTERNATIONAL MECHANICAL CODE, INTERNATIONAL PLUMBING CODE, NATIONAL STANDARD PLUMBING CODE, NATIONAL ELECTRICAL CODE, FACTORY MUTUAL, NFPA REGULATIONS AND ALL STATE AND MUNICIPAL ORDINANCES, CODES AND REGULATIONS HAVING JURISDICTION. PERFORM WORK IN ACCORDANCE WITH FACILITY STANDARDS.
- 3. SHOP DRAWINGS:
- A. WITHIN 5 DAYS AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A LIST OF MANUFACTURERS AND SUBCONTRACTORS, A PRELIMINARY DELIVERY SCHEDULE OF ALL MATERIALS AND EQUIPMENT TO BE USED ON THIS PROJECT. B. SUBMIT FOR APPROVAL SIX (6) COPIES OF EACH SHOP DRAWING.
- 4. PROTECTION OF EXISTING WORK:

6. EQUIPMENT STARTUP AND INITIAL OPERATION:

- A. WHEN WORKING IN AND AROUND THE EXISTING BUILDING. EXTREME CARE SHALL BE EXERCISED WITH REGARD TO PROTECTION OF EXISTING WORK. CORRECT ALL DAMAGE TO EXISTING WORK TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE 5. INTERRUPTION OF EXISTING UTILITIES:
- A. NOTIFY THE OWNER AT LEAST 7 DAYS IN ADVANCE OF ANY REQUIRED SHUTDOWN OF SERVICE UTILITIES, HVAC SYSTEMS OR ELECTRICAL SERVICE. UPON RECEIPT OF APPROVAL FROM THE OWNER, SHUTDOWNS SHALL BE PERFORMED ON PREMIUM TIME BETWEEN THE HOURS OF 7 P.M. AND 7 A.M. UNLESS OTHERWISE DIRECTED IN THE FIELD AND SHALL BE ACCOMPLISHED AS PART OF THE BASE BID.
- A. NO EQUIPMENT SHALL BE OPERATED FOR TESTING OR TRIAL USE EXCEPT AFTER FULL COMPLIANCE WITH THE EQUIPMENT MANUFACTURERS' SPECIFICATIONS AND INSTRUCTIONS OF THE LUBRICATION, ALIGNMENT DIRECTION OF ROTATION, BALANCE, AND OTHER APPLICABLE CONSIDERATIONS.
- B. PARTICULAR CARE SHALL BE TAKEN TO SEE THAT ALL EQUIPMENT IS COMPLETELY ASSEMBLED AND PROPERLY LUBRICATED AND ALL GREASE AND OIL CASES AND RESERVOIRS HAVE BEEN FILLED TO THE CORRECT LEVEL WITH THE RECOMMENDED LUBRICANT.
- C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PLACE EACH ITEM OF EQUIPMENT INSTALLED BY HIM IN OPERATING CONDITION, INCLUDING ALL AUXILIARIES, WIRING, ETC, AND TO START UP EACH UNIT AND CHECK IT FOR PERFORMANCE.
- 7. ALTERATIONS AND DEMOLITION: A. SEE GENERAL CONDITIONS.
- B. ALL EXISTING EQUIPMENT, DUCTWORK, AND MATERIALS WHICH ARE REQUIRED TO BE REMOVED SHALL BE REMOVED. ALL EXISTING MATERIALS AND EQUIPMENT WHICH ARE REMOVED AND ARE DESIRED BY THE OWNER, OR ARE INDICATED TO REMAIN AS THE PROPERTY OF THE OWNER. SHALL BE DELIVERED TO HIM ON THE PREMISES BY THE CONTRACTOR WHERE DIRECTED BY THE ARCHITECT. ALL OTHER MATERIALS AND EQUIPMENT WHICH ARE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED BY HIM FROM THE PREMISES.
- C. REMOVE ALL INDICATED MECHANICAL WORK BY HAND AS FAR AS POSSIBLE. POWER-DRIVEN EQUIPMENT SHALL BE USED AS A LAST RESORT, AND SHALL NOT BE EMPLOYED WITHOUT CONSENT OF THE OWNER. SCHEDULE ALL DEMOLITION WORK TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR SHALL EXECUTE THE REMOVAL WORK AS QUIETLY AS PRACTICABLE TO AVOID UNNECESSARY DISTURBANCES TO OCCUPIED AREAS.
- D. EXISTING CONDITIONS, I.E. DUCTWORK, EQUIPMENT, ETC, MAY BE OBTAINED FROM AVAILABLE RECORD DRAWINGS AND ARE NOT WARRANTED TO BE COMPLETE OR CORRECT. CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL DUCTWORK, ETC, IN THE FIELD PRIOR TO STARTING ANY WORK
- E. EXISTING DUCT SIZES NOTED ON THE AVAILABLE RECORD DRAWINGS ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. CONTRACTOR SHALL VERIFY SIZES IN THE FIELD.
- F. EXISTING DUCTS NO LONGER REQUIRED TO REMAIN IN SERVICE SHALL BE DISCONNECTED AND REMOVED BACK TO SERVICE MAINS AND TRUNK DUCTS, INCLUDING EXISTING HANGERS, SUPPORTS, AND AIR DEVICES. EXISTING DUCTS INDICATED OR REQUIRED TO REMAIN IN SERVICE SHALL BE CAPPED.
- G. WHEN EXISTING MECHANICAL WORK IS REMOVED, ALL RELATED DUCTS, AND MATERIALS SHALL ALSO BE REMOVED. H. WHEN THE WORK SPECIFIED HEREIN CONNECTS TO EXISTING DUCTWORK, THE CONTRACTOR SHALL PERFORM ALL NECESSARY
- ALTERATIONS, CUTTING, OR FITTING OF THE EXISTING WORK AS MAY BE NECESSARY OR REQUIRED TO MAKE SATISFACTORY CONNECTIONS BETWEEN THE NEW AND EXISTING WORK AND TO LEAVE THE COMPLETED WORK IN A FINISHED AND WORKMANLIKE CONDITION, TO THE ENTIRE SATISFACTION OF THE ARCHITECT. WHEN THE WORK SPECIFIED HEREIN OR UNDER OTHER DIVISIONS OF THE CONTRACT NECESSITATES RELOCATION OF EXISTING
- MECHANICAL EQUIPMENT, OR DUCTWORK, THE CONTRACTOR SHALL PERFORM ALL WORK AND MAKE ALL NECESSARY CHANGES TO EXISTING WORK AS MAY BE REQUIRED TO LEAVE THE COMPLETED WORK IN A FINISHED AND WORKMANLIKE CONDITION, TO THE ENTIRE SATISFACTION OF THE ARCHITECT, AND AT NO ADDITIONAL COST TO THE OWNER.
- J. EXISTING MECHANICAL EQUIPMENT AND DUCTWORK AFFECTED BY REMOVAL OR NEW WORK INSTALLATION AND REQUIRED TO REMAIN IN SERVICE SHALL BE REINSTALLED OR SUPPORTED AS REQUIRED IN ACCORDANCE WITH NEW WORK SPECIFICATION. ALL WORK SHALL BE COMPLETED TO THE ARCHITECT'S SATISFACTION AND AT NO ADDITIONAL COST TO THE OWNER. K. REFER TO DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- 8. <u>PHASING</u>:
- A. THE CONTRACTOR SHALL SCHEDULE PHASING TO MINIMIZE THE DISRUPTION OF EXISTING BUILDING SERVICES. THE RENOVATION AREAS SHALL BE ISOLATED FROM THE OCCUPIED AREAS DURING CONSTRUCTION USING AIRTIGHT BARRIERS, AND EXHAUST AIRFLOW SHALL BE SUFFICIENT TO MAINTAIN NEGATIVE AIR PRESSURE IN THE CONSTRUCTION ZONE. 9. CUTTING AND PATCHING:
- A. CUTTING AND PATCHING ASSOCIATED WITH BOTH NEW AND EXISTING WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. EXISTING SURFACES WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR PROVIDED WITH NEW MATERIALS. STRUCTURAL MEMBERS SHALL NOT BE CUT OR PENETRATED UNLESS APPROVED BY THE ENGINEER.
- B. ALL PATCHING SHALL BE DONE WITH MATERIALS AND METHODS SIMILAR TO EXISTING ADJACENT WORK, SUBJECT TO APPROVAL OF THE OWNER AND DECISION SHALL BE FINAL.
- 10. SLEEVES AND PLATES:
- A. PROVIDE 20 GAUGE GALVANIZED SLEEVE OR TRIM ANGLES FOR ALL DUCTWORK AND PIPES PASSING THROUGH DRYWALL, PLYWOOD, MASONITE, AND SIMILAR TYPE CONSTRUCTION.
- B. CAULK THE ANNULAR SPACE OF DUCT AND PIPE SLEEVES WITH AN ELASTIC CAULK COMPOUND TO MAKE INSTALLATION AIR TIGHT AND TO MAINTAIN FIRE RATING.
- C. SLEEVES SHALL BE SIZED TO PASS BOTH DUCT AND/OR PIPE AND INSULATION.
- D. PROVIDE SCHEDULE 40 GALVANIZED STEEL PIPE SLEEVES FOR ALL PIPES PASSING THROUGH CONCRETE AND MASONRY, AND DRYWALL OR SIMILAR CONSTRUCTION. WHERE PERMITTED BY CODE, PIPES PASSING THROUGH DRYWALL OR SIMILAR CONSTRUCTION MAY BE SCHEDULE 40 PVC.
- 11. ACCESSIBILITY:
- A. LOCATE ALL EQUIPMENT WHICH MUST BE SERVICED, OPERATED OR MAINTAINED IN FULLY ACCESSIBLE POSITIONS. EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO VOLUME DAMPERS, VALVES, SPECIALTIES, ETC, WHERE INDICATED OR REQUIRED 12. RECORD DRAWINGS
- A. CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ALL DEVIATIONS IN WORK AS ACTUALLY INSTALLED FROM WORK INDICATED. WHEN WORK IS COMPLETE, PROVIDE ONE (1) COMPLETE "AS-BUILT" SET OF MARK-UP PRINTS "OR" CADD FILES IN DWG. FORMAT AND DELIVER TO THE ARCHITECT AND ENGINEER FOR APPROVAL.
- 13. GUARANTEE:
- A. THE CONTRACTOR GUARANTEES BY HIS ACCEPTANCE OF THE CONTRACT THAT ALL WORK PROVIDED SHALL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER DATE OF CERTIFICATE OF COMPLETION AND ACCEPTANCE OF WORK BY THE OWNER. ANY DEFECTS IN WORKMANSHIP, MATERIALS OR PERFORMANCE WHICH APPEAR WITHIN THE GUARANTEE PERIOD SHALL BE CORRECTED BY THE CONTRACTOR WITHOUT ADDITIONAL COST.
- 14. TEST AND ADJUSTMENTS
- A. THE CONTRACTOR SHALL FURNISH LABOR, INSTRUMENTS, EQUIPMENTS, AND MATERIALS REQUIRED TO PERFORM TESTS PRESCRIBED IN THE SECTIONS DESCRIBING THE VARIOUS SYSTEMS. B. REPLACE OR REPAIR DEFECTS FOUND DURING INSPECTION OR TEST WITH NEW MATERIALS. CAULKING OF WELDED JOINTS,
- SCREWED JOINTS, CRACKS, OR HOLES IS NOT ACCEPTABLE. CORRECT LEAKS IN SCREWED FITTINGS BY REMAKING JOINTS. IN WELDED SYSTEMS LEAKS IN JOINTS SHALL BE CUTOUT AND REWELDED. REPEAT TESTS AFTER DEFECTS HAVE BEEN ELIMINATED. C. WHERE REASONABLE DOUBT EXISTS AS TO A SYSTEM'S ABILITY TO COMPLY WITH CONTRACT REQUIREMENTS, PERFORM ANY REASONABLE TEST REQUIRED BY THE ARCHITECT.
- D. MAKE STATIC PRESSURE TESTS AND PROVE TO THE SATISFACTION OF THE ARCHITECT THAT THE PIPING IS TIGHT BEFORE PIPES ARE CONCEALED OR INSULATED. TESTS SHALL BE PROVIDED AS HEREINAFTER SPECIFIED.
- E. USE TEST INSTRUMENTS FOR ACCURACY BY AN APPROVED LABORATORY OR BY THE INSTRUMENT MANUFACTURER AND FURNISH CERTIFICATES SHOWING DEGREE OF ACCURACY TO THE ARCHITECT WHEN REQUESTED. MAKE CALIBRATION HISTORIES FOR EACH
- INSTRUMENT AVAILABLE FOR EXAMINATION. F. WHERE GAUGES. THERMOMETERS AND OTHER INSTRUMENTS WHICH ARE TO BE LEFT PERMANENTLY INSTALLED ARE USED FOR TESTS. DO NOT INSTALL UNTIL JUST PRIOR TO THE TESTS TO AVOID POSSIBLE CHANGES IN CALIBRATION.

- 15. ELECTRICAL WORK:
- 1. TEMPERATURE CONTROL WIRING.
- B. UNDER DIVISION 16 ELECTRICAL, PROVIDE:
- WIRING THROUGH MOTOR STARTERS.
- NOTED OR SPECIFIED OTHERWISE.
- 16. HANDLING AND STORAGE OF MATERIALS:
- INCLUDING OWNER FURNISHED, ARE DAMAGED.
- STORAGE. IT SHALL BE THE CONTRACTOR'S COMPLETE RESPONSIBILITY FOR THE STORAGE AND CARE OF THE EQUIPMENT AND MATERIALS.
- AT NO COST TO THE OWNER.
- 17. CLEANING AND PAINTING:
- 18. IDENTIFICATION AND EQUIPMENT TAGS:
- 19. INSULATION:

APPROVAL

- PROVIDED FOR ALL COLD SURFACES AND SHALL BE CONTINUOUS.
- FROM THE JOB SITE.

TYPE III - DUCT INSULATION: PROVIDE BLANKET TYPE LIGHT SHALL NOT EXCEED 0.31 AT SEV FOUAL TO MANVILLE STANDARD
INSULATION TYPE AND THICKNE

<u>SERVICE</u>	<u>TYPI</u>
AIR CONDITIONING S CONCEALED	SUPPLY & R

- EXPOSED 20. <u>DUCTWORK</u>:

- 21. LOW PRESSURE DUCTWORK

ADDENDA

"BREATHING"

- FOR ACCEPTABLE INSTALLATION TECHNIQUES.
- . LONGITUDINAL SEAMS 2. CORNER CLOSURES
- 3 HANGERS 4. RECTANGULAR ELBOWS
- 6. OFFSETS & TRANSITIONS 7. BRANCH CONNECTIONS
- 8. VOLUME DAMPERS UP TO 12" DEEP 9. VOLUME DAMPERS OVER 12" DEEP
- SHEET METAL SIZES ACCORDINGLY TO COMPENSATE FOR THICKNESS OF LINING.
- INSTALLED IN INSULATED DUCTWORK.

- WITH THE MECHANICAL CONTRACTOR.

23. VRF MULTIZONE HEAT PUMP:

A. PRODUCT DESIGN

A. UNDER DIVISION 15 MECHANICAL, PROVIDE THE FOLLOWING ITEMS OF ELECTRICAL WORK WHICH SHALL CONFORM WITH THE APPLICABLE REQUIREMENTS OF THE ELECTRICAL DIVISION:

2. INTERLOCK WIRING FOR MECHANICAL EQUIPMENT

1. POWER WIRING COMPLETE FROM SOURCE TO MOTOR OR EQUIPMENT JUNCTION BOX, INCLUDING POWER

2. MOTOR CONTROL CENTERS OR MOTOR STARTER PANELBOARDS.

3. ALL MISCELLANEOUS INDIVIDUAL MOTOR STARTERS, LOCAL WALL MOUNTED CONTROL DEVICES, UNLESS 4. ALL FIRE ALARM INTERFACE WIRING INCLUDING SMOKE DETECTORS LOCATED IN MECHANICAL SYSTEMS.

A. PROPER AND SUITABLE TOOLS, EQUIPMENT AND APPLIANCES FOR THE SAFE AND CONVENIENT HANDLING AND PLACING OF ALL MATERIALS AND EQUIPMENT SHALL BE USED. DURING LOADING, UNLOADING, AND PLACING, CARE SHALL BE TAKEN IN HANDLING THE EQUIPMENT AND MATERIALS SO THAT NO EQUIPMENT OR MATERIALS,

B. ALL MECHANICAL AND/OR ELECTRICAL EQUIPMENT DELIVERED TO THE JOB SITE SHALL BE STORED UNDER ROOF OR OTHER APPROVED COVERING, ON PEDESTALS ABOVE THE GROUND. ALL ENCLOSURES FOR EQUIPMENT SHALL BE WEATHERPROOF. ANY MOTORS WHICH ARE NOT TOTALLY ENCLOSED, THAT ARE INVOLVED IN THE WORK, SHALL BE STORED IN A HEATED AREA WITH A MINIMUM TEMPERATURE OF 50 DEGREES FAHRENHEIT. ALL VALVES SHALL BE STORED UNDER ROOF ON WOOD PEDESTALS ABOVE GROUND. ALL INSULATION SHALL BE STORED UNDER ROOF OR IN TRAILERS, ADEQUATELY PROTECTED FROM THE WEATHER. THE CONTRACTOR SHALL FOLLOW ALL WRITTEN INSTRUCTIONS AND RECOMMENDATIONS OF THE MANUFACTURER AND ALL REQUIREMENTS OF THE ARCHITECT IN OILING, PROTECTION AND MAINTENANCE OF EQUIPMENT DURING

2. IF ANY MATERIALS AND/OR EQUIPMENT ARE FOUND TO BE IN POOR CONDITION AT THE TIME OF BEING INSTALLED. THE ARCHITECT MAY, AT HIS DISCRETION, ORDER THE CONTRACTOR TO FURNISH AND INSTALL NEW EQUIPMENT

A. THOROUGHLY CLEAN ALL EXPOSED SURFACES OF EQUIPMENT AND MATERIAL AND LEAVE IN A NEAT, CLEAN CONDITION READY FOR PAINTING. RESTORE AND TOUCH-UP FACTORY FINISHES WHICH HAVE BEEN DAMAGED DURING CONSTRUCTION. FINISHED PAINTING WILL BE PERFORMED UNDER ANOTHER DIVISION.

A. ALL EQUIPMENT HEREIN SPECIFIED SHALL BE MARKED TO CLEARLY IDENTIFY EQUIPMENT, FUNCTION AND SPACE OR DUTY THEY SERVE. MECHANICAL EQUIPMENT SHALL BE IDENTIFIED USING ENGRAVED LAMINATED BLACK AND WHITE PHENOLIC LEGEND PLATES. LETTERS SHALL BE MINIMUM, 3/4" HIGH WHITE ON SURROUNDING BLACK. PLATES SHALL BE MOUNTED BY MEANS OF SHEET METAL SCREWS. SUBMIT NAMEPLATE LIST TO OWNER FOR

A. ALL INSULATION SHALL BE INSTALLED BY SKILLED WORKMEN REGULARLY ENGAGED IN THIS TYPE OF WORK AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' PRINTED INSTRUCTIONS. B. INSULATION SHALL BE CONTINUOUS AT ALL HANGERS, SLEEVES, AND OPENINGS. VAPOR SEALS SHALL BE

. INSULATION MATERIALS SHALL NOT BE APPLIED UNTIL ALL SURFACES TO BE COVERED ARE CLEAN AND DRY, AND PIPING AND DUCT SYSTEMS ARE TESTED. IF INSULATION MATERIAL HAS BECOME WET IT SHALL BE REMOVED

D. MATERIALS SHALL CONFORM TO THE FOLLOWING PRODUCTS INDICATED WITH CSG, OWENS/CORNING OR EQUAL.

PROVIDE BOARD TYPE LIGHTWEIGHT FIBERGLASS DUCT INSULATION WITH FACTORY APPLIED ALL SERVICE JACKET (ASJ). INSULATION SHALL BE EQUAL TO JOHNS MANVILLE 800 SERIES SPIN-GLAS.

> WEIGHT FIBERGLASS DUCT INSULATION WITH VAPOR BARRIER FACING. THE K FACTOR VENTY FIVE DEGREES FAHRENHEIT (75°F) MEAN TEMPERATURE. INSULATION SHALL BE D MICROLITE WITH FSK FACING.

ESS SHALL CONFORM WITH THE FOLLOWING SCHEDULE: E <u>THICKNESS</u> RETURN AIR DUCTWORK:

A. UNLESS NOTED OTHERWISE, DUCTWORK SHALL BE CONSTRUCTED OF PRIME, FIRST QUALITY GALVANIZED STEEL OF GAUGES AS CALLED FOR IN THE SMACNA MANUAL. REINFORCE ALL DUCTS TO PREVENT BUCKLING. BREATHING, VIBRATIONS, OR UNNECESSARY NOISE. SUCH REINFORCING SHALL BE AS RECOMMENDED IN DUCT MANUAL, PLUS ANY ADDITIONAL REINFORCING AS REQUIRED TO MEET JOB CONDITIONS, LONGITUDINAL AND CROSS JOINTS, ELBOWS, TRANSITIONS, ETC, SHALL BE FURNISHED AS SPECIFIED IN DUCT MANUAL, INCLUDING RECOMMENDED DUCT SUPPORTS TO SUIT JOB CONDITIONS.

B. ALL UNINSULATED RECTANGULAR DUCTWORK SHALL BE CROSSBROKEN ON ALL FOUR SIDES OF EACH PANEL SECTION. ALL VERTICAL AND HORIZONTAL SHEET METAL BARRIERS, DUCT OFFSETS AND ELBOWS, AS WELL AS THE PANELS OF STRAIGHT SECTIONS OF DUCTS, SHALL BE CROSSBROKEN. CROSSBREAKING SHALL BE APPLIED BETWEEN THE STANDING SEAMS OR REINFORCING ANGLES. THE CENTER OF THE CROSSBREAK SHALL BE OF THE REQUIRED HEIGHT TO ASSURE EACH PANEL SECTION BEING RIGID, TO PREVENT VIBRATIONS AND

A. DUCTWORK SHALL CONFORM WITH REQUIREMENTS AND DETAILS, UNLESS SPECIFIED OR INDICATED OTHERWISE IN THE DUCT MANUAL, "HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE," 2005 WITH ALL

B. FLEXIBLE DUCT CONNECTIONS WHERE INDICATED OR REQUIRED TO ELIMINATE DUCT VIBRATION SHALL BE "VENTGLASS" DUCT FABRIC AS MANUFACTURED BY VENTFABRICS, INC., OR APPROVED EQUAL. REFER TO DETAIL

C. EXCEPT AS NOTED HEREIN UNDER "MEDIUM PRESSURE DUCTWORK", ALL DUCTWORK INCLUDING OUTSIDE AIR. RETURN AIR, AND EXHAUST AIR PROVIDED ON THE PROJECT SHALL BE LOW PRESSURE CONSTRUCTION. RECTANGULAR LOW PRESSURE DUCTWORK CONSTRUCTION SHALL CONFORM TO THE FOLLOWING STANDARDS:

FIG. 2-2, TYPES L-1, L-2, & L-4 FIGS. 2-14 THRU 2-18 FIG. 5-1, 5-2, & 5-5 & TABLES 5-1 & 5-2 FIG. 4-2, TYPES RE-1 & RE-2 5. VANED ELBOWS (APPLIES TO RE-2 TYPE) FIGS. 4-3 & 4-4 RUNNER TYPE 1 TO HAVE A VANE AT EACH TAB FIG. 4-7 FIG. 4-6, 45° ONLY FIG. 7-4, FIGS. A&B W/LOCKING QUADRANT

FIG. 7-5 W/LOCKING QUADRANT D. DUCT SIZES INDICATED ON THE DRAWINGS ARE AIR SIDE SIZES. WHERE DUCT LINING IS INDICATED, INCREASE

E. LOW PRESSURE DUCTWORK SHALL BE RATED AS INDICATED AND SEALED IN ACCORDANCE WITH THE DUCT CONSTRUCTION SCHEDULE. SEAL ALL TRANSVERSE JOINTS AND FITTINGS IN ALL LOW PRESSURE DUCTWORK WITH UNITED DUCT SEALER OR MINERAL IMPREGNATED WOVEN FIBER TAPE AS MANUFACTURED BY HARDCAST,

F. PROVIDE VENTLOK #555 OR APPROVED EQUAL QUADRANT ON ALL VOLUME DAMPERS INSTALLED IN UNINSULATED DUCTWORK. PROVIDE VENTLOK #639 OR APPROVED EQUAL QUADRANT ON ALL VOLUME DAMPERS

G. SUPPORT ALL DUCTS IN ACCORDANCE WITH DUCT MANUAL, TABLES 5-1 & 5-2 AND AS HEREIN BEFORE SPECIFIED AND AS INDICATED AND NOTED ON THE DRAWINGS.

H. FLEXIBLE DUCTWORK SHALL BE HART & COOLEY TYPE F-114 OR APPROVED EQUAL. FLEXIBLE DUCT SHALL COMPLY WITH NFPA BULLETIN 90A AND SHALL BE U.L. LISTED AS CLASS 1 AIR DUCT & CONNECTOR, STANDARD 181. FLEXIBLE DUCT SHALL BE APPROVED AND SUITABLE FOR INSTALLATION IN CEILING RETURN AIR PLENUMS.

I. PROVIDE CONICAL FITTINGS WITH INTEGRAL VOLUME DAMPER AT FLEXIBLE DUCT CONNECTIONS TO SHEET METAL DUCT. SEAL ALL FITTINGS TO SHEET METAL DUCT WITH UNITED DUCT SEALER.

CIRCULAR LOW PRESSURE DUCTWORK SHALL BE MANUFACTURED BY MCGILL, UNITED SHEET METAL, THERMODUCT, OR APPROVED EQUAL AND SHALL CONSIST OF SPIRAL PIPE AND WELDED FITTINGS.

22. TESTING, BALANCING AND COMMISSIONING:

A. TESTING, BALANCING, AND COMMISSIONING SHALL BE PROVIDED BY UNDER A SEPARATE CONTRACT DIRECTLY

- 1. THE MULTI ZONE HVAC SYSTEM SHALL BE A VARIABLE CAPACITY, DIRECT EXPANSION (DX) HEAT PUMP ENGINEERED SYSTEM CONSISTING OF A SINGLE OUTDOOR UNIT AND AT LEAST TWO INDOOR UNITS. THE OUTDOOR UNIT SHALL HAVE A SINGLE INVERTER COMPRESSOR. THE OUTDOOR UNIT SHALL BE CONNECTED TO MULTIPLE INDOOR UNITS (DUCTED, NON-DUCTED OR MIXED TYPE) THROUGH A NETWORK OF PIPING AND CONTROL WIRING. EACH INDOOR UNIT SHALL BE CAPABLE OF PROVIDING INDIVIDUAL CONTROL
- 2. THE HEAT PUMP SYSTEM SHALL BE AN AIR COOLED SYSTEM CONSISTING OF A SINGLE OUTDOOR UNIT CONNECTED TO MULTIPLE INDOOR UNITS. ALL INDOOR UNITS SHALL BE IN THE SAME MODE (HEATING OR COOLING) AT THE SAME TIME. 3. THE HEAT PUMP SYSTEM WILL BE AVAILABLE IN 208/230V, 60HZ, 1 PHASE.
- B. OPERATING CONDITIONS 1. THE OUTDOOR UNIT SHALL BE CAPABLE OF THE FOLLOWING AMBIENT OPERATING RANGE
- A) COOLING: 14°F DB TO 118°F DB B) HEATING: -13°F WB TO 75°F DB
- C. GENERAL FEATURES 1. UNIT SHALL BE MANUFACTURED BY LG, DAIKIN, TRANE, HITACHI.
- 2. THE AIR-CONDITIONING SYSTEM SHALL USE R410A REFRIGERANT THE SYSTEM SHALL HAVE ONE AIR SOURCE OUTDOOR UNIT.
- 4. REFRIGERANT CIRCUIT FOR MULTIPLE PIPING SYSTEM A) THE REFRIGERANT CIRCUIT SHALL BE FIELD PIPED TO MULTIPLE (DUCTED, NON-DUCTED OR MIXED) INDOOR UNITS TO EFFECTIVELY AND EFFICIENTLY CONTROL THE HEATING OR COOLING OPERATION OF THE MULTI ZONE SYSTEM. B) ALL REFRIGERANT PIPING FROM OUTDOOR UNIT TO INDOOR UNITS SHALL BE FIELD INSULATED.
- 5. FACTORY INSTALLED MICROPROCESSOR CONTROLS IN THE OUTDOOR UNIT AND INDOOR UNITS SHALL PERFORM FUNCTIONS TO EFFICIENTLY OPERATE THE MULTI ZONE SYSTEM AND COMMUNICATE IN A TREE CONFIGURATION FROM OUTDOOR UNIT TO INDOOR UNITS VIA MINIMUM 18 AWG. 4 CONDUCTOR AND STRANDED, SHIELDED OR UNSHIELDED POWER/COMMUNICATION CABLE. IF SHIELDED, IT MUST BE
- GROUNDED TO CHASSIS AT ODU ONLY. 6. THE MULTIPLE PIPING SYSTEM SHALL HAVE THE ABILITY TO CONNECT 2, 2 TO 3, OR 2 TO 4 INDOOR
- 7. THE SYSTEM SHALL BE CAPABLE OF PERFORMING CONTINUOUS OPERATION EVEN WHEN POWER IS TURNED OFF TO AN INDIVIDUAL INDOOR UNIT.
- 8. THE OUTDOOR UNIT SHALL BE INTERNALLY ASSEMBLED, WIRED AND PIPED FROM THE FACTORY. 9. THE FACTORY ASSEMBLED SYSTEM SHALL HAVE THE OUTDOOR UNIT FITTED WITH REFRIGERANT STRAINER, CHECK VALVES, OIL SEPARATOR, ACCUMULATOR 4-WAY REVERSING VALVE, ELECTRONIC EXPANSION VALVE(S), HIGH SIDE AND LOW SIDE REFRIGERANT CHARGING PORTS, AND A SERVICE PORT.
- D. FIELD SUPPLIED REFRIGERANT PIPING DESIGN PARAMETERS 1. THE OUTDOOR UNIT SHALL BE CAPABLE OF OPERATING AT AN ELEVATION OF 49.2 FEET ABOVE OR BELOW THE INDOOR UNITS. 2. THE OUTDOOR UNIT SHALL BE CAPABLE OF OPERATING WITH UP TO 164 FEET, OR 246 FEET OF TOTAL
- EQUIVALENT REFRIGERANT PIPING LENGTH. 3. THE OUTDOOR UNIT SHALL BE CAPABLE OF OPERATING WITH UP TO 82 EQUIVALENT FEET OF REFRIGERANT PIPING LENGTH TO THE FARTHEST INDOOR UNIT.
- E. DEFROST OPERATIONS 1. THE OUTDOOR UNIT SHALL BE CAPABLE OF AUTO DEFROST OPERATION TO MELT ACCUMULATED ICE OFF THE OUTDOOR UNIT HEAT EXCHANGER. THE DEFROST CYCLE CONTROL SHALL BE BASED ON OUTDOOR AMBIENT TEMPERATURES AND OUTDOOR UNIT HEAT EXCHANGER TEMPERATURES. 2. THE OUTDOOR UNIT SHALL ACCOMMODATE AN OPTIONAL DRAIN PAN HEATER. THE OUTDOOR UNIT SHALL INCLUDE A FACTORY INSTALLED DRAIN PAN HEATER.
- F. OIL MANAGEMENT 1. THE OUTDOOR UNIT SHALL HAVE AN OIL INJECTION MECHANISM TO ENSURE A CONSISTENT FILM OF OIL ON ALL MOVING COMPRESSOR PARTS AT LOW SPEED. 2. THE OUTDOOR UNIT SHALL HAVE AN OIL SEPARATOR TO SEPARATE OIL MIXED WITH THE REFRIGERANT GAS DURING COMPRESSION AND RETURN OIL TO THE COMPRESSOR.
- G. FAN AND MOTOR ASSEMBLY 1. EACH OUTDOOR UNIT SHALL BE EQUIPPED WITH ONE DIRECT DRIVE VARIABLE SPEED PROPELLER FAN WITH BRUSHLESS DIGITALLY CONTROLLED (BLDC) MOTOR WITH A HORIZONTAL AIR DISCHARGE. THE FAN BLADES SHALL BE MADE OF ACRYLONITRILE BUTADIENE STYRENE (ABS) MATERIAL. THE FAN(S) SHALL BE EQUIPPED WITH PERMANENTLY LUBRICATED BEARINGS. . THE FAN MOTOR(S) SHALL HAVE VARIABLE SPEED TO A MAXIMUM OF 950 RPM.
- 5. THE FAN(S) SHALL HAVE A RAISED GUARD TO HELP PREVENT CONTACT WITH MOVING PARTS. 1. THE OUTDOOR UNIT CABINET SHALL BE MADE OF PRE-COATED METAL (PCM).
- THE FRONT/SIDE PANELS OF THE OUTDOOR UNIT SHALL BE REMOVABLE TYPE FOR ACCESS TO INTERNAL COMPONENTS 3. OUTDOOR UNIT CABINET SHALL BE TESTED IN ACCORDANCE WITH ASTM B-117 SALT SPRAY TEST PROCEDURE FOR A MINIMUM OF 1000 HOURS.
- I. OUTDOOR UNIT COIL 1. THE OUTDOOR UNIT SHALL HAVE A FACTORY BUILT COIL COMPRISED OF ALUMINUM FINS MECHANICALLY BONDED ON COPPER TUBING. THE ALUMINUM FINS SHALL HAVE FACTORY APPLIED CORROSION RESISTANT MATERIAL. 8. COIL COATING SHALL BE TESTED IN ACCORDANCE WITH ASTM B-117 SALT SPRAY TEST PROCEDURE FOR A
- MINIMUM OF 1000 HOURS. 4. THE OUTDOOR UNIT COIL SHALL BE FACTORY TESTED TO A PRESSURE OF 600 PSIG. THE COIL FOR EACH OUTDOOR UNIT SHALL HAVE A MINIMUM OF 14 FINS PER INCH (FPI).
- THE COIL FOR EACH OUTDOOR UNIT SHALL HAVE A 2 ROW HEAT EXCHANGER. 7. THE OUTDOOR UNIT CABINET SHALL HAVE A COIL GUARD.
- J. COMPRESSOR(S) 1. THE OUTDOOR UNIT SHALL BE EQUIPPED WITH ONE HERMETICALLY SEALED, DIGITALLY CONTROLLED, INVERTER DRIVEN TWIN-ROTARY COMPRESSOR. 2. THE INVERTER DRIVEN, DIGITALLY CONTROLLED COMPRESSOR SHALL BE CAPABLE OF OPERATING IN A FREQUENCY RANGE FROM 20 HZ TO 100 HZ WITH CONTROL IN 1 HZ INCREMENTS. 3. THE COMPRESSOR SHALL BE MOUNTED ON VIBRATION ATTENUATING RUBBER GROMMETS. 4. THE COMPRESSOR SHALL USE A FACTORY CHARGE OF POLYVINYL ETHER (PVE) OIL.
- 5. THE COMPRESSOR BEARING(S) SHALL HAVE TEFLON™ COATING. 6. THE COMPRESSOR SHALL BE EQUIPPED WITH OVER-CURRENT PROTECTION.
- K. OPERATIONAL SOUND LEVELS 1. THE OUTDOOR UNIT SHALL HAVE SOUND LEVELS NOT EXCEEDING 52 DB(A), 54 DB(A), 55 DB(A), TESTED IN AN ANECHOIC CHAMBER UNDER ISO 3745 STANDARD. L. SENSORS
- 1. THE OUTDOOR UNIT SHALL HAVE A) SUCTION TEMPERATURE SENSOR B) DISCHARGE TEMPERATURE SENSOR
- C) HIGH PRESSURE SENSOR D) LOW PRESSURE SENSOF E) OUTDOOR TEMPERATURE SENSOR
- F) OUTDOOR UNIT HEAT EXCHANGER TEMPERATURE SENSOR M. CORROSION QUALITY CONTROL
- 1. OUTDOOR UNIT PAINTED SURFACES SHALL BE FACTORY TESTED FOR A MINIMUM OF 1000 HOURS USING THE ACCELERATED SALT SPRAY TEST PROCEDURE AS DOCUMENTED IN ASTM STANDARD B-117 USING THE SURFACE SCRATCH TEST PROCEDURE. PHOTOGRAPHIC EVIDENCE SHALL BE AVAILABLE UPON REQUEST BY THE ENGINEER OF RECORD.
- PHOTOGRAPHIC EVIDENCE SHALL INCLUDE IMAGES OF THE TEST SAMPLE SHOWING THE SURFACE SCRATCH AREA AT ZERO (0) HOURS, 400 HOURS, AND 1000 HOURS. POST-TEST IMAGES OF THE SAMPLE MUST SHOW NO SIGNIFICANT DETERIORATION OF THE COATING MATERIAL, BLISTERING, FLAKING, PEELING, OR RUST FORMATION ALONG THE TEST SCRATCH
- N WARRANTY 1. LIMITED WARRANTY PERIOD A) STANDARD FIVE (5) YEAR WARRANTY FOR A QUALIFIED SYSTEM - THE PART(S) OF A QUALIFIED SYSTEM, INCLUDING THE COMPRESSOR, ARE WARRANTED FOR A PERIOD (THE "STANDARD PARTS WARRANTY PERIOD") ENDING FIVE (5) YEARS AFTER THE DATE OF ORIGINAL INSTALLATION. IN ABSENCE OF PROOF OF INSTALLATION THE WARRANTY DATE WILL END FIVE (5) YEARS FROM THE DATE OF MANUFACTURE.
- B) ADDITIONAL TWO (2) YEAR COMPRESSOR PART WARRANTY THE COMPRESSOR IS WARRANTED FOR AN ADDITIONAL TWO (2) YEAR PERIOD AFTER THE END OF THE APPLICABLE STANDARD PART WARRANTY PERIOD (THE "COMPRESSOR WARRANTY PERIOD").
- 2 EXTENDED WARRANTY A) THE STANDARD WARRANTY PERIOD AND THE COMPRESSOR WARRANTY PERIOD ARE EXTENDED TO A TOTAL OF TEN (10) YEARS (THE "EXTENDED WARRANTY PERIOD") FOR QUALIFIED SYSTEMS THAT HAVE BEEN INSTALLED BY A PARTY THAT HAS COMPLETED THE TRAINING REQUIREMENTS.

24. VRF INDOOR UNIT - WALL MOUNTED-HIGH EFFICIENCY: 24.A WALL MOUNTED – HIGH EFFICIENCY

> A. OPERATING CONDITIONS 1. THE INDOOR UNIT SHALL BE CAPABLE OF THE FOLLOWING AMBIENT OPERATING RANGE. A) COOLING: 57°F DB TO 77°F WB

- B) HEATING: 59°F WB TO 81°F DB B. GENERAL
- 1. UNIT SHALL BE MANUFACTURED BY LG, DAIKIN, TRANE, HITACHI.. 2. UNIT SHALL BE FACTORY ASSEMBLED, WIRED, PIPED AND RUN TESTED. 3. UNIT SHALL BE DESIGNED TO BE INSTALLED FOR INDOOR APPLICATION.
- 4. UNIT SHALL BE ATTACHED TO AN INSTALLATION PLATE/BRACKET THAT SECURES UNIT TO THE WALL. 5. THE DEPTH OF THE UNIT SHALL NOT EXCEED 9 INCHES.
- C. CASING/PANEL UNIT CASE SHALL BE MANUFACTURED OF HEAVY DUTY AND HIGH IMPACT POLYSTYRENE PLASTIC. 2. UNIT CASE SHALL HAVE A PEARL WHITE FINISH. 3. THE FRONT SURFACE OF THE UNIT SHALL HAVE AN ARCHITECTURAL CURVED PANEL WITH PEARL WHITE
 - FINISH AND INTEGRATED DIGITAL DISPLAY.

D. CABINET ASSEMBLY UNIT SHALL HAVE ONE SUPPLY AIR OUTLET AND ONE RETURN AIR INLET. 2. UNIT SHALL BE EQUIPPED WITH FACTORY INSTALLED TEMPERATURE THERMISTORS FOR A) RETURN AIR **B)** REFRIGERANT ENTERING COIL C) REFRIGERANT LEAVING COIL UNIT SHALL HAVE A BUILT-IN CONTROL PANEL TO COMMUNICATE WITH THE OUTDOOR UNIT. 4. UNIT SHALL HAVE THE FOLLOWING FUNCTIONS AS STANDARD A) SELF-DIAGNOSTIC FUNCTION B) AUTO RESTART FUNCTION C) AUTO OPERATION FUNCTION D) AUTO CLEAN FUNCTION E) DEHUMIDIFYING FUNCTION F) FORCED OPERATION G) HOT START H) SLEEP MODE UNIT SHALL BE CAPABLE OF REFRIGERANT PIPING IN 4 DIFFERENT DIRECTIONS. 6. UNIT SHALL BE CAPABLE OF DRAIN PIPING IN 2 DIFFERENT DIRECTIONS. E. FAN ASSEMBLY 1. THE UNIT SHALL HAVE A DIRECT DRIVE, CROSS FLOW FAN MADE OF HIGH STRENGTH ABS PLASTIC. THE FAN MOTOR IS BRUSHLESS DIGITALLY CONTROLLED (BLDC) WITH PERMANENTLY LUBRICATED AND SEALED BALL BEARINGS. THE FAN/MOTOR ASSEMBLY SHALL BE MOUNTED ON VIBRATION ATTENUATING RUBBER GROMMETS. THE FAN SPEED SHALL BE CONTROLLED USING MICROPROCESSOR BASED DIRECT DIGITALLY CONTROLLED ALGORITHM. 5. IN COOLING MODE, THE INDOOR FAN SHALL HAVE THE FOLLOWING SETTINGS: LOW, MED, HIGH, JET COOL, AND AUTO. 6. IN HEATING MODE, THE INDOOR FAN SHALL HAVE THE FOLLOWING SETTINGS: LOW, MED, HIGH, JET HEAT AND AUTO. THE AUTO FAN SETTING SHALL ADJUST THE FAN SPEED TO MOST EFFECTIVELY ACHIEVE THE SET-POINT. 8. UNIT SHALL HAVE FACTORY INSTALLED MOTORIZED LOUVER TO PROVIDE FLOW OF AIR IN UP AND DOWN DIRECTION FOR UNIFORM AIRFI OW 9. UNIT SHALL HAVE FACTORY INSTALLED MOTORIZED GUIDE VANE TO CONTROL THE DIRECTION OF FLOW OF AIR FROM SIDE TO SIDE F. FILTER ASSEMBLY 1. THE RETURN AIR INLET SHALL HAVE A FACTORY SUPPLIED PRIMARY REMOVABLE, WASHABLE FILTER. THE UNIT SHALL BE EQUIPPED WITH FACTORY SUPPLIED SECONDARY 3M MICRO DUST FILTER. 3. THE FILTER ACCESS SHALL BE FROM THE FRONT OF THE UNIT. G. COIL ASSEMBLY . UNIT SHALL HAVE A FACTORY BUILT COIL COMPRISED OF ALUMINUM FINS MECHANICALLY BONDED ON COPPER TUBING UNIT SHALL HAVE MINIMUM OF 2 ROWS OF COILS. UNIT SHALL HAVE A FACTORY SUPPLIED CONDENSATE DRAIN PAN BELOW THE COIL. UNIT SHALL BE DESIGNED FOR GRAVITY DRAIN. 5. UNIT SHALL HAVE A FACTORY INSULATED DRAIN HOSE TO HANDLE CONDENSATE 6. UNIT SHALL HAVE PROVISION OF 45° FLARE REFRIGERANT PIPE CONNECTIONS. THE COIL SHALL BE FACTORY PRESSURE TESTED AT A MINIMUM OF 551 PSIG. 8. ALL REFRIGERANT PIPING FROM OUTDOOR UNIT TO INDOOR UNIT SHALL BE FIELD INSULATED. H. MICROPROCESSOR CONTROL 1. THE UNIT SHALL HAVE A FACTORY INSTALLED MICROPROCESSOR CONTROLLER CAPABLE OF PERFORMING FUNCTIONS NECESSARY TO OPERATE THE SYSTEM. 2. THE UNIT SHALL BE ABLE TO COMMUNICATE WITH THE OUTDOOR UNIT USING A FIELD SUPPLIED MINIMUM OF 18 AWG, 4 CONDUCTOR, STRANDED, SHIELDED OR UNSHIELDED POWER/COMMUNICATION CABLE. IF SHIELDED, IT MUST BE GROUNDED TO CHASSIS AT ODU ONLY. 3. CENTRAL CONTROL SHALL BE AVAILABLE THROUGH AN OPTIONAL CONTROL BOARD FOR THE OUTDOOR UNIT. 4. GROUP CONTROL SHALL BE AVAILABLE TO ALLOW MULTIPLE INDOOR UNITS TO OPERATE FROM A SINGLE CONTROLLER, OR ALLOW CONNECTION OF MORE THAN ONE CONTROLLER TO AN INDOOR UNIT. 5. THE UNIT CONTROLS SHALL OPERATE THE INDOOR UNIT USING ONE OF THE FIVE OPERATING MODES: A) AUTO OPERATION B) HEATING C) COOLING D) DRY E) FAN ONLY ELECTRICAL THE UNIT ELECTRICAL POWER SHALL BE 208-230/1/60 (V/PH/HZ) 2. THE UNIT SHALL BE CAPABLE OF OPERATING WITHIN VOLTAGE LIMITS OF +/- 10% OF THE RATED VOLTAGE. J. CONDENSATE SENSOR CONNECTION 1. THE UNIT SHALL INCLUDE A FACTORY INSTALLED CONDENSATE SENSOR CONNECTION COMPATIBLE WITH THE CONDENSATE SENSOR. K. CONTROLS THE INDOOR UNIT SHALL BE SUPPLIED WITH A WIRELESS HANDHELD CONTROLLER. 2. AN OPTIONAL WIRED CONTROLLER SHALL BE AVAILABLE AS AN ADDITIONAL ACCESSORY. I WARRANTY 1. PLEASE REFER TO THE RESPECTIVE OUTDOOR UNIT FOR APPLICABLE WARRANTY. 24.B. CEILING CASSETTE – 4 WAY A. OPERATING CONDITIONS . THE INDOOR UNIT SHALL BE CAPABLE OF THE FOLLOWING AMBIENT OPERATING RANGE A) COOLING: 57°F DB TO 77°F WB B) HEATING: 59°F WB TO 81°F DB B. GENERAL UNIT SHALL BE MANUFACTURED BY LG, DAIKIN, TRANE, HITACHI. 2. UNIT SHALL BE FACTORY ASSEMBLED, WIRED, PIPED AND RUN TESTED UNIT SHALL BE DESIGNED TO BE INSTALLED FOR INDOOR APPLICATION. 4. UNIT SHALL BE DESIGNED TO MOUNT RECESSED IN THE CEILING AND HAS A SURFACE MOUNTED CONCENTRIC GRILLE ON THE BOTTOM OF THE UNIT. C. CASING/PANEI . UNIT CASE SHALL BE MANUFACTURED USING GALVANIZED STEEL PLATE. THE UNIT SHALL BE PROVIDED WITH AN OFF-WHITE ARCHITECTURAL GRILLE. THE GRILLE SHALL HAVE A TAPERED TRIM EDGE, AND A HINGED, SPRING CLIP (SCREW-LESS) RETURN AIR FILTER-GRILLE DOOR. UNIT SHALL BE PROVIDED WITH METAL EARS DESIGNED TO SUPPORT THE UNIT WEIGHT ON FOUR CORNERS. 5. EARS SHALL HAVE PRE-PUNCHED HOLES DESIGNED TO ACCEPT FIELD SUPPLIED ALL THREAD ROD HANGERS. D. CABINET ASSEMBLY UNIT SHALL HAVE FOUR SUPPLY AIR OUTLETS AND ONE RETURN AIR INLET. THE SUPPLY AIR OUTLET SHALL BE THROUGH FOUR-DIRECTIONAL SLOT DIFFUSERS EACH EQUIPPED WITH INDEPENDENT OSCILLATING MOTORIZED GUIDE VANE DESIGNED TO CHANGE THE AIRFLOW DIRECTION. 3. THE GRILLE SHALL HAVE A DISCHARGE RANGE OF MOTION OF 40° IN AN UP/DOWN DIRECTION WITH CAPABILITIES OF LOCKING THE 4. THE UNIT SHALL HAVE A GUIDE VANE ALGORITHM DESIGNED TO SEQUENTIALLY CHANGE THE PREDOMINANT DISCHARGE AIRFLOW DIRECTION IN COUNTERCLOCKWISE PATTERN. 5. GUIDE VANES SHALL PROVIDE AIRFLOW IN ALL DIRECTIONS. 6. UNIT SHALL BE EQUIPPED WITH FACTORY INSTALLED TEMPERATURE THERMISTORS FOR A) RETURN AIR B) REFRIGERANT ENTERING COIL C) REFRIGERANT LEAVING COIL 7. UNIT SHALL HAVE A BUILT-IN CONTROL PANEL TO COMMUNICATE WITH THE OUTDOOR UNIT 8. THE UNIT SHALL HAVE PROVISION FOR FRESH AIR VENTILATION THROUGH A KNOCK-OUT ON THE CABINET. THE UNIT SHALL HAVE FACTORY DESIGNATED BRANCH DUCT KNOCKOUTS ON THE UNIT CASE. 10. THE BRANCH DUCT KNOCKOUTS SHALL HAVE THE ABILITY TO DUCT UP TO HALF OF THE UNIT AIRFLOW CAPACITY. 11. THE BRANCH DUCT SHALL BE DUCTED WITHIN THE SAME ROOM AS THE INDOOR UNIT. 12. UNIT SHALL HAVE THE FOLLOWING FUNCTIONS AS STANDARD A) SELF-DIAGNOSTIC FUNCTION B) AUTO RESTART FUNCTION C) AUTO OPERATION FUNCTION D) DEHUMIDIFYING FUNCTION E) FORCED OPERATION F) HOT START G) SLEEP MODE E. FAN ASSEMBLY THE UNIT SHALL HAVE A SINGLE DIRECT DRIVEN TURBO FAN. THE FAN SHALL BE MADE OF HIGH STRENGTH ABS HT-700 POLYMERIC RESIN. THE FAN MOTOR IS BRUSHLESS DIGITALLY CONTROLLED (BLDC) WITH PERMANENTLY LUBRICATED AND SEALED BALL BEARINGS. THE FAN/MOTOR ASSEMBLY SHALL BE MOUNTED ON VIBRATION ATTENUATING RUBBER GROMMETS THE FAN SPEED SHALL BE CONTROLLED USING MICROPROCESSOR BASED DIRECT DIGITALLY CONTROLLED ALGORITHM. IN COOLING MODE, THE INDOOR FAN SHALL HAVE THE FOLLOWING SETTINGS: LOW, MED, HIGH, POWER COOL, AND AUTO. . IN HEATING MODE, THE INDOOR FAN SHALL HAVE THE FOLLOWING SETTINGS: LOW, MED, HIGH, AND AUTO 8. THE AUTO FAN SETTING SHALL ADJUST THE FAN SPEED TO MOST EFFECTIVELY ACHIEVE THE SET-POINT 9. UNIT SHALL HAVE FACTORY INSTALLED MOTORIZED LOUVERS TO PROVIDE FLOW OF AIR IN UP AND DOWN DIRECTION FOR UNIFORM AIRFLOW. F. FILTER ASSEMBLY THE RETURN AIR INLET SHALL HAVE A FACTORY SUPPLIED 14" X 14" X 1" PRIMARY REMOVABLE, WASHABLE FILTER. 2. THE FILTER ACCESS SHALL BE FROM THE BOTTOM OF THE UNIT. G. COIL ASSEMBLY UNIT SHALL HAVE A FACTORY BUILT COIL COMPRISED OF ALUMINUM FINS MECHANICALLY BONDED ON COPPER TUBING. 2. UNIT SHALL HAVE MINIMUM OF 2 ROWS OF COILS. 3. UNIT SHALL HAVE A FACTORY SUPPLIED CONDENSATE DRAIN PAN BELOW THE COIL. 4. UNIT SHALL HAVE AN INSTALLED AND WIRED CONDENSATE DRAIN PUMP CAPABLE OF PROVIDING MINIMUM 27.5 INCH LIFT OR 31.5 INCH LIFT FROM BOTTOM SURFACE OF THE UNIT. . THE DRAIN PUMP SHALL HAVE A SAFETY SWITCH TO SHUT OFF THE UNIT IF CONDENSATE RISES TO HIGH IN THE DRAIN PAN. UNIT SHALL HAVE PROVISION OF 45° FLARE REFRIGERANT PIPE CONNECTIONS. THE COIL SHALL BE FACTORY PRESSURE TESTED AT A MINIMUM OF 551 PSIG. 8. ALL REFRIGERANT PIPING FROM OUTDOOR UNIT TO INDOOR UNIT SHALL BE FIELD INSULATED. H. MICROPROCESSOR CONTROL 1. THE UNIT SHALL HAVE A FACTORY INSTALLED MICROPROCESSOR CONTROLLER CAPABLE OF PERFORMING FUNCTIONS NECESSARY O OPERATE THE SYSTEM. THE UNIT SHALL BE ABLE TO COMMUNICATE WITH THE OUTDOOR UNIT USING A FIELD SUPPLIED MINIMUM OF 18 AWG, 4 CONDUCTOR, STRANDED, SHIELDED OR UNSHIELDED POWER/COMMUNICATION CABLE. IF SHIELDED, IT MUST BE GROUNDED TO CHASSIS AT ODU ONI Y 3. CENTRAL CONTROL SHALL BE AVAILABLE THROUGH AN OPTIONAL CONTROL BOARD FOR THE OUTDOOR UNIT 4. GROUP CONTROL SHALL BE AVAILABLE TO ALLOW MULTIPLE INDOOR UNITS TO OPERATE FROM A SINGLE CONTROLLER, OR ALLOW CONNECTION OF MORE THAN ONE CONTROLLER TO AN INDOOR UNIT. 5. THE UNIT CONTROLS SHALL OPERATE THE INDOOR UNIT USING ONE OF THE FIVE OPERATING MODES: A) AUTO OPERATION B) HEATING C) COOLING D) DRY E) FAN ONLY ELECTRICAL THE UNIT ELECTRICAL POWER SHALL BE 208-230/1/60 (V/PH/HZ) THE UNIT SHALL BE CAPABLE OF OPERATING WITHIN VOLTAGE LIMITS OF +/- 10% OF THE RATED VOLTAGE. J. CONTROLS THE INDOOR UNIT SHALL BE SUPPLIED WITH A WIRELESS HANDHELD CONTROLLER. 2. AN OPTIONAL WIRED CONTROLLER SHALL BE AVAILABLE AS AN ADDITIONAL ACCESSORY.

K WARRANTY 1. PLEASE REFER TO THE RESPECTIVE OUTDOOR UNIT FOR APPLICABLE WARRANTY.

PROJECT STATUS **100% CONSTRUCTION DOCUMENTS** 20-0997 & DGS SM-855-210-001 JOB NUMBER: 20 JANUARY 2023 ISSUE DATE: SCALE: SHEET TITLE: MECHANICAL SPECIFICATIONS SHEET NUMBER:

PLUMBING ABBREVIATIONS

AAV AUTOMATIC AIR VENT ABOVE CEILING ABOVE FINISHED FLOOR AFF AHAP AS HIGH AS POSSIBLE AHJ AUTHORITY HAVING JURISDICTION AMP AMPERE AMERICAN NATIONAL STANDARDS INSTITUTE ANSI AP ACCESS PANEL ASHRAE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS ASPE AV AMERICAN SOCIETY OF PLUMBING ENGINEERS ACID VENT AVTR ACID VENT THRU ROOF AW ACID WASTE BELOW FLOOR BF BACKFLOW PREVENTER BFP BALANCING STATION BS BTU BRITISH THERMAL UNIT CA COMPRESSED AIR CFM CIRC CLG CO CUBIC FEET PER MINUTE CIRCULATING CEILING CLEAN OUT COND CONT CO2 CU FT CU IN CONDENSATE CONTINUATION CARBON DIOXIDE CUBIC FEET CUBIC INCH CW COLD WATER DE DEIONIZED WATER DEG (°) DEGREE DI DISTILLED WATER DIA (Ø) DIAMETER DM DEMOLISH DWG DRAWING EC ELECTRICAL CONTRACTOR EFF EFFICIENCY ELEVATION EL EQUIP EQUIPMENT ETC ETCETERA ETP EXIST ELECTRONIC TRAP PRIMER EXISTING EXP EXPANSION FAHRENHEIT FROM ABOVE FA FB FROM BELOW FCV FLOW CONTROL VALVE FLOOR DRAIN FD FFD FUNNEL FLOOR DRAIN FLR FLOOR FP FIRE PROTECTION FPC FIRE PROTECTION CONTRACTOR FPM FEET PER MINUTE FPS FT FEET PER SECOND FEET FTG FITTING FSC FOOD SERVICE CONTRACTOR NATURAL GAS GAUGE GA GAL GC GALLONS GENERAL CONTRACTOR GPH GALLONS PER HOUR GPD GPM GALLONS PER DAY GALLONS PER MINUTE HD HEAD HDR HEADER MERCURY Hg HORSEPOWER HP HORIZ HORIZONTAL HR HOUR HTG HEATING HW HOT WATER HWR HOT WATER RETURN ΗZ FREQUENCY (HERTZ) INSIDE DIAMETER ID INVERT ELEVATION INSUL INSULATION

INTERNATIONAL PIPE STANDARD

IPS

PLUMBING ABBREVIATIONS	
<u>CONT)</u>	

- JT JOINT KW KILOWATT KWH KILOWATT HOUR LBS POUNDS LINEAR FEET LF LATENT HEAT LH LIQ LIQUID LTG LIGHTING LV LAB VACUUM MA MEDICAL AIR MAXIMUM MAX MBH THOUSAND BTU's MC MECHANICAL CONTRACTOR MCF MFGR THOUSAND CUBIC FEET MANUFACTURER MIN MINIMUM MH MANHOLE MTD MOUNTED MTR MOTOR N2 NITROGEN NOT APPLICABLE N/A NC NORMALLY CLOSED NOT IN CONTRACT NIC NORMALLY OPEN NO NTS NOT TO SCALE N2O NITROUS OXIDE 02 OXYGEN OUTSIDE DIAMETER OD ΟZ OUNCES PERCENT % PLUMBING CONTRACTOR PC PRESSURE DROP PD PG PRESSURE GAUGE WITH COCK PH PHASE PPM PARTS PER MILLION PRESS PRESSURE PRV
- PRESSURE REDUCING VALVE PSF POUNDS PER SQUARE FOOT PSIA POUNDS PER SQUARE INCH ABSOLUTE PSIG POUNDS PER SQUARE INCH GAUGE QNTY QUANTITY ROOF DRAIN REV REVOLUTIONS REQD REQUIRED RO REVERSE OSMOSIS

REVOLUTIONS PER MINUTE

RPS REVOLUTIONS PER SECOND RV RELIEF VALVE RWC RAIN WATER CONDUCTOR SECOND SAN SANITARY SCFM CFM AT STANDARD CONDITIONS SCH SCHEDULE SG SPECIFIC GRAVITY SHUT-OFF VALVE SOV

RD

RPM

- SPEC SQ FT SPECIFICATION SQUARE FEET SS STAINLESS STEEL ST STORM STD STANDARD STR SUCT STRAINER SUCTION SW SWITCH
- TE TOP ELEVATION TEMPORARY TEMP TRANS TRANSITION TYP TYPICAL
- UG UNDERGROUND UNLESS NOTED OTHERWISE UNO VOLT OR VENT V VAC VACUUM
- VELOCITY VEL VENTURI VFS VOLUME VOL VTR VENT THRU ROOF
- W WATT OR UNDERGROUND WATER WAGD WASTE ANESTHESIA GAS DISPOSAL W/ WITH
- WC WATER COLUMN

PLUMBING PIPING GENERAL NOTES

- 1. ALL SANITARY PIPING BELOW SLAB SHALL BE A MINIMUM OF 4" Ø, UNLESS NOTED OR AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- 2. ALL SANITARY PIPING 2" AND SMALLER SHALL BE SLOPED AT A MINIMUM 1/4" PER FOOT, AND ALL SANITARY AND STORM PIPING 3" AND LARGER SHALL BE SLOPED AT A MINIMUM OF 1/8" PER FOOT, UNLESS OTHERWISE NOTED OR AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- 3. ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. 4. UNLESS OTHERWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT
- TO THE UNDERSIDE OF THE STRUCTURE OR SLAB, WITH SPACE FOR INSULATION IF REQUIRED. 5. ALL VALVES SHALL BE INSTALLED SO THAT THE VALVE
- REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON THE EQUIPMENT SIDE OF THE VALVE IS REMOVED. 6. ALL VALVES SHALL BE THE FULL SIZE OF THE PIPE BEFORE
- REDUCING IN SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS. 7. UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH
- PIECE OF EQUIPMENT, IN BYPASSES, AND IN LONG PIPING RUNS (100 FT OR MORE) TO PERMIT DISASSEMBLY FOR ALTERNATION AND REPAIRS. 8. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
- 9. ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY
- OPERATION. 10. PLUMBING CONTRACTOR SHALL ROUGH-IN AND CONNECT ALL EQUIPMENT REQUIRING GAS, WATER, WASTE, VENT, AND/OR COMPRESSED AIR WHETHER OR NOT EQUIPMENT IS FURNISHED UNDER THIS CONTRACT. ALSO, PLUMBING CONTRACTOR TO FURNISH AND INSTALL ALL NECESSARY PIPE, FITTINGS, VALVES, TRAPS, ETC., REQUIRED FOR A COMPLETE INSTALLATION, LEAVING SAME READY FOR SERVICE.

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PLUMBING PIPING ABBREVIATIONS

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DOMESTIC COLD WATER DOMESTIC HOT WATER VENT SEWER PIPE

PLUMBING SYMBOLS

II	UNION, SCREWED
o	PIPE ELBOW UP
c	PIPE ELBOW DOWN
o	PIPE TEE UP
	PIPE TEE DOWN
CO 0	CLEANOUT
—	DIRECTION OF FLOW
<u>ب</u>	PIPE BREAK
	ISOLATION VALVE
↑	CHECK VALVE
+ G	VALVE IN RISE
\$	SAFETY OR RELIEF VALVE
-	EXTERIOR WALL HYDRANT
0	FLOOR DRAIN (FD)
< <u>#</u> >	NUMBERED NOTE PER DRAWING
<u></u>	REVISION SEQUENCE NUMBER

	SHEET LIST - PLUMBING
SHEET	DESCRIPTION
P001	PLUMBING COVER SHEET
P201	1ST AND 2ND FLOOR PLANS - NEW WORK - PLUMBING
P701	SCHEDULES AND DETAILS
P801	PLUMBING SPECIFICATIONS

SHEET TITLE:

PLUMBING COVER SHEET

SHEET NUMBER:

FIRST FLOOR PLAN - NEW WORK - PLUMBING P201 1/4" = 1'-0"

NUMBERED NOTES

- (1) NEW 2" WATER ENTRANCE. SEE DETAIL #1/ P701.
- 2 FLOOR DRAIN (FD-1). PROVIDE "PRO VENT" TRAP SEAL SYSTEM. SEE ARCHITECTURAL SHEET A101 FOR EXACT LOCATION.
- (3) ELECTRIC WATER HEATER (DWH-1). SEE DETAIL #2/ P701.
- (4) 1 1/2" CW DOWN, SEE PLAN #1/ P201.
- 5 1 1/2" CW UP, SEE PLAN #2/ P201.
- (6) 1 1/4" CW UP, SEE PLAN #2/ P201.
- $\langle 7 \rangle$ 3/4" HW & CW DOWN, SEE PLAN #1/ P201.
- (8) 1 1/4" CW DOWN, SEE PLAN #1/ P201.
- 9 CONTRACTOR SHALL CONNECT DOMESTIC WATER PIPING TO EXISTING DOMESTIC WATER MAIN VIA EXISTING VALVE BOX. CONTRACTOR SHALL CONFIRM SIZE AND LOCATION IN FIELD.
- (10) WALL ACCESS PANEL (18"x18"). SEE ARCHITECTURAL SHEET A101 FOR EXACT LOCATION AND MOUNTING HEIGHT.
- (11) WALL ACCESS PANEL (12"x12"). MOUNT ABOVE MOP BASIN FAUCET. SEE ARCHITECTURAL SHEET A101 FOR EXACT MOUNTING HEIGHT.

GENERAL NOTES

G1. PROVIDE ADEQUATE DRAINS AND PITCH DOMESTIC WATER PIPE TO ENSURE ADEQUATE DRAINAGE FOR WINTERIZATION OF DOMESTIC WATER SYSTEM.

² SECOND FLOOR PLAN - NEW WORK - DOMESTIC WATER P201 1/4" = 1'-0"

P201 SHEET _2_OF _4_

4 FIXTURE THERMOSTATIC MIXING VALVE PIPING SCHEMATIC

PLUMBING FIXTURE SCHEDULES

<u>ID #</u>	LAVATORY DESCRIPTION	WASTE & VENT CONNECTION SIZES	WATER SUPPLY CONNECTION SIZES	NOTES
<u>L-1</u>	WALL MOUNT BOWL BATTERY INFRARED FAUCET - STD HEIGHT	1-1/2" WASTE & VENT	1/2" HW & CW	1, 2
<u>L-2</u>	WALL MOUNT BOWL BATTERY INFRARED FAUCET - ADA HEIGHT	1-1/2" WASTE & VENT	1/2" HW & CW	1, 2
NOTES: 1. REFER TO S 2. PROVIDE PC	PECIFICATIONS FOR MANUFACTURER INFORMATION, TRIM INFORMATION TRIM INFORMATION (TRIM INFORMATION).	ATION, ACCESSORIES, AND ADDI	FIONAL INFORMATION.	
MOP BASI	<u> </u>			
	URINAL DESCRIPTION	SOIL & VENT CONNECTION SIZES	WATER SUPPLY CONNECTION SIZES	NOTES
MOP BASIN	URINAL DESCRIPTION FLOOR MOUNTED MOP BASIN	SOIL & VENT CONNECTION SIZES 3" SOIL, 2" VENT	WATER SUPPLY CONNECTION SIZES 1/2" HW & CW	<u>NOTES</u> 1

<u>URINAL</u>

LAVATORIES

<u>ID #</u>	URINAL DESCRIPTION	SOIL & VENT CONNECTION SIZES	WATER SUPPLY CONNECTION SIZES	NOTES
<u>U-1</u>	WALL MOUNTED BATTERY INFRARED BATTERY FLUSH VALVE - ADA HEIGHT	2" SOIL, 1 1/2" VENT	1" CW	1
NOTEO.				

NOTES: 1. REFER TO SPECIFICATIONS FOR MANUFACTURER INFORMATION, TRIM INFORMATION, ACCESSORIES, AND ADDITIONAL INFORMATION.

WATER CLOSETS

<u>ID #</u>	WATER CLOSET DESCRIPTION	SOIL & VENT CONNECTION SIZES	WATER SUPPLY CONNECTION SIZES	NOTES
<u>WC-1</u>	FLOOR MOUNTED BATTERY INFRARED BATTERY FLUSH VALVE - STD HEIGHT	4" SOIL, 2" VENT	1 1/4" CW	1
<u>WC-2</u>	FLOOR MOUNTED BATTERY INFRARED BATTERY FLUSH VALVE - ADA HEIGHT	4" SOIL, 2" VENT	1 1/4" CW	1

NOTES: 1. REFER TO SPECIFICATIONS FOR MANUFACTURER INFORMATION, TRIM INFORMATION, ACCESSORIES, AND ADDITIONAL INFORMATION.

ELECTRIC WATER HEATER SCHEDULE							
ID# GALLONS KW VOLTAGE REMARKS MANUE MO						MODEL	
DWH-1	DWH-1 19.9 2.5 120V/1 PHASE U.L., ASHRAE 90-80 W/DRAIN PAN (GALVANIZED) LOCHINVAR JTC020FS						
0750							

1. REFER TO SPECIFICATIONS FOR MANUFACTURER INFORMATION, ACCESSORIES, AND ADDITIONAL INFORMATION.

1. PROVIDE ZURN MODEL Z1321-WC-PB OR APPROVED EQUAL BY WOODFORD.

2. PROVIDE ZURN MODEL Z1333XL OR APPROVED EQUAL BY WOODFORD.

<u>HYDRANTS</u>

<u>ID #</u>	PLUMBING FIXTURE DESCRIPTION	DRAINAGE & VENT CONNECTION SIZES	WATER SUPPLY CONNECTION SIZES	<u>NOTES</u>
<u>WH-1</u>	WALL HYDRANT - EXTERIOR USE		3/4" CW	NOTE 1
<u>WH-2</u>	WALL HYDRANT - INTERIOR USE		3/4" CW	NOTE 2
NOTES		1	1	

CEILING. REFER TO FLOOR PLANS FOR PIPE SIZING

	PLUMBING DRAIN SCHEDULE							
<u>ID #</u>	PLUMBING FIXTURE DESCRIPTION	DRAINAGE & VENT CONNECTION SIZES	WATER SUPPLY CONNECTION SIZES	NOTES				
<u>FD-1</u>	FLOOR DRAIN FOR FINISHED AREAS	2" & 4"W		1				
NOTES: 1. ZURN ZN415-BZ-VP, CAST IRON BODY W/ POLISHED NICKEL BRONZE LEVELING STRAINER.								

GRADE OR PAVING

100% CONSTRUCTION DOCUMENTS JOB NUMBER: 20-0997 & DGS SM-855-210-001 20 JANUARY 2023 ISSUE DATE: SCALE: SHEET TITLE: SCHEDULES AND DETAILS SHEET NUMBER:

PLUMBING SPECIFICATIONS

1. <u>GENERAL</u>:

THE ENGINEER.

- A. CONTRACTOR SHALL THOROUGHLY EXAMINE PREMISES AND OBSERVE ALL CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED. NO ALLOWANCES WILL BE MADE FOR ERRORS OR NEGLIGENCE IN THIS RESPECT.
- B. COORDINATE ALL WORK WITH THE PROJECT SCHEDULE. WORK SHALL BE COORDINATED AND SCHEDULED IN ADVANCE AND APPROVED BY THE ARCHITECT.
- C. ALL AREAS ADJACENT TO THE CONSTRUCTION SITE WILL REMAIN OCCUPIED. CONTRACTOR SHALL MAINTAIN ALL SERVICES (AIR SYSTEMS, SERVICE PIPING, ELECTRICAL, ETC) TO THESE AREAS AS INDICATED, AS REQUIRED AND AS DIRECTED BY THE OWNER'S REPRESENTATIVE IN THE FIELD

D. VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTION BEFORE STARTING NEW WORK.

E. ALL MATERIAL SHALL BE NEW AND SHALL BE OF FIRST QUALITY. WORKMANSHIP SHALL BE ACCEPTABLE TO THE OWNER AND HIS DECISION AS TO ACCEPTABLE QUALITY IS FINAL, UNACCEPTABLE WORK SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. F. 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 STRUCTURE, FURNITURE, AND EQUIPMENT; WHERE SAME ARE NOT DEFINITELY LOCATED BY DIMENSIONS, OBTAIN THIS INFORMATION FROM

G. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL DUCT AND PIPING OFFSETS, RISERS AND DROPS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. CAREFULLY INVESTIGATE THE CONDITIONS AFFECTING THE WORK, AND ARRANGE SUCH WORK ACCORDINGLY, PROVIDING SUCH FITTINGS AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.

2. <u>CODES, REGULATIONS AND PERMITS</u>:

A. PERFORM ALL WORK AND PROVIDE ALL MATERIALS IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE, INTERNATIONAL MECHANICAL CODE, INTERNATIONAL PLUMBING CODE, NATIONAL STANDARD PLUMBING CODE, NATIONAL ELECTRICAL CODE, FACTORY MUTUAL, NFPA REGULATIONS AND ALL STATE AND MUNICIPAL ORDINANCES, CODES AND REGULATIONS HAVING JURISDICTION. PERFORM WORK IN ACCORDANCE WITH FACILITY STANDARDS.

<u>SHOP DRAWINGS</u>:

A. WITHIN 5 DAYS AFTER AWARD OF THE CONTRACT. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A LIST OF MANUFACTURERS AND SUBCONTRACTORS, A PRELIMINARY DELIVERY SCHEDULE OF ALL MATERIALS AND EQUIPMENT TO BE USED ON THIS PROJECT. B. SUBMIT EACH SHOP DRAWING FOR APPROVAL ELECTRONICALLY IN PDF FORMAT.

4. PROTECTION OF EXISTING WORK

A. WHEN WORKING IN AND AROUND THE EXISTING BUILDING, EXTREME CARE SHALL BE EXERCISED WITH REGARD TO PROTECTION OF EXISTING WORK. CORRECT ALL DAMAGE TO EXISTING WORK TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE. 5. INTERRUPTION OF EXISTING UTILITIES:

- A. NOTIFY THE OWNER AT LEAST 7 DAYS IN ADVANCE OF ANY REQUIRED SHUTDOWN OF SERVICE UTILITIES, HVAC SYSTEMS OR ELECTRICAL
- SERVICE. UPON RECEIPT OF APPROVAL FROM THE OWNER, SHUTDOWNS SHALL BE PERFORMED ON PREMIUM TIME BETWEEN THE HOURS OF 7 P.M. AND 7 A.M. UNLESS OTHERWISE DIRECTED IN THE FIELD AND SHALL BE ACCOMPLISHED AS PART OF THE BASE BID.
- 6. EQUIPMENT STARTUP AND INITIAL OPERATION:

A. NO EQUIPMENT SHALL BE OPERATED FOR TESTING OR TRIAL USE EXCEPT AFTER FULL COMPLIANCE WITH THE EQUIPMENT MANUFACTURERS' SPECIFICATIONS AND INSTRUCTIONS OF THE LUBRICATION, ALIGNMENT DIRECTION OF ROTATION, BALANCE, AND OTHER APPLICABLE CONSIDERATIONS.

B. PARTICULAR CARE SHALL BE TAKEN TO SEE THAT ALL EQUIPMENT IS COMPLETELY ASSEMBLED AND PROPERLY LUBRICATED AND ALL GREASE AND OIL CASES AND RESERVOIRS HAVE BEEN FILLED TO THE CORRECT LEVEL WITH THE RECOMMENDED LUBRICANT.

C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PLACE EACH ITEM OF EQUIPMENT INSTALLED BY HIM IN OPERATING CONDITION. INCLUDING ALL AUXILIARIES, PIPING, WIRING, ETC, AND TO START UP EACH UNIT AND CHECK IT FOR PERFORMANCE 7. ALTERATIONS AND DEMOLITION:

A. SEE GENERAL CONDITIONS.

B. ALL EXISTING PIPING, EQUIPMENT, AND MATERIALS WHICH ARE REQUIRED TO BE REMOVED SHALL BE REMOVED. ALL EXISTING MATERIALS AND EQUIPMENT WHICH ARE REMOVED AND ARE DESIRED BY THE OWNER, OR ARE INDICATED TO REMAIN AS THE PROPERTY OF THE OWNER, SHALL BE DELIVERED TO HIM ON THE PREMISES BY THE CONTRACTOR WHERE DIRECTED BY THE ARCHITECT. ALL OTHER MATERIALS AND EQUIPMENT WHICH ARE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED BY HIM FROM THE PREMISES.

C. REMOVE ALL INDICATED WORK BY HAND AS FAR AS POSSIBLE. POWER-DRIVEN EQUIPMENT SHALL BE USED AS A LAST RESORT, AND SHALL NOT BE EMPLOYED WITHOUT CONSENT OF THE OWNER. SCHEDULE ALL DEMOLITION WORK TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR SHALL EXECUTE THE REMOVAL WORK AS QUIETLY AS PRACTICABLE TO AVOID UNNECESSARY DISTURBANCES TO OCCUPIED ARFAS

D. EXISTING CONDITIONS, I.E. PIPING, EQUIPMENT, ETC. MAY BE OBTAINED FROM AVAILABLE RECORD DRAWINGS AND ARE NOT WARRANTED TO BE COMPLETE OR CORRECT. CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL DUCTWORK, PIPING, ETC, IN THE FIELD PRIOR TO STARTING ANY WORK

E. EXISTING PIPE SIZES NOTED ON THE AVAILABLE RECORD DRAWINGS ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. CONTRACTOR SHALL VERIFY SIZES IN THE FIELD.

F. EXISTING PIPING NO LONGER REQUIRED TO REMAIN IN SERVICE SHALL BE DISCONNECTED AND REMOVED BACK TO SERVICE MAINS. INCLUDING EXISTING PIPING HANGERS, AND SUPPORTS. EXISTING PIPE INDICATED OR REQUIRED TO REMAIN IN SERVICE SHALL BE CAPPED.

G. EXISTING PIPING THAT REMAINS CONCEALED, BURIED, OR OTHERWISE CONTAINED IN OR BELOW THE REMAINING SLABS AND WALLS SHALL BE CAPPED, PLUGGED, OR OTHERWISE SEALED. ALL PIPES SHALL BE CUT SO THAT THEIR CAPPED OR PLUGGED ENDS WILL BE FAR ENOUGH BEHIND FINISHED SURFACES TO ALLOW FOR THE INSTALLATION OF THE NORMAL THICKNESS OF FINISHED MATERIAL. H. WHEN EXISTING WORK IS REMOVED, ALL RELATED PIPES, VALVES, AND MATERIALS SHALL ALSO BE REMOVED.

I. WHEN THE WORK SPECIFIED HEREIN CONNECTS TO EXISTING PIPING, THE CONTRACTOR SHALL PERFORM ALL NECESSARY ALTERATIONS, CUTTING, OR FITTING OF THE EXISTING WORK AS MAY BE NECESSARY OR REQUIRED TO MAKE SATISFACTORY CONNECTIONS BETWEEN THE NEW AND EXISTING WORK AND TO LEAVE THE COMPLETED WORK IN A FINISHED AND WORKMANLIKE CONDITION, TO THE ENTIRE SATISFACTIONOF THE ARCHITECT.

J. WHEN THE WORK SPECIFIED HEREIN OR UNDER OTHER DIVISIONS OF THE CONTRACT NECESSITATES RELOCATION OF EXISTING MECHANICAL EQUIPMENT, PIPING OR DUCTWORK, THE CONTRACTOR SHALL PERFORM ALL WORK AND MAKE ALL NECESSARY CHANGES TO EXISTING WORK AS MAY BE REQUIRED TO LEAVE THE COMPLETED WORK IN A FINISHED AND WORKMANLIKE CONDITION. TO THE ENTIRE SATISFACTION OF THE ARCHITECT, AND AT NO ADDITIONAL COST TO THE OWNER.

K. VALVE OFF OR DISCONNECT LIVE SERVICES AS REQUIRED FOR REMOVAL WORK.

L. REFER TO DRAWINGS FOR ADDITIONAL REQUIREMENTS.

8. CUTTING AND PATCHING:

A. CUTTING AND PATCHING ASSOCIATED WITH BOTH NEW AND EXISTING WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. EXISTING SURFACES WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR PROVIDED WITH NEW MATERIALS. STRUCTURAL MEMBERS SHALL NOT BE CUT OR PENETRATED UNLESS APPROVED BY THE ENGINEER.

B. ALL PATCHING SHALL BE DONE WITH MATERIALS AND METHODS SIMILAR TO EXISTING ADJACENT WORK, SUBJECT TO APPROVAL OF THE OWNER AND DECISION SHALL BE FINAL

9. SLEEVES AND PLATES:

A. PROVIDE 20 GAUGE GALVANIZED SLEEVE OR TRIM ANGLES FOR ALL PIPES PASSING THROUGH DRYWALL, PLYWOOD, MASONITE, AND SIMILAR TYPE CONSTRUCTION.

B. CAULK THE ANNULAR SPACE OF PIPE SLEEVES WITH AN ELASTIC CAULK COMPOUND TO MAKE INSTALLATION AIR TIGHT AND TO MAINTAIN FIRE RATING.

C. SLEEVES SHALL BE SIZED TO PASS BOTH PIPE AND INSULATION.

D. PROVIDE SCHEDULE 40 GALVANIZED STEEL PIPE SLEEVES FOR ALL PIPES PASSING THROUGH CONCRETE AND MASONRY, AND DRYWALL OR SIMILAR CONSTRUCTION. WHERE PERMITTED BY CODE, PIPES PASSING THROUGH DRYWALL OR SIMILAR CONSTRUCTION MAY NOT BE SCHEDULE 40 PVC DUE TO CEILING RETURN AIR PLENUM.

10. ACCESSIBILITY:

A. LOCATE ALL EQUIPMENT WHICH MUST BE SERVICED, OPERATED OR MAINTAINED IN FULLY ACCESSIBLE POSITIONS. EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO VALVES, SPECIALTIES, ETC, WHERE INDICATED OR REQUIRED. 11. RECORD DRAWINGS:

A. CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ALL DEVIATIONS IN WORK AS ACTUALLY INSTALLED FROM WORK INDICATED. WHEN WORK IS COMPLETE, PROVIDE ONE (1) COMPLETE "AS-BUILT" SET OF MARK-UP PRINTS "OR" CADD FILES IN DWG. FORMAT AND DELIVER TO THE ARCHITECT AND ENGINEER FOR APPROVAL.

13. TEST AND ADJUSTMENTS: A. THE CONTRACTOR SHALL FURNISH LABOR, INSTRUMENTS, EQUIPMENTS, AND MATERIALS REQUIRED TO PERFORM TESTS PRESCRIBED IN THE SECTIONS DESCRIBING THE VARIOUS SYSTEMS. B. REPLACE OR REPAIR DEFECTS FOUND DURING INSPECTION OR TEST WITH NEW MATERIALS. CAULKING OF WELDED JOINTS, SCREWED

JOINTS. CRACKS. OR HOLES IS NOT ACCEPTABLE. CORRECT LEAKS IN SCREWED FITTINGS BY REMAKING JOINTS. IN WELDED SYSTEMS LEAKS IN JOINTS SHALL BE CUTOUT AND REWELDED. REPEAT TESTS AFTER DEFECTS HAVE BEEN ELIMINATED. 2. WHERE REASONABLE DOUBT EXISTS AS TO A SYSTEM'S ABILITY TO COMPLY WITH CONTRACT REQUIREMENTS, PERFORM ANY

INSTRUMENT AVAILABLE FOR EXAMINATION.

G. TESTS:

TESTS SHALL BE SPECIFIED HEREIN.

3. STERILIZATION:

STARTERS.

A. PROPER AND SUITABLE TOOLS, EQUIPMENT AND APPLIANCES FOR THE SAFE AND CONVENIENT HANDLING AND PLACING OF ALL MATERIALS AND EQUIPMENT SHALL BE USED. DURING LOADING, UNLOADING, AND PLACING, CARE SHALL BE TAKEN IN HANDLING THE EQUIPMENT AND MATERIALS SO THAT NO EQUIPMENT OR MATERIALS, INCLUDING OWNER FURNISHED, ARE DAMAGED. B. ALL MECHANICAL AND/OR ELECTRICAL EQUIPMENT DELIVERED TO THE JOB SITE SHALL BE STORED UNDER ROOF OR OTHER APPROVED

2. TOUCH UP THREADS OF ZINC COATED SCREWED PIPE WITH RUSTOLEUM PRIMER AND ONE COAT OF ENAMEL CONFORMING WITH PAINTING SPECIFICATION.

CONFORMING WITH THE PAINTING SPECIFICATION.

17. HANGERS:

B. VERTICAL RUNS OF PIPE AND CONDUIT NOT OVER 15 FEET LONG SHALL BE SUPPORTED BY HANGERS PLACED NOT OVER ONE FOOT FROM THE ELBOWS ON THE CONNECTING HORIZONTAL RUNS. VERTICAL RUNS OF PIPE AND CONDUIT OVER 15 FEET LONG BUT NOT OVER 60 FEET LONG AND NOT OVER 6 INCHES IN SIZE SHALL BE SUPPORTED ON HEAVY STEEL CLAMPS. CLAMPS SHALL BE BOLTED TIGHTLY AROUND THE PIPES AND CONDUITS AND SHALL REST SECURELY ON THE BUILDING STRUCTURE WITHOUT BLOCKING. ON COPPER PIPES IN CONTACT WITH HORIZONTAL MEMBER, PROVIDE RUBBER STRIP (VIBRA STRIP OR EQUAL) BETWEEN HANGER ATTACHMENT AND COPPER PIPE.

B. PIPING SHALL BE IDENTIFIED WITH COLORED, PRE-ROLLED, SEMIRIGID PLASTIC LABELS AS MANUFACTURED BY SETON OR APPROVED EQUAL. LABELS SHALL BE SETON "SET MARK" SYSTEM AND SHALL BE SET AROUND PIPES WITH A FIELD INSTALLED HIGH STRENGTH CEMENT COMPOUND APPLIED ALONG THEIR LONGITUDINAL EDGE. LABELS SHALL BE PLACED AROUND THE PIPING OR INSULATION EVERY FORTY (40) FEET AND WITH ONE (1) LABEL ON EACH PIPE IN ROOMS SMALLER THAN FIFTEEN (15) FEET. A LABEL SHALL BE PLACED AT EVERY MAJOR VALVE AND AT LEAST SIX (6) FEET FROM EXIT OR ENTRANCE TO AN ITEM OF EQUIPMENT.

AS FOLLOWS:

SERVICE

DOMESTIC COL DOMESTIC HO SANITARY VENT

12. <u>GUARANTEE</u>

A. THE CONTRACTOR GUARANTEES BY HIS ACCEPTANCE OF THE CONTRACT THAT ALL WORK PROVIDED SHALL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER DATE OF CERTIFICATE OF COMPLETION AND ACCEPTANCE OF WORK BY THE OWNER. ANY DEFECTS IN WORKMANSHIP, MATERIALS OR PERFORMANCE WHICH APPEAR WITHIN THE GUARANTEE PERIOD SHALL BE CORRECTED BY THE CONTRACTOR WITHOUT ADDITIONAL COST.

REASONABLE TEST REQUIRED BY THE ARCHITECT.

D. MAKE STATIC PRESSURE TESTS AND PROVE TO THE SATISFACTION OF THE ARCHITECT THAT THE PIPING IS TIGHT BEFORE PIPES ARE CONCEALED OR INSULATED. TESTS SHALL BE PROVIDED AS HEREINAFTER SPECIFIED. E. USE TEST INSTRUMENTS FOR ACCURACY BY AN APPROVED LABORATORY OR BY THE INSTRUMENT MANUFACTURER AND FURNISH CERTIFICATES SHOWING DEGREE OF ACCURACY TO THE ARCHITECT WHEN REQUESTED. MAKE CALIBRATION HISTORIES FOR EACH

F. WHERE GAUGES, THERMOMETERS AND OTHER INSTRUMENTS WHICH ARE TO BE LEFT PERMANENTLY INSTALLED ARE USED FOR TESTS, DO NOT INSTALL UNTIL JUST PRIOR TO THE TESTS TO AVOID POSSIBLE CHANGES IN CALIBRATION.

1. THE FOLLOWING TESTS SHALL BE CONDUCTED BY THE CONTRACTOR AND ALL PIPING SHALL BE PROVEN TIGHT IN THE PRESENCE OF THE ARCHITECT OR HIS REPRESENTATIVE. NOTIFY ARCHITECT PRIOR TO TESTS. THESE TESTS SHALL BE CONDUCTED BEFORE ANY INSULATION IS INSTALLED AND ANY INSULATION INSTALLED PRIOR TO TEST SHALL BE REMOVED. PROVIDE ALL EQUIPMENT AND LABOR REQUIRED. TESTS SHALL BE AT LEAST 30 MINUTES IN DURATION. PIPING MAY BE TESTED IN SECTIONS AS APPROVED BY THE ARCHITECT.

2. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED TO 150 PSIG. ALL OPENINGS IN THE WATER PIPING SHALL BE PLUGGED THROUGHOUT THE SYSTEM OR PORTION THEREOF, FILLED WITH WATER, AND TESTED.

a. DOMESTIC WATER SYSTEM PIPING SHALL BE DISINFECTED AFTER TESTS IN ACCORDANCE WITH STATE OR DISTRICT HEALTH DEPARTMENT REQUIREMENTS. BEFORE PLACING THE SYSTEMS IN SERVICE, CONTRACTOR SHALL ENGAGE A QUALIFIED SERVICE ORGANIZATION TO STERILIZE THE NEW WATER LINES AND PROVIDE THE OWNER WITH A "CERTIFICATE OF COMPLIANCE.

4. THE SANITARY AND MISCELLANEOUS DRAIN SYSTEMS SHALL BE HYDROSTATICALLY TESTED. TESTS SHALL BE AS REQUIRED BY CODE AND AS A MINIMUM SHALL COMPRISE THE PLUGGING OF ALL OPENINGS IN THE LINE, FILLING THE SYSTEM (OR PORTION THEREOF) WITH WATER UNTIL ALL JOINTS ARE PROVEN TIGHT. PIPING SHALL BE TESTED WITH A MINIMUM HEAD OF 10 FEET OF WATER. 5. FIRE PROTECTION PIPING SHALL BE TESTED AS SPECIFIED IN ACCORDANCE WITH NFPA 13.

14. ELECTRICAL WORK

A. UNDER DIVISION 22, PROVIDE THE FOLLOWING ITEMS OF ELECTRICAL WORK WHICH SHALL CONFORM WITH THE APPLICABLE REQUIREMENTS OF THE ELECTRICAL DIVISION:

1. TEMPERATURE CONTROL WIRING.

2. INTERLOCK WIRING FOR MECHANICAL EQUIPMENT.

B. UNDER DIVISION 26 ELECTRICAL, PROVIDE

1. POWER WIRING COMPLETE FROM SOURCE TO MOTOR OR EQUIPMENT JUNCTION BOX, INCLUDING POWER WIRING THROUGH MOTOR

15. HANDLING AND STORAGE OF MATERIALS:

COVERING, ON PEDESTALS ABOVE THE GROUND. ALL ENCLOSURES FOR EQUIPMENT SHALL BE WEATHERPROOF. ALL VALVES SHALL BE STORED UNDER ROOF ON WOOD PEDESTALS ABOVE GROUND. ALL INSULATION SHALL BE STORED UNDER ROOF OR IN TRAILERS, ADEQUATELY PROTECTED FROM THE WEATHER. THE CONTRACTOR SHALL FOLLOW ALL WRITTEN INSTRUCTIONS AND RECOMMENDATIONS OF THE MANUFACTURER AND ALL REQUIREMENTS OF THE ARCHITECT IN OILING. PROTECTION AND MAINTENANCE OF EQUIPMENT DURING STORAGE. IT SHALL BE THE CONTRACTOR'S COMPLETE RESPONSIBILITY FOR THE STORAGE AND CARE OF THE EQUIPMENT AND MATERIALS. C. IF ANY MATERIALS AND/OR EQUIPMENT ARE FOUND TO BE IN POOR CONDITION AT THE TIME OF BEING INSTALLED, THE ARCHITECT MAY, AT HIS DISCRETION, ORDER THE CONTRACTOR TO FURNISH AND INSTALL NEW EQUIPMENT AT NO COST TO THE OWNER.

16. CLEANING AND PAINTING:

A. THOROUGHLY CLEAN ALL EXPOSED SURFACES OF EQUIPMENT AND MATERIAL AND LEAVE IN A NEAT, CLEAN CONDITION READY FOR PAINTING. RESTORE AND TOUCH-UP FACTORY FINISHES WHICH HAVE BEEN DAMAGED DURING CONSTRUCTION. FINISHED PAINTING WILL BE PERFORMED UNDER ANOTHER DIVISION.

B. MISCELLANEOUS REQUIREMENTS INCLUDE:

1. PROVIDE COMPLETE NEW FINISH IF, IN THE OPINION OF THE ARCHITECT, THE FACTORY FINISHES ARE SEVERELY DAMAGED.

4. ALL EXPOSED HANGERS, STEEL SUPPORTS AND MISCELLANEOUS COMPONENTS, AND CAST IRON PIPE HANGERS SHALL BE FIELD PAINTED WITH RUSTOLEUM PRIMER AND ONE COAT OF ENAMEL CONFORMING WITH PAINTING SPECIFICATION. 5. ALL STEEL SUPPORT AND MISCELLANEOUS COMPONENTS SHALL BE PAINTED WITH RUSTOLEUM PRIMER AND ONE COAT OF ENAMEL

A. HANGERS FOR PIPE SHALL BE SPACED AT LEAST EVERY TEN (10') FEET UNLESS NOTED OTHERWISE. HANGERS FOR CAST IRON PIPE SHALL BE PROVIDED AT EACH JOINT. HANGERS FOR COPPER PIPE SHALL BE SPACED AT LEAST EVERY EIGHT (8') FEET, EXCEPT PIPES 3/4" INCH AND SMALLER WHICH SHALL HAVE HANGERS AT SIX (6') FOOT INTERVALS. HANGERS SHALL BE PLACED WITHIN ONE FOOT OF EACH ELBOW. GENERALLY, HANGERS SHALL BE CLEVIS TYPE, STANDARD WEIGHT. ON INSULATED PIPING SYSTEMS, PROVIDE PIPE SHIELDS, INC., MODEL CS-CW OR APPROVED EQUAL HANGER SHIELDS AT EACH POINT OF SUPPORT. HANGERS INDIRECT CONTACT WITH COPPER PIPING SYSTEMS SHALL BE COPPER PLATED. DIAMETER OF HANGER SHIELD SHALL MATCH THICKNESS OF THE INSULATION. ON COLD SYSTEMS SEAL INSERT VAPOR TIGHT WITH APPROPRIATE COATING.

18. IDENTIFICATION AND EQUIPMENT TAGS

A. ALL EQUIPMENT HEREIN SPECIFIED SHALL BE MARKED TO CLEARLY IDENTIFY EQUIPMENT, FUNCTION AND SPACE OR DUTY THEY SERVE MECHANICAL EQUIPMENT SHALL BE IDENTIFIED USING ENGRAVED LAMINATED BLACK AND WHITE PHENOLIC LEGEND PLATES. LETTERS SHALL BE MINIMUM, 3/4" HIGH WHITE ON SURROUNDING BLACK. PLATES SHALL BE MOUNTED BY MEANS OF SHEET METAL SCREWS. SUBMIT NAMEPLATE LIST TO OWNER FOR APPROVAL.

C. LABELS SHALL HAVE MINIMUM THREE-QUARTER INCH (3/4") HIGH BLACK LETTERS FOR PIPES ONE INCH (1") AND LARGER. AND ONE-HALF INCH (1/2") LETTERS FOR SMALLER PIPES. ALL LABELS SHALL HAVE FLOW ARROWS. COLOR CODING AND STENCIL DESIGNATIONS SHALL BE

	COLOR	STENCIL DESIGNATION
LD WATER I WATER	GREEN YELLOW BROWN BROWN	DOMESTIC COLD WATER DOMESTIC HOT WATER SANITARY SEWER VENT

19. BASIC METHODS AND MATERIALS

A. SANITARY DRAINAGE AND VENT ABOVE AND BELOW GROUND:

PERMITTED. PVC PIPE AND FITTINGS AS MANUFACTURED BY CHARLOTTE, GENEVA, SPEARS, OR APPROVED EQUIVALENT. B. DOMESTIC COLD WATER:

DOMESTIC COLD WATER ABOVE GROUND 2" AND SMALLER SHALL BE SEAMLESS COPPER WATER TUBE, ASTM B88, TYPE L HARD TEMPERED WITH WROUGHT COPPER SOLDER JOINT FITTINGS, RATED FOR 150 LBS. (WATER) ANSI B16.22 WITH SOLDERED JOINTS: TARAMET STERLING "LEAD FREE" SOLDER OR EQUIVALENT.

C. DOMESTIC HOT WATER:

ALL SIZES SHALL BE SEAMLESS COPPER WATER TUBE, ASTM B88, TYPE L HARD TEMPERED WITH WROUGHT COPPER SOLDER JOINT FITTINGS, 150 LBS. (WATER) ANSI B16.22 WITH SOLDERED JOINTS: TARAMET STERLING "LEAD FREE" SOLDER OR EQUIVALENT. GALVANIZED STEEL PIPE IS NOT PERMITTED.

20. <u>VALVES</u>: A. <u>GENERAL</u>

1. VALVES SHALL BE PROVIDED WHERE INDICATED ON DRAWINGS AND AS HEREIN SPECIFIED. 2. VALVES SHALL BE PLACED IN SUCH A MANNER AS TO BE EASILY ACCESSIBLE FOR HANDWHEEL OPERATION AND STUFFING MAINTENANCE.

3. VALVES IN PIPING WHERE SHOWN AND WHERE LISTED HEREIN:

a. TO ISOLATE ALL ITEMS OF EQUIPMENT

b. TO ISOLATE BRANCH LINES AND RISER AT MAINS.

OTHER PARTS OF THE PIPING SYSTEM. 5. WHERE PIPING OR EQUIPMENT MAY SUBSEQUENTLY NEED TO BE REMOVED, PROVIDE VALVES WITH BODIES HAVING INTEGRAL FLANGES OR FULL LUGS DRILLED AND TAPPED TO HOLD VALVE IN PLACE SO THAT DOWNSTREAM PIPING OR EQUIPMENT CAN BE DISCONNECTED AND

REPLACED WITH BLANK-OFF PLATE WHILE VALVE IS STILL IN SERVICE. 6. INSTALL VALVES IN ACCESSIBLE LOCATIONS AND ADJUST FOR SMOOTH AND EASY OPERATION

7. VALVES FOR EQUIPMENT SHALL BE INSTALLED FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTION.

9. WHERE THERE IS NO INTERFERENCE, SHUTOFF VALVES SHALL BE INSTALLED WITH HANDWHEEL DOWN ON HORIZONTAL RUNS OF PIPE TO PREVENT ACCUMULATION OF FOREIGN MATTER IN PACKER BETWEEN SEATS AT CLOSING END OF WEDGE.

10. VALVES SHALL BE PROVIDED FOR FIRE PROTECTION AS SPECIFIED HEREIN. 11. ON INSULATED PIPING SYSTEMS VALVES SHALL BE PROVIDED WITH EXTENDED HANDLES TO ALLOW OPERATION WITHOUT DAMAGING

INSULATION B. BALL VALVES (BALL VALVES):

1. BALL VALVES SHALL BE USED IN LIEU OF GATE VALVES IN ALL DOMESTIC WATER PIPING SYSTEMS SIZE 3" AND SMALLER FOR SHUTOFF

SERVICE. BALL VALVES SHALL BE NIBCO OR APOLLO. 2. THE BODY AND BONNET SHALL BE ASTM B62 BRONZE. BALL SHALL BE TYPE 316 STAINLESS STEEL. STEM SHALL BE STAINLESS STEEL.

SEATS SHALL BE TFE. 3. STEM SHALL BE BLOWOUT PROOF AND EXTERNALLY ADJUSTABLE TO COMPENSATE FOR WEAR. VALVE SHALL BE EQUIPPED WITH VINYL

4. VALVE SHALL BE SUITABLE FOR FLOW IN EITHER DIRECTION AND SHALL BE RATED 150 PSIG SWP AND 600 PSI NON-SHOCK WOG. 5. VALVE SHALL BE SO CONSTRUCTED WITH TWO PIECE CAST BRONZE BODIES, FULL PORT DESIGN, WITH ADJUSTABLE STEM PACKING. 6. BALL VALVES USED FOR BALANCING SHALL HAVE ADJUSTABLE MEMORY STOP. FOR USE IN INSULATED PIPING SYSTEMS PROVIDE 2"

EXTENDED HANDLES OF NON-THERMAL CONDUCTIVE MATERIAL.

C. VALVE SCHEDULE:

MUELLER FIGURE NUMBERS INDICATED HEREIN: 2. DOMESTIC HOT AND COLD WATER SYSTEMS:

a. CHECK - SOLDER END S-413

21. ELECTRIC HOT WATER HEATERS

A. DWH-1. EACH HEATER SHALL BE LOCHINVAR, STATE, OR BRADFORD WHITE. HEATER SHALL BE GLASS-LINED, LISTED BY UNDERWRITERS' LABORATORIES AND APPROVED BY THE NATIONAL SANITATION FOUNDATION. ALL INTERNAL SURFACES OF THE TANK SHALL BE GLASS-LINED WITH AN ALKALINE BOROSILICATE COMPOSITION THAT HAS BEEN FUSED TO STEEL BY FIRING AT A TEMPERATURE RANGE OF 1600 DEGREES F. ELECTRIC HEATING ELEMENTS SHALL BE MEDIUM WATT DENSITY SCREW-IN TYPE. TANK SHALL BE CATHODICALLY PROTECTED WITH ADEQUATE EXTRUDED MAGNESIUM ROD. THE ENTIRE VESSEL SHALL BE ENCLOSED IN A ROUND STEEL ENCLOSURE WITH BAKED ENAMEL FINISH. CONTROL COMPARTMENT SHALL BE HINGED AND SHALL HOUSE 120 VOLT CONTROL CIRCUIT TRANSFORMER, TRANSFORMER FUSING, MAGNETIC CONTACTORS, IMMERSION STYLE OPERATING THERMOSTATS, HIGH LIMIT THERMOSTATS. ELEMENT FUSING PER N.E.C. THE HEATER TANK SHALL HAVE A SIX YEAR LIMITED WARRANTY. HEATER WITH FOAM INSULATION (R-16) SHALL MEET OR EXCEED LATEST REQUIREMENTS OF ASHRAE 90.1B-1992 FOR HEAT LOSS EFFICIENCY. FIBERGLASS INSULATION ACCEPTABLE. UNIT SHALL INCLUDE BRASS DRAIN VALVE, ASME TEMPERATURE AND PRESSURE RELIEF VALVE, AND 4" X 6" HANDHOLE CLEANOUT. REFER TO THE DRAWING DETAILS. FURNISH OWNER WITH SUFFICIENT FULLY ILLUSTRATED INSTRUCTION MANUALS AND PARTS LISTS FOR THE HEATER. REFER TO THE SCHEDULE SHOWN ON DRAWINGS FOR CAPACITIES.

B. FURNISH AND INSTALL AN EXPANSION TANK FOR EACH HEATER. OF SUITABLE CAPACITY FOR THE HEATER. OF TYPE SPECIFIED.

4. VALVE PIPE CONNECTIONS SHALL BE SCREW, SOLDER, WELDED, FLANGED, OR VICTAULIC AS REQUIRED TO BE CONSISTENT WITH

COVERED LEVER HANDLE WHICH SHALL INDICATE POSITION OF BALL ORIFICE AND SHALL HAVE STOPS FOR FULLY OPEN AND CLOSED POSITION. CONSTRUCTION SHALL BE SUCH THAT POWER ACTUATOR CAN BE USED. BALL OPENING SHALL BE FULL PIPE SIZE.

1. UNLESS OTHERWISE SPECIFIED, VALVES SHALL BE GRINNELL, STOCKHAM, CRANE, JENKINS, OR NIBCO EQUAL TO THE NIBCO OR

22. PLUMBING FIXTURES

DESCRIPTION:

A. <u>L-1 STD HEIGHT WALL MOUNTED LAVATORY:</u>

1. ZURN NO. Z5364 VITREOUS CHINA WALL HUNG LAVATORY, 20" X 18". WITH FAUCET HOLES ON 4" CENTERS. FIXTURE SHALL BE PROVIDED WITH HANGER PLATE AND HOLES FOR CONCEALED ARM CARRIER SYSTEMS.

- A. ZURN SERIES Z1231 CARRIER. USE Z1231-D CARRIER WHERE BACK-TO-BACK INSTALLATION IS PRACTICAL. THE ZURN "EZ SET" LAVATORY SUPPORT SYSTEM WILL BE ACCEPTABLE. ZURN "CB" CARRIER BANK SUPPORTS ACCEPTABLE. 2. DRAIN SHALL BE ZURN NO. Z8743-PC FLAT PERFORATED. WITH 1-1/4" TAILPIECE
- 3. P-TRAP ASSEMBLY SHALL BE ZURN NO. Z8701-9B-PC, 1-1/4" X 1-1/2", WITH CLEANOUT. 4. WATER SUPPLIES SHALL BE ZURN Z8800-XL-LRLK-PC. BRASS BALL VALVE TYPE "CONVERTIBLE" STOPS ACCEPTABLE.
- 5. BATTERY-POWERED FAUCET SHALL BE ZURN NO. Z6930-XL-CP4-N-TMV-1, 'LEAD FREE', HEAVY DUTY CAST BRASS SPOUT, POLISHED CHROME PLATED FINISH, 30 SECOND MAXIMUM SAFETY SHUTOFF TIME, 4 AA BATTERIES-INCLUDED, INTEGRAL ABOVE DECK MIXING LEVER, 0.5 GPM VANDAL-RESISTANT LAMINAR FLOW SPRAY OUTLET, AND 5 YEAR MANUFACTURER'S WARRANTY COVERING MECHANICALS, BATTERIES, ELECTRONICS AND SOLENOID, AND FAUCET FINISH.
- B. <u>L-2</u> ADA HEIGHT WALL MOUNTED LAVATORY:

DESCRIPTION:

- 1. ZURN NO. Z5364 VITREOUS CHINA WALL HUNG LAVATORY, 20" X 18", WITH FAUCET HOLES ON 4" CENTERS. FIXTURE SHALL BE PROVIDED WITH HANGER PLATE AND HOLES FOR CONCEALED ARM CARRIER SYSTEMS. A. ZURN SERIES Z1231 CARRIER. USE Z1231-D CARRIER WHERE BACK-TO-BACK INSTALLATION
- IS PRACTICAL. THE ZURN "EZ SET" LAVATORY SUPPORT SYSTEM WILL BE ACCEPTABLE. ZURN "CB" CARRIER BANK SUPPORTS ACCEPTABLE. DRAIN SHALL BE ZURN NO. Z8743-PC FLAT PERFORATED, WITH 1-1/4" TAILPIECE.
- 3. P-TRAP ASSEMBLY SHALL BE ZURN NO. Z8701-9B-PC, 1-1/4" X 1-1/2", WITH CLEANOUT. 4. WATER SUPPLIES SHALL BE ZURN Z8800-XL-LRLK-PC. BRASS BALL VALVE TYPE "CONVERTIBLE" STOPS ACCEPTABLE. PROVIDE ZURN NO. Z8946-3-NT ADA COMPLIANT INSULATION KIT FOR WASTE AND SUPPLY ASSEMBLIES.
- 5. BATTERY-POWERED FAUCET SHALL BE ZURN NO. Z6930-XL-CP4-N-TMV-1, 'LEAD FREE', HEAVY DUTY CAST BRASS SPOUT, POLISHED CHROME PLATED FINISH, 30 SECOND MAXIMUM SAFETY SHUTOFF TIME, 4 AA BATTERIES-INCLUDED, INTEGRAL ABOVE DECK MIXING LEVER, 0.5 GPM VANDAL-RESISTANT LAMINAR FLOW SPRAY OUTLET, AND 5 YEAR MANUFACTURER'S WARRANTY COVERING MECHANICALS, BATTERIES, ELECTRONICS AND SOLENOID, AND FAUCET FINISH. 6. PROVIDE TRUBRO "LAV GUARD 2" ADA UNDERSINK INSULATION PROTECTION FOR TRAP AND
- SUPLIES
- C. U-1 WALL-MOUNTED BOWL WITH HANDS FREE FLUSH VALVE DISABLED HEIGHT . VITREOUS CHINA ZURN NO. Z5755-U, WALL HUNG, 1 GALLON PER FLUSH, WASHOUT URINAL WITH 3/4" TOP SPUD. INTEGRAL ELONGATED FLUSHING RIM, INTEGRAL TRAP, WALL HANGERS, AND 2" FLANGED OUTLET CONNECTION. ADA COMPLIANT. A. ZURN SERIES NO. Z1221 OR NO. Z1222 CARRIER AS REQUIRED FOR THE ACCEPTED FIXTURE. ZURN "CB" CARRIER BANK SUPPORTS ACCEPTABLE. MOUNT AT ADA HEIGHT.
- 2. BATTERY-POWERED FLUSH VALVE SHALL BE ZURN NO. ZER6003AV-WS1-CPM, 1.0 GPF. D. WC-1 - FLOOR-MOUNTED WATER CLOSET WITH HANDS FREE FLUSH VALVE- STANDARD HEIGHT VITREOUS CHINA ZURN NO. Z5655-BWL1, 1.6 GALLON PER FLUSH, LOW CONSUMPTION, SIPHON JET, ELONGATED BOWL, FLOOR MOUNTED CLOSET WITH 1-1/2" TOP SPUD AND BOLT CAPS. A. ZURN Z5955SS-EL-AM-STS, HEAVY DUTY, ANTI-MICROBIAL, COMMERCIAL GRADE, OPEN FRONT, PLASTIC SEAT LESS COVER, WITH SELF-SUSTAINING STAINLESS STEEL CONCEALED CHECK HINGES.
- 2. BATTERY-POWERED FLUSH VALVE SHALL BE ZURN NO. ZER6000AV- WS1-CPM 1.6 GALLON PER FLUSH
- D. WC-2 FLOOR-MOUNTED WATER CLOSET WITH HANDS FREE FLUSH VALVE- ADA HEIGHT VITREOUS CHINA ZURN NO. Z5665-BWL1, 1.6 GALLON PER FLUSH, LOW CONSUMPTION, SIPHON JET, ELONGATED BOWL, FLOOR MOUNTED CLOSET WITH 1-1/2" TOP SPUD AND BOLT CAPS. A. ZURN Z5955SS-EL-AM-STS, HEAVY DUTY, ANTI-MICROBIAL, COMMERCIAL GRADE, OPEN FRONT, PLASTIC SEAT LESS COVER, WITH SELF-SUSTAINING STAINLESS STEEL CONCEALED CHECK HINGES. 2. BATTERY-POWERED FLUSH VALVE SHALL BE ZURN NO. ZER6000AV- WS1-CPM 1.6 GALLON PER
- E. MB-1 MOP BASIN
 - . FIAT "MSB2424" . FAUCET: FIAT "830-AA" 3. HOSE/ HOSE BRACKETS: FIAT "832-AA"
- 4. MOP HANGER: FIAT "889-CC" 5. 3" QUICK DRAW CONNECTOR: FIAT "QDC-3XH"
- 6. STAINLESS STEEL BUMPER GUARD: FIAT "E-88-AA"
- 23. INSULATION:

FLUSH

A. ALL INSULATION SHALL BE INSTALLED BY SKILLED WORKMEN REGULARLY ENGAGED IN THIS TYPE OF WORK AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' PRINTED INSTRUCTIONS.

B. INSULATION SHALL BE CONTINUOUS AT ALL HANGERS, SLEEVES, AND OPENINGS. VAPOR SEALS SHALL BE PROVIDED FOR ALL COLD SURFACES AND SHALL BE CONTINUOUS.

C. INSULATION MATERIALS SHALL NOT BE APPLIED UNTIL ALL SURFACES TO BE COVERED ARE CLEAN AND DRY, AND PIPING AND DUCT SYSTEMS ARE TESTED. IF INSULATION MATERIAL HAS BECOME WET IT SHALL BE REMOVED FROM THE JOB SITE.

D. MATERIALS SHALL CONFORM TO THE FOLLOWING PRODUCTS INDICATED WITH CSG, OWENS/CORNING OR FQUAL TYPE I - PIPE INSULATION: PROVIDE HEAVY DENSITY FIBERGLASS PIPE INSULATION WITH VAPOR BARRIER JACKET. THE K FACTOR SHALL

NOT BE MORE THAN 0.23 AT SEVENTY FIVE DEGREES FAHRENHEIT (75 °F) MEAN TEMPERATURE. INSULATION SHALL BE EQUAL TO MANVILLE MICRO-LOK WITH AP-T PLUS JACKET. INSULATION TYPE AND THICKNESS SHALL CONFORM WITH THE FOLLOWING SCHEDULE:

INCOLATION THE AND THIONNEOD	UNALL UUN	
<u>SERVICE</u>	<u>TYPE</u>	THICKNESS
DOMESTIC WATER PIPING (HOT, CC 1. 2" SIZE AND SMALLER I)LD): 1	н

24. ACCESS PANELS

A. THE PLUMBING CONTRACTOR SHALL FURNISH FACTORY-FABRICATED ACCESS PANELS FOR ACCESS TO ALL CONCEALED VALVES, SHOCK ABSORBERS, AIR VENTS, TRAPS, TRAP PRIMERS, STRAINERS, CLEANOUTS, PLUMBING EQUIPMENT, AND OTHER ITEMS WHERE NO OTHER MEANS OF ACCESS IS AVAILABLE. ACCESS PANELS SHALL BE OF APPROPRIATE SIZE BUT NOT LESS THAN 18", EXCEPT AS OTHERWISE NOTED ON THE DRAWINGS, FLUSH TYPE, HINGED TO DROP DOWN AND OUT, CONCEALED HINGE AND VANDALPROOF OPERATED SPANNER HEAD CAM LOCK, STAINLESS STEEL IN TILE WORK AND PRIME COATED SHEET STEEL IN PLASTER OR ACOUSTICAL TILE OF ALL TYPES. THE PLUMBING CONTRACTOR SHALL DELIVER ACCESS PANELS TO THE GENERAL CONTRACTOR FOR INSTALLATION. EXACT LOCATIONS OF PANELS SHALL BE DETERMINED BY THE PLUMBING CONTRACTOR, BUT PANELS SHALL BE LOCATED FOR A SYMMETRICAL APPEARANCE. ACCESS

PANELS ARE <u>NOT</u> REQUIRED AT LIFT-OUT REMOVABLE TILE CEILINGS. B. AT LOCATIONS WHERE INDIRECT WASTE ACCESS IS REQUIRED, ACCESS PANEL DOORS SHALL BE LOUVERED. LOUVERED PANEL DOORS SHALL BE AS MANUFACTURED BY CIERRA PRODUCTS, OR APPROVED

C. AT LOCATIONS WHERE ACCESS PANELS ARE INSTALLED IN FIRE-RATED CONSTRUCTION, ACCESS PANELS SHALL CONTAIN THE 1-1/2 HOUR FIRE-RATED "B" LABEL: AND IN ADDITION. SHALL ALSO BE PROVIDED WITH LAYERS OF GYPSUM WALL BOARD IN THICKNESSES WHICH WILL SUPPLY ADDITIONAL FIRE RATINGS EQUAL TO THE FIRE RATINGS OF ADJACENT CONSTRUCTION.

D. COORDINATE WITH THE GENERAL CONTRACTOR ON FIRE RATINGS OF CONSTRUCTION.

E. ACCESS PANELS SHALL BE CIERRA PRODUCTS, ACUDOR, OR ZURN

PROJECT STATUS **100% CONSTRUCTION DOCUMENTS** 20-0997 & DGS SM-855-210-001 JOB NUMBER: 20 JANUARY 2023 ISSUE DATE: SCALE: SHEET TITLE: PLUMBING SPECIFICATIONS SHEET NUMBER:

ELECTRICAL GENERAL NOTES

GENERAL UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL WORK SHOWN ON THE ELECTRICAL DRAWINGS IS NEW WORK TO BE PROVIDED UNDER THIS CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR THE ENTIRE PROJECT DOCUMENT SET INCLUDING ALL SPECIFICATIONS. CONTRACT DRAWINGS. ADDENDUMS, ETC. PRIOR TO THEIR BID, THE CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS. IF WORK ON OTHER TRADE DRAWINGS OR WITHIN OTHER DIVISION SPECIFICATIONS HAS EQUIPMENT, DEVICES, APPURTENANCES, ETC. INCLUDED WITHIN THEM REQUIRING ELECTRICAL EQUIPMENT OR POWER FEEDS IN ORDER TO PROVIDE A COMPLETE OPERATIONAL SYSTEM, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INCLUDE WITHIN THEIR BID AND PAY FOR ALL ELECTRICAL WORK REQUIRED TO COMPLETE THOSE SYSTEMS. THE CONTRACTOR SHALL SUBMIT REQUESTS FOR INFORMATION DURING THE BIDDING PHASE FOR ALL DISCREPANCIES, CONFLICTS, CONSTRUCTABILITY ISSUES, AND CLARIFICATIONS NEEDED IN ORDER FOR THE CONTRACTOR TO PROVIDE COMPLETE OPERATIONAL SYSTEMS FOR THIS PROJECT.

COORDINATION COORDINATE AND COOPERATE WITH ALL TRADES ON THE PROJECT.

RECORD DRAWINGS SECURE AN EXTRA SET OF ELECTRICAL DRAWINGS TO BE KEPT ON SITE AND MARK, DAILY, THE DRAWINGS IN RED AS THE PROJECT PROGRESSES IN ORDER TO KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK SHOWN ON THE DRAWINGS AND THE WORK WHICH IS ACTUALLY INSTALLED. THESE MARKED DRAWINGS SHALL REFLECT ANY AND ALL CHANGES AND REVISIONS TO THE ORIGINAL DESIGN WHICH EXISTS IN THE COMPLETED WORK. DELIVER THE MARKED DRAWINGS TO THE OWNER AT PROJECT CLOSE OUT.

TEST ALL WIRING FOR CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OR DEVICES. PERFORM INSULATION RESISTANCE TESTS ON ALL WIRING #8 OR LARGER TO ENSURE THAT ALL PORTIONS ARE FREE FROM SHORT-CIRCUITS AND GROUNDS. PROVIDE TYPEWRITTEN SIGNED REPORTS TO ENGINEER WITH RESULTS.

INSPECTIONS ARRANGE ALL NECESSARY INSPECTIONS. DELIVER ALL REQUIRED INSPECTION CERTIFICATES TO THE OWNER.

GROUNDING PROVIDE GROUNDING IN ACCORDANCE WITH THE NEC FOR THE ELECTRICAL SYSTEM INCLUDING EQUIPMENT FRAMES, CONDUITS, SWITCHES, CONTROLLERS, WIRE-WAYS, NEUTRAL CONDUCTORS, AND OTHER EQUIPMENT. PROVIDE A GROUNDING CONDUCTOR IN ALL POWER CIRCUITS.

PROVIDE LABELS FOR ALL PANELBOARDS, CABINETS, SAFETY SWITCHES, MOTOR-DISCONNECT SWITCHES, AND MOTOR CONTROLLERS. LABELS SHALL BE MACHINE ENGRAVED, LAMINATED PLASTIC, PERMANENTLY ATTACHED WITH SELF-TAPPING SCREWS OR RIVETS. DO NOT USE SELF ADHESIVE

LABELS. PROVIDE ADDITIONAL LABELS FOR CLARITY AT THE ENGINEER'S REQUEST. J-BOX LABELING LABEL ALL JUNCTION BOXES WITH PERMANENT MARKER IDENTIFYING CIRCUIT NUMBER AND PANELBOARD OF CIRCUITS

WITHIN. ONDUCTOR SIZE USE #10 AWG CONDUCTORS (MINIMUM) FOR ALL 20 AMP, 120 VOLT CIRCUIT RUNS GREATER THAN 50' ONE WAY FROM PANELBOARD TO FIRST DEVICE/FIXTURE. USE #10 AWG

CONDUCTORS (MINIMUM) FOR ALL 20 AMP, 277 VOLT CIRCUIT RUNS GREATER THAN 100' ONE WAY FROM PANELBOARD TO FIRST DEVICE/FIXTURE.

PANEL DIRECTORY PROVIDE TYPEWRITTEN PANELBOARD DIRECTORY CARD IN EACH PANELBOARD INCLUDING EXISTING PANELBOARDS MODIFIED FOR THIS PROJECT WITH CIRCUIT LOAD INFORMATION AND ROOM NUMBER CLEARLY IDENTIFIED. USE ACTUAL ROOM NUMBERS IN THE BUILDING, NOT THE ROOM NUMBERS SHOWN ON THE CONTRACT DRAWINGS, AS THEY ARE OFTEN DIFFERENT.

MOTOR COORDINATION MOTORS, MOTOR STARTERS, CONTROLLERS, INTEGRAL DISCONNECT SWITCHES, AND CONTACTORS SHALL BE

PROVIDED WITH THEIR RESPECTIVE PIECES OF EQUIPMENT BY THE EQUIPMENT SUPPLIER. COMMUNICATE WITH THE TRADES PROVIDING THE EQUIPMENT, VERIFYING ALL REQUIREMENTS. PROVIDE ALL ELECTRICAL CONNECTIONS REQUIRED THEREIN, AND INSTALL MOTOR STARTERS.

MOTOR DISCONNECTS ALL MOTORS SHALL HAVE DISCONNECTING MEANS.

MOTOR FUSE PROTECTION WHERE FUSE PROTECTION IS SPECIFICALLY REQUIRED BY THE EQUIPMENT MANUFACTURER, PROVIDE FUSED SWITCHES IN LIEU OF NON-FUSED SWITCHES OR IN LIEU OF ENCLOSED CIRCUIT BREAKERS, OR OTHER DEVICES INDICATED.

CONNECTION DETAILS SECURE APPROVED SHOP DRAWINGS SHOWING WIRING DIAGRAMS, ROUGH-IN AND HOOK UP DETAILS FROM OTHER INVOLVED CONTRACTORS FOR EQUIPMENT WHICH MUST BE CONNECTED ELECTRICALLY.

EQUIPMENT DETAILS MECHANICAL EQUIPMENT WILL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. THE LOCATIONS SHOWN ON THE ELECTRICAL DRAWINGS ARE APPROXIMATE. COORDINATE WITH THE MECHANICAL CONTRACTOR TO DETERMINE THE EXACT LOCATION OF EACH PIECE OF EQUIPMENT AND DETERMINE THE EXACT ROUGH-IN AND CONNECTION REQUIREMENTS.

STARTER MOUNTING WHERE AN INDIVIDUALLY MOUNTED SAFETY SWITCH, STARTER, OR CIRCUIT BREAKER IS SHOWN ADJACENT TO ITS RESPECTIVE LOAD AND NOT MOUNTED ON A WALL, PROVIDE ALL SUPPORTS, BRACKETS, ANCHORING, ETC. NECESSARY TO PROPERLY SUPPORT THE DEVICE.

GENERAL DEMOLITION NOTES

GENERAL DEMOLITION DRAWINGS ARE BASED ON EXISTING PLANS AND FIELD INVESTIGATION PRIOR TO DEMOLITION. VISIT THE EXISTING BUILDING PRIOR TO BID IN ORDER TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND IN ORDER TO AVOID CONFLICTS.

DEMOLITION (DASHED) ITEMS ALL ITEMS SHOWN DASHED ON DEMOLITION PLANS, AND/OR TAGGED WITH 'DM', ARE EXISTING, AND SHALL BE REMOVED COMPLETE INCLUDING: BOXES, CONDUIT, WIRE, FASTENERS, AND ASSOCIATED APPURTENANCES, UON.

EXISTING TO REMAIN (SOLID) ITEMS ALL ITEMS SHOWN SOLID ON DEMOLITION PLANS, AND/OR TAGGED WITH 'XR', ARE EXISTING TO REMAIN.

CIRCUITING TO REMAIN

REUSE OF EXISTING CIRCUITRY

EXISTING CIRCUITING TO REMAIN SHALL BE REROUTED OR RECONNECTED, AS REQUIRED, WHERE AFFECTED BY NEW WORK IN ORDER TO MAINTAIN CONTINUITY OF CIRCUIT.

EXISTING CIRCUITRY SERVING LIGHTING FIXTURES AND/OR RECEPTACLES FOR A GIVEN AREA SHALL BE REUSED WHERE CONVENIENT TO SERVE THE NEW LAYOUT, PROVIDE CIRCUIT MODIFICATIONS INDICATED OR AS OTHERWISE REQUIRED TO MAINTAIN THE CONTINUITY OF THE EXISTING CIRCUIT THAT REMAIN.

EXTENSION OF EXISTING CIRCUITS WHERE AN EXISTING CIRCUIT IS NOTED TO BE SAVED AND REUTILIZED. EXTEND EXISTING CIRCUIT SAVED DURING DEMOLITION AS REQUIRED TO SERVE EQUIPMENT IN NEW LOCATION.

EXISTING CONDUIT ALL EXISTING CONDUITS AND WIRING THAT WILL NOT BE REUSED SHALL BE REMOVED WHERE THEY WILL BE EXPOSED UPON COMPLETION OF NEW WORK, EXISTING CONDUIT TO REMAIN CONCEALED IN WALLS SHALL BE ABANDONED. EXISTING CONDUIT TO REMAIN BELOW FLOOR SLAB SHALL BE CUT OFF ONE INCH BELOW ROUGH FLOOR AND GROUTED FLUSH. ALL EXISTING WIRING IN CONDUITS TO BE ABANDONED SHALL BE

DISCONNECTED FROM POWER SOURCE AND REMOVED.

LIGHTING ARRANGEMENT ARRANGE LIGHTING FIXTURES IN ACCORDANCE WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.

LIGHTING COORDINATION COORDINATE LIGHTING FIXTURES WITH GRILLES, DIFFUSERS, SPRINKLER HEADS, AND ACCESS PANELS, ETC.

MATERIAL COORDINATION VERIFY CEILING AND WALL CONSTRUCTION AND MATERIAL PRIOR TO ORDERING LIGHT FIXTURES OR OTHER DEVICES TO ENSURE PROPER FIXTURE OR DEVICE IS FURNISHED TO MATCH CONSTRUCTION.

MOUNTING HEIGHTS MOUNTING HEIGHTS INDICATED ARE FROM THE FINISHED FLOOR TO THE CENTERLINE OF THE WIRING DEVICE UNLESS OTHERWISE NOTED. MOUNTING HEIGHTS OF LIGHTING FIXTURES ARE TO THE BOTTOM OF THE FIXTURE UNLESS OTHERWISE NOTED.

DEVICE LOCATION COORDINATE LOCATIONS OF SWITCHES, RECEPTACLES, AND TELE/DATA OUTLETS WITH OTHER WALL MOUNTED DEVICES SUCH AS THERMOSTATS AND CONTROL STATIONS. DO NOT MOUNT WIRING DEVICES BACK TO BACK. PROVIDE MINIMUM OF ONE STUD SEPARATION.

EWC RECEPTACLES RECEPTACLES FOR ELECTRIC WATER COOLERS (EWC) SHALL BE INSTALLED OUT OF VIEW AND BEHIND THE EWC ENCLOSURE. VERIFY THE MOUNTING HEIGHT WITH THE EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.

DEVICE COORDINATION THOROUGHLY REVIEW AND COORDINATE ALL CASEWORK, DOOR SWINGS, AND CABINET DRAWINGS AND ARCHITECTURAL ELEVATIONS WITH DEVICE LOCATIONS PRIOR TO ROUGH-IN OF OUTLET BOXES.

WHERE A MULTIPLE GANG BOX HAS CIRCUITS OF DIFFERENT VOLTAGES OR SYSTEMS WHICH ARE REQUIRED TO BE SEPARATED, PROVIDE THE CODE-REQUIRED SEPARATION USING A FULL HEIGHT AND DEPTH BARRIER PLATE.

FIRE PROOFING FOR ANY WALL OR FLOOR PENETRATIONS THROUGH FIRE RATED STRUCTURES, PROVIDE FIRE-PROOFING TO SEAL ALL THE PENETRATIONS AFTER THE RACEWAY HAS BEEN INSTALLED. FIRE PROOFING FOR PENETRATIONS SHALL BE UL APPROVED PER THE PENETRATION MADE IN ORDER TO MAINTAIN FIRE RATED INTEGRITY OF THE STRUCTURE.

CLEAN UP ON PROJECT CLOSE-OUT, CLEAN ALL ELECTRICAL DEVICES, LIGHTING FIXTURES, LAMPS AND LENSES, AND REMOVE ALL PAINT SPATTERS FROM DEVICES, FIXTURES, AND PLATES. REPLACE ALL INOPERATIVE LAMPS.

OWNER FURNISHED EQUIPMENT CONTRACTOR SHALL OBTAIN CUT SHEETS. INSTALLATION DATA. AND ROUGH-IN REQUIREMENTS FOR OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT AND COORDINATE ROUGH-IN AND POWER REQUIREMENTS WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING ANY ASSOCIATED WORK.

<u>CONDUIT ROUTING</u> ALL CONDUIT RUN OVERHEAD SHALL BE RUN AT THE BOTTOM OF THE FLOOR, ROOF STRUCTURE, OR LOWEST CHORD OF JOIST SPACE (AS APPLICABLE) ABOVE IN ORDER TO AVOID CONFLICTS WITH OTHER TRADES. ALL CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES AND USE RIGHT ANGLE OFFSETS TO CHANGE DIRECTION.

WIRING DEVICES ALL RECEPTACLES AND SWITCHES SHALL BE LABELED WITH PLASTIC LAMINATED LABEL WITH THE PANELBOARD DESIGNATION AND CIRCUIT NUMBER FROM WHICH IT IS FED.

EQUIPMENT DEMONSTRATION PROVIDE A DEMONSTRATION OF THE OPERATION OF ALL ELECTRICAL COMPONENTS UPON REQUEST OF THE OWNER. REFER TO SPECIFICATION SECTION 260501 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

<u>CEILING PLENUM</u> ALL WIRING THAT WILL NOT BE RUN IN CONDUIT SHALL BE PLENUM RATED.

TEMPORARY ELECTRICAL SERVICE PROVIDE TEMPORARY ELECTRICAL SERVICE AS REQUIRED FOR CONSTRUCTION PROJECT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

UNDERGROUND WORK HE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE CONSTRUCTION AREA THREE WORKING DAYS PRIOR TO DIGGING. NOTIFY THE STATE AUTHORITY HAVING JURISDICTION AND AWAIT THE REQUIRED TIME BEFORE COMMENCING EXCAVATION.

<u>CONFLICT NOTIFICATION</u> NOTIFY THE OWNER'S REPRESENTATIVE, ARCHITECT, AND ENGINEER PRIOR TO PROCEEDING WITH WORK IF A CONFLICT IS FOUND BETWEEN THE DRAWINGS, SPECIFICATIONS, AND/OR FIELD CONDITIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS AND CONSEQUENCES IF THE ABOVE LISTED PARTIES ARE NOT CONTACTED FOR A RESOLUTION PRIOR TO PROCEEDING WITH THE WORK.

WIRE SIZE NOTE ALL 15A AND 20A BRANCH AND LIGHTING CIRCUITS OVER 100 FEET IN LENGTH SHALL UTILIZE #10 AWG FOR HOT CONDUCTORS AND #12 FOR GROUND CONDUCTORS UNLESS OTHERWISE NOTED ON DRAWINGS OR SPECIFICATIONS.

GENERAL

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HOMERUN BACK TO PANELBOARD ★ INDICATES DEVICE MOUNTED ABOVE

ALL CONDUIT REMOVED SHALL BE REMOVED IN ITS ENTIRETY. INCLUDING FITTINGS, MOUNTING DEVICES, MOUNTING HARDWARE, ETC. PROVIDE CONDUIT PLUGS AND BLANKS FOR ALL OPENINGS CREATED BY THE REMOVAL OF CONDUIT. PROVIDE BLANK COVER PLATES FOR ALL OPENED OUTLET BOXES CREATED BY THE REMOVAL OF THE EQUIPMENT AND/OR DEVICES. DEMOLISHED MATERIALS

EXERCISE CARE IN REMOVAL OF DEMOLITION ITEMS. REPAIR, AT

NO ADDITIONAL COST TO OWNER. AND DAMAGE CAUSE TO

EXISTING CONSTRUCTION AND/OR EQUIPMENT TO REMAIN.

REMOVE ALL ELECTRICAL APPURTENANCES (DISCONNECTS.

STARTERS, WIRING, CONDUIT, ETC.) ASSOCIATED WITH

REPAIR DAMAGE

SOCIATED APPURTENANCES

KNOCKOUT PLUGS AND COVERS

EQUIPMENT TO BE REMOVED BY OTHERS.

ALL MATERIALS REMOVED UNDER DEMOLITION, NOT TO BE RELOCATED OR DESIGNATED TO BE TURNED OVER TO THE OWNER, SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED COMPLETELY FROM THE SITE.

<u>SCHEDULE OUTAGES</u> ALL WORK AND ALL POWER OUTAGES IN THE EXISTING BUILDING SHALL BE SCHEDULED AT TIMES CONVENIENT TO THE OWNER. NOTIFICATION NOTIFY THE OWNER PRIOR TO TURNING OFF ANY CIRCUITS.

EXISTING CIRCUITS IF DURING THE COURSE OF CONSTRUCTION, IT ITS DETERMINED BY THE CONTRACTOR THAT AN EXISTING CIRCUIT BECOMES SPARE, THE CONTRACTOR SHALL UPDATE THE PANELBOARD DIRECTORY TO INDICATE SUCH, EVEN IF IT IS NOT EXPLICITLY MARKED ON THE ELECTRICAL PLANS.

	LIGHTING FIXTURE. SUBSCRIPT INDICATES FIXTURE TYPE (TYP). REFER TO FIXTURE SCHEDULE FOR ADDITIONAL TYPES AND INFORMATION.	()
		(
	NORMAL/EMERGENCY LIGHTING FIXTURE. SUBSCRIPT "NL", WHERE USED, INDICATES NIGHT LIGHT CONNECTED AHEAD OF LIGHTING CONTROLS.	(
		(
0 🗆	DOWNLIGHT FIXTURE	(
0 0	NORML/EMERGENCY DOWNLIGHT FIXTURE. SUBSCRIPT "NL", WHERE USED, INDICATES NIGHT LIGHT CONNECTED AHEAD OF LIGHTING CONTROLS	
ôΰ	WALL WASH LIGHTING FIXTURE	
오 모	WALL MOUNTED LIGHTING FIXTURE	(
9 9	WALL MOUNTED LIGHTING FIXTURE ON EMERGENCY CIRCUIT. SUBSCRIPT "NL", WHERE USED, INDICATES NIGHT LIGHT CONNECTED AHEAD OF LIGHTING CONTROLS	+
© 	PENDANT MOUNTED LIGHTING FIXTURE	÷
	TRACK LIGHTING FIXTURE(S)	(
⊡⊷	POLE MOUNTED SITE LIGHTING FIXTURE	(
<u>^</u>	EMERGENCY BATTERY LIGHTING UNIT, CONNECT AHEAD OF LOCAL SWITCH	(+
Ô	REMOTE HEAD FOR BATTERY PACK	(
ŧ ® ‡	EXIT LIGHTING FIXTURE WITH DIRECTIONAL ARROWS AS INDICATED ON DRAWINGS. SHADED AREA DENOTES LIGHTED FACE	
\$	SINGLE POLE SWITCH, 20A, 120/277V	Li Ta
\$ ³	THREE-WAY SWITCH, 20A, 120/277V	Ľ
\$4	FOUR-WAY SWITCH, 20A, 120/277V	Ν
\$ ^ĸ	SINGLE POLE KEYED SWITCH, 20A, 120/277V	
\$ ^{PL}	SINGLE POLE SWITCH WITH PILOT LIGHT, 20A, 120/277V	г
\$□	DIMMER SWITCH, 20A, 120/277V	L
\$ [⊤]	TIMER SWITCH, 20A, 120/277V, REFER TO LIGHTING DETAILS FOR ADDITIONAL INFORMATION	(
\$ ^{oc}	WALL SWITCH OCCUPANCY SENSOR, 120/277V, REFER TO LIGHTING DETAILS FOR ADDITIONAL INFORMATION	(
\$ ^{LV}	LOW VOLTAGE SWITCH, REFER TO LIGHTING	(
PS	LOW VOLTAGE LIGHTING FIXTURE POWER SUPPLY.	
	MOUNT ABOVE ACCESSIBLE CEILING	
00	CEILING MOUNTED OCCUPANCY SENSOR. REFER TO OCCUPANCY SENSOR SCHEDULE AND LIGHTING DETAILS FOR ADDITIONAL INFORMATION	Ē
OC	WALL MOUNTED OCCUPANCY SENSOR. REFER TO OCCUPANCY SENSOR SCHEDULE AND LIGHTING DETAILS FOR ADDITIONAL INFORMATION	
ØS	DAYLIGHT SENSOR, CEILING MOUNTED. REFER TO LIGHTING CONTROLS FOR ADDITIONAL INFORMATION	Г
Ø	PHOTOCELL. MOUNT ON ROOF OF BUILDING AND AIM NORTH. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION	[[[
LZC	LIGHTING ZONE CONTROLLER, MOUNT ABOVE ACCESSIBLE CEILING. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION	L L
ETD	EMERGENCY TRANSFER DEVICE, MOUNT ABOVE ACCESSIBLE CEILING. DEVICE SHALL BE UL 924 LISTED. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION	
DP	DIMMING PANEL, RECESS MOUNTED IN WALL. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION	۲ ۲
GENI	FRAI	

NUMBERED NOTE

DETAIL OR SECTION NOTATION

 \sim INDICATES CONTINUATION OF LINE

BRANCH CIRCUIT WIRING

✓ NE NORMAL EMERGENCY CIRCUIT WIRING

UNINTERRUPTIBLE POWER SUPPLY CIRCUIT WIRING

COUNTERTOP

PC

OWE	<u>R</u>
φ	SIMPLEX RECEPTACLE, 20A/120V
₽	DUPLEX RECEPTACLE, 20A/120V
₽°	DUPLEX RECEPTACLE, GFCI TYPE, 20A/120V
P	DUPLEX RECEPTACLE ON EMERGENCY POWER CIRCUIT, 20A/120V
₽ ^G	DUPLEX RECEPTACLE ON EMERGENCY POWER CIRCUIT, GFCI TYPE, 20A/120V
₽ ^{ĭG}	ISOLATED GROUND DUPLEX RECEPTACLE, 20A/120V
	DUPLEX RECEPTACLE, EXPLOSION PROOF TYPE, 20A/120V
₽ ^{tr}	DUPLEX RECEPTACLE, TAMPER RESISTANT TYPE, 20A/120V. RECEPTACLE SHALL HAVE "TR" STAMPED ON FACE OF DEVICE
₽ [∪]	DUPLEX RECEPTACLE ON UPS POWER CIRCUIT, 20A/120V
₽ ^{ewc}	ELECTRIC WATER COOLER CONNECTION, PROVIDE 20A/120V GFCI TYPE DUPLEX RECEPTACLE. COORDINATE WITH EWC MANUFACTURER'S ROUGH- IN REQUIREMENTS
₽ ^{usb}	DUPLEX RECEPTACLE, DOUBLE USB PORT, 20A/120V
₽ ^{gw}	DUPLEX RECEPTACLE, GFCI TYPE, WEATHER RESISTANT WITH "WHILE-IN-USE" WEATHERPROOF COVER, 20A/120V
₽	QUAD RECEPTACLE, 20A/120V
₽	QUAD RECEPTACLE ON EMERGENCY POWER CIRCUIT, 20A/120V
₽ ^{USB}	QUAD RECEPTACLE, DOUBLE USB PORT, 20A, 120V
9	SPECIAL RECEPTACLE, NEMA CONFIGURATION AND AMPERAGE AS NOTED
Φ	SIMPLEX RECEPTACLE, CEILING MOUNTED, 20A/120V
⊅	DUPLEX RECEPTACLE, CEILING MOUNTED, 20A/120V
₽	QUAD RECEPTACLE, CEILING MOUNTED, 20A/120V
\mathbf{O}^{\times}	THRU SCHEDULE FOR ADDITIONAL INFORMATION
FGI	DEAD FRONT GFCI DEVICE
FF	
	BOX SCHEDULE FOR ADDITIONAL INFORMATION
МВ	MEDIA BOX, PROVIDE WIREMOLD MODEL EFSB4 BOX WITH (1) 20A/120V DUPLEX RECEPTACLE AND (2) 1"C WITH PULL STRING STUBBED TO ABOVE ACCESSIBLE CEILING FOR A/V CABLING. TERMINATE CONDUITS WITH INSULATING BUSHING
J	JUNCTION BOX FLUSH IN WALL
J	JUNCTION BOX ABOVE CEILING
E)	
M)∕ CR	CORD REFL
SF)	CEILING FAN CONNECTION
\$ [™]	MOTOR STARTING SWITCH
DO	ELECTRICAL DOOR OPERATOR CONNECTION, 120V
PP	ELECTRICAL DOOR PUSH PAD, MOUNT 46" AFF
	DOOR HARDWARE NOTE ELECTRICAL DOOR OPERATOR AND DOOR CONTROLLERS SHALL BE PROVIDED BY DOOR HARDWARE SUPPLIER. PROVIDE 120V POWER TO DOOR POWER SUPPLY AND OUTLET BOX AND CONDUIT FOR CONTROLS. COORDINATE WITH DOOR HARDWARE PROVIDER
PB	PULL BOX
GB	GROUND BAR, REFER TO DETAIL
/FD	VARIABLE FREQUENCY DRIVE, FURNISHED BY MECHANICAL EQUIPMENT SUPPLIER, INSTALLED AND POWERED BY EC
SPD	
	SURFACE RACEWAY. MOUNT 46" AFF, UON
	DISCONNECT SWITCH. FRAME AS NOTED
	FUSED DISCONNECT SWITCH. FRAME AND FUSE AS NOTED.
	ENCLOSED CIRCUIT BREAKER. FRAME AND TRIP AS NOTED
	EXISTING PANELBOARD
	PANELBOARD
	MOTOR STARTER
~ 7	
<u> </u>	

POWER	RISER DIAGRAM
마	DISCONNECT SWITCH
\square	FUSED DISCONNECT SWITCH
Ţ	GROUND
\mathbb{M}	MOTOR
\boxtimes	MOTOR STARTER
$\boxtimes^{\!$	MOTOR STARTER DISCONNECT SWITC
M	METER
VFD	VARIABLE FREQUENCY DRIVE
SPD	SURGE PROTECTIVE DEVICE
•`•	SWITCH
	CIRCUIT BREAKER
	FUSE
∙∕∙⊡∙	FUSED SWITCH
≪ ••→>>	DRAW OUT CIRCUIT BREAKER
⇔∕∙⊡∙≫	DRAW OUT FUSED SWITCH
G	GENERATOR
	KIRK KEY
61	SHUNT TRIP
<i>-</i> GF	GROUND FAULT INTERRUPTER
Δ	DELTA
Ϋ́	WYE
R	RELAY
\neg	CURRENT TRANSFORMER
● ı	LIGHTNING ARRESTER
	BATTERY CONVERTER
	RECTIFIER
$\overline{\ }$	INVERTER
••	ENCLOSED CIRCUIT BREAKER
	BATTERY
	PAD MOUNTED TRANSFORMER
	TRANSFORMER
	ISOLATION TRANSFORMER
₩ Ţ	MCOV LIGHTNING ARRESTER
$\mathbb{R}^{\mathbb{R}}$	GROUNDING RESISTOR
	STATIC SWITCH
	AUTOMATIC TRANSFER SWITCH

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ISOLATION BYPASS AUTOMATIC

TRANSFER SWITCH

PANELBOARD

ABBREVIATIONS

CCTV

CB

CF

СН

CKT

СМ

CO

DM

DO

EPO

EWC

EXP

FHP

FLA

FPC

FO

FSS

FU

GC

HOA

HP

JB

KVA

KW

LTG

LVC

MCA

MCB

MLO

MTD

MW

NEC

NFSS

NIC

NL

OC

PA

PC

PF

PH

PL

PNL

RED

REF

REL

TBB

TYP

UGC

UGE

UPS

USB

UON

VFD

WM

UT

UF

TR

OFCI

NF

MC

LV

Μ

FL

	AMPERE
Л	ADMINISTRATOR
	ABOVE FINISHED FLOOR
3	ABOVE FINISHED GRADE
	AMPERE INTERRUPTING CURRENT
	AUDIO/VISUAL

BFG BELOW FINISHED GRADE CONDUIT CABLE ANTENNA TELEVISION CATV

CLOSED CIRCUIT TELEVISION **CIRCUIT BREAKER** COFFEE MAKER CHIME CIRCUIT **CEILING MOUNTED**

DEMOLISH DOOR OPEN

CENTER OFF

EMERGENCY ELECTRICAL CONTRACTOR EXHAUST FAN EMERGENCY POWER OFF

ELECTRIC WATER COOLER

EXPLOSION PROOF FIRE ALARM FLUSH FLOOR MOUNTED

FRACTIONAL HORSE POWER FLOURESCENT FULL LOAD AMPS

FIBER OPTIC FIRE PROTECTION CONTRACTOR FUSED SAFETY SWITCH FUSE

GROUND FAULT CIRCUIT INTERRUPTER GENERAL CONTRACTOR

GND GROUND HAND-OFF INTERRUPTER

HORSE POWER HEATING VENTILATING, AND AIR CONDITIONING HVAC

INFRARED ISOLATED GROUND

JUNCTION BOX KEY KILO-VOLT AMPERE

KILO-WATT LIGHTING

LOW VOLTAGE LOW VOLTAGE CONTRACTOR

MOTOR MINIMUM CIRCUIT AMPS MECHANICAL CONTRACTOR

MAIN CIRCUIT BREAKER MULTI-LINE MAIN LUGS ONLY MOUNTED MICROWAVE

NURSE CALL NORMAL / EMERGENCY

NATIONAL ELECTRICAL CODE NON-FUSED NATIONAL FIRE PROTECTION AGENCY NFPA NON-FUSED SAFETY SWITCH NOT IN CONTRACT

NIGHT LIGHT NTS NOT TO SCALE

ON CENTER OWNER FURNISHED CONTRACTOR INSTALLED

PAGING SYSTEM PLUMBING CONTRACTOR POWER FACTOR PHASE

PILOT LIGHT PANEL

POLE

RELOCATED EXISTING DEVICE REFRIGERATOR RELOCATE

SOUND SYSTEM SERVICE ENTRANCE

SPD SURGE PROTECTIVE DEVICE SW SWITCH

TELEPHONE TELEPHONE BACKBOARD TWIST LOCK TAMPER RESISTANT

TYPICAL

ULTRASONIC UNDERGROUND COMMUNICATIONS UNDERGROUND ELECTRIC UNDERGROUND FIBER UNINTERRUPTED POWER SUPPLY

UNIVERSAL SERIAL BUS UNDERGROUND TELEPHONE UNLESS OTHERWISE NOTED

VOLTS VARIABLE FREQUENCY DRIVE

WATTS WALL MOUNTED

WG WIRE GUARD WEATHER RESISTANT WR WT WATER TIGHT

XFMR TRANSFORMER EXISTING TO REMAIN XR

XRN EXISTING TO BE REPLACED WITH NEW

SHEET LIST - ELECTRICAL DESCRIPTION

SHEET E001 ELECTRICAL COVER SHEET E101 FLOOR/ROOF PLANS - ELECTRICAL E501 SCHEDULES & DETAILS E801 SPECIFICATIONS

PROJECT STATUS **100% CONSTRUCTION DOCUMENTS** 20-0997 & DGS SM-855-210-001 JOB NUMBER: ISSUE DATE: 20 JANUARY 2023 SCALE: 1/8" = 1'-0" SHEET TITLE: ELECTRICAL COVER SHEET SHEET NUMBER: E001

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FIRST FLOOR PLAN - POWER & SYSTEMS E101 1/4" = 1'-0"

2 FIRST FLOOR PLAN - LIGHTING

6 **PHOTOMETRICS** E101 1/4" = 1'-0"

GENERAL NOTES

G1 USE COPPER FOR ALL WIRING.

NUMBERED NOTES

- $\langle 1 \rangle$ ALL LIGHTING AND RECEPTACLES SHALL BE DEMOLISHED.
- $\langle 2 \rangle$ PHOTOCELL TO BE MOUNTED TO ROOF.
- HEAVY DUTY 208V, 1 PHASE, NEMA 4X 30 DISCONNECT FUSED FOR 25A.
- $\langle 4 \rangle$ CONNECT TO LINE SIDE OF LIGHTING CIRCUIT.
- 5 ELECTRICAL SERVICE FEEDER EQUIPMENT AND CONNECTION BY OTHERS. NEW SERVICE IS TO BE FED FROM UTILITY POLE ON SITE. THE EC SHALL PROVIDE THE SERVICE GROUNDING AT PANEL A PER
- NEC REQUIREMENTS. $\langle 6 \rangle$ CONNECT TO OCCUPANCY SENSOR ON LIGHTING PLAN
- (7) HEAVY DUTY 120V, 1 PHASE, NEMA 3R 30 NON-FUSED DISCONNECT.

SCALE: SHEET TITLE:

FLOOR/ROOF PLANS - ELECTRICAL

SHEET NUMBER:

LIGHTING CONTROL SEQUENCE OF OPERATION NOTES:

1. QUANTITY OF DEVICES (OCCUPANCY SENSORS, SWITCHES, POWER PACKS) AS SHOWN ON FLOOR PLANS. 2. CONTROL DESCRIPTION: • LIGHTS AUTO ON/OFF VIA VACANCY SENSOR WITHIN THE SPACE (AUTO OFF WITHIN 20 MINUTES)
• LIGHTS MANUAL OFF OVERRRIDE AT LOCAL LOW VOLTAGE SWITCH.
3. THIS DETAIL APPLIES TO THE RESTROOMS AND ALCOVE.

THIS DETAIL APPLIES TO THE UTILITY ROOM.

	BRANCH CIRCUIT P	ROTECTIVE DEVICE RATING. CO	PPER WIRE & CONDUIT SCHED	ULE	
		FOR (600 V MAX) SYS	TEMS		
UPDATED 01-01-2013		NOTE : THIS TABLE IS FOR FEEDERS A	ND BRANCH CIRCUITS. IT		
COPPER CONDUCTOR: T	HHN / THWN INSULATION, 600 V	IS NOT TO BE USED FOR SERV	ICE ENTRANCE, MOTORS,		
USE FOR ALL METAL COM	NDUITS & PVC - 40 & PVC - 80	OR TRANSFO	RMERS.		
	TYPE 1	TYPE 2	TYPE 3	TYPE 4	
OCP RATING	1Φ - 2W & EGC	1Φ - 3W & EGC	3Ф - 3W & EGC	3Φ - 4W & EGC	
15 A	2 #12 & 1 #12 EGC IN 3/4" C	3 #12 & 1 #12 EGC IN 3/4" C	3 #12 & 1 # 12 EGC IN 3/4" C	4 #12 & 1 #12 EGC IN 3/4" C	
20 A	2 #12 & 1 #12 EGC IN 3/4" C	3 #12 & 1 #12 EGC IN 3/4" C	3 #12 & 1 # 12 EGC IN 3/4" C	4 #12 & 1 #12 EGC IN 3/4" C	
30 A	2 #10 & 1 #10 EGC IN 3/4" C	3 #10 & 1 #10 EGC IN 3/4" C	3 # 10 & 1 # 10 EGC IN 3/4" C	4 #10 & 1 #10 EGC IN 3/4" C	
35 A	2 #8 & 1 #10 EGC IN 3/4" C	3 #8 & 1 #10 EGC IN 3/4" C	3 #8 & 1 #10 EGC IN 3/4" C	4 #8 & 1 #10 EGC IN 1" C	
40 A	2 #8 & 1 #10 EGC IN 3/4" C	3 #8 & 1 #10 EGC IN 3/4" C	3 #8 & 1 #10 EGC IN 3/4" C	4 #8 & 1 #10 EGC IN 1" C	
45 A	2 #6 & 1 #10 EGC IN 3/4" C	3 #6 & 1 #10 EGC IN 1" C	3 #6 & 1 #10 EGC IN 1" C	4 #6 & 1 #10 EGC IN 1" C	
50 A	2 #6 & 1 #10 EGC IN 3/4" C	3 #6 & 1 #10 EGC IN 1" C	3 #6 & 1 #10 EGC IN 1" C	4 #6 & 1 #10 EGC IN 1" C	
60 A	2 #4 & 1 #10 EGC IN 1" C	3 #4 & 1 #10 EGC IN 1 1/4" C	3 #4 & 1 #10 EGC IN 1 1/4" C	4 #4 & 1 #10 EGC IN 1 1/4" C	
70 A	2 #4 & 1 #8 EGC IN 1" C	3 #4 & 1 #8 EGC IN 1 1/4" C	3 #4 & 1 #8 EGC IN 1 1/4" C	4 #4 & 1 #8 EGC IN 1 1/4" C	
80 A	2 #3 & 1 #8 EGC IN 1" C	3 #3 & 1 #8 EGC IN 1-1/4" C	3 #3 & 1 #8 EGC IN 1-1/4"C	4 #3 & 1 #8 EGC IN 1 1/4" C	
90 A	2 #2 & 1 #8 EGC IN 1 1/4" C	3 #2 & 1 #8 EGC IN 1 1/4" C	3 #2 & 1 #8 EGC IN 1 1/4" C	4 #2 & 1 #8 EGC IN 1 1/2" C	
100 A	2 #1 & 1 #8 EGC IN 1 1/4" C	3 #1 & 1 #8 EGC IN 1 1/2" C	3 #1 & 1 #8 EGC IN 1 1/2" C	4 #1 & 1 #8 EGC IN 2" C	
110 A	2 #1 & 1 #6 EGC IN 11/4" C	3 #1 & 1 #6 EGC IN 1 1/2" C	3 #1 & 1 #6 EGC IN 1 1/2" C	4 #1 & 1 #6 EGC IN 2" C	
125 A	2 #1 & 1 #6 EGC IN 1 1/4" C	3 #1 & 1 #6 EGC IN 1 1/2" C	3 #1 & 1 #6 EGC IN 1 1/2" C	4 #1 & 1 #6 EGC IN 2" C	
150 A	2 #1/0 & 1 #6 EGC IN 1 1/2" C	3 #1/0 & 1 #6 EGC IN 2" C	3 #1/0 & 1 #6 EGC IN 2" C	4 #1/0 & 1 #6 EGC IN 2" C	
175 A	2 #2/0 & 1 #6 EGC IN 1 1/2" C	3 #2/0 & 1 #6 EGC IN 2" C	3 #2/0 & 1 #6 EGC IN 2" C	4 #2/0 & 1 #6 EGC IN 2" C	
200 A	2 #3/0 & 1 #6 EGC IN 2" C	3 #3/0 & 1 #6 EGC IN 2" C	3 #3/0 & 1 #6 EGC IN 2" C	4 #3/0 & #6 EGC IN 2 1/2" C	
225 A	2 #4/0 & 1 #4 EGC IN 2" C	3 #4/0 & 1 #4 EGC IN 2 1/2" C	3 #4/0 & 1 #4 EGC IN 2 1/2" C	4 #4/0 & 1 #4 EGC IN 2 1/2" C	
250 A	2 #250 KCMIL & 1 #4 EGC IN 2" C	3 #250 KCMIL & 1 #4 EGC IN 2 1/2" C	3 #250 KCMIL & 1 #4 EGC IN 2 1/2" C	4 #250 KCMIL & 1 #4 EGC IN 3" C	
300 A	2 #350 KCMIL & 1 #4 EGC IN 2 1/2" C	3 #350 KCMIL & 1 #4 EGC IN 3" C	3 #350 KCMIL & 1 #4 EGC IN 3" C	4 #350 KCMIL & 1 #4 EGC IN 3" C	
350 A	2 #500 KCMIL & 1 #3 EGC IN 3" C	3 #500 KCMIL & 1 #3 EGC IN 3 1/2 " C	3 #500 KCMIL & 1 #3 EGC IN 3 1/2" C	4 #500 KCMIL & 1 #3 EGC IN 3 1/2" C	
400 A	2 #500 KCMIL & 1 #3 EGC IN 3" C	3 #500 MCKIL & 1 #3 EGC IN 3 1/2" C	3 #500 KCMIL & 1 #3 EGC IN 3 1/2" C	4 #500 KCMIL & 1 #3 EGC IN 3 1/2" C	
450 A	2 SETS OF (2 #4 /0 & 1 #2 EGC) IN	2 SETS OF (3 #4/0 & 1 #2 EGC) IN	2 SETS OF (3 #4/0 & 1 #2 EGC) IN	2 SETS OF (4 #4/0 & 1 #2 EGC) IN	
	(2) 2* C	(2) 2 1/2" C	(2) 2 1/2" C	(2) 2 1/2" C	

CIRCUIT SYMBOL

4 -TYPE, CONDUCTOR SIZE / CONDUIT 225 -OCP RATING

COPPER CONDUCTORS

	LIGHTING FIATURE SCHEDULE - I SPEC								
TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LUMENS TYPE	COLOR LAMPS	WATTS	VOLTAGE (MANUAL)	MOUNTING	COMMENTS
EBU	EBU	LITHONIA LIGHTING	ELM4L	NA	NA	1.2W	MVOLT	SURFACE	-
EX2	EXIT SIGN - WALL MOUNTED	LITHONIA LIGHTING	LHQM LED R HO SD	NA	NA	0.6W	MVOLT	SURFACE	-
RL	RECESSED LINEAR	FINELITE	HP 4 R D 4 H 835 F 96LG 120 FC-10% VF FE SW FACCHO	3700	3500K	36W	120V	RECESSED	-
RL2	RECESSED LINEAR	FINELITE	HP 4 R D 2 H 835 F 96LG 120 FC-10% VF FE SW FACCHO	1863	3500K	18W	120V	RECESSED	-
WD	WALL SCONCE	LITHONIA LIGHTING	WDGE1 LED P1 35K 80CRI VW MVOLT SRM	1200	3500K	10W	MVOLT	SURFACE	-
WS	WALL SCONCE	LITHONIA LIGHTING	WDGE2 LED P2 35K 80CRI VF MVOLT SRM	2000	3500K	15W	MVOLT	SURFACE	-

TOTAL CONNECTED AMPS: 23 A 26 A 40 A

PANEL SCHEDULE PANEL A <u>NOTES</u>

0	СКТ	CIRCUIT DESCRIPTION	WIF
	1	Lighting	1-#12, ²
	3	Receptacle	1-#12, <i>1</i>
	5	Receptacle	1-#12, <i>1</i>
	7	Lighting	1-#12, <i>1</i>
	9	EF-1	1-#12, <i>1</i>
	11	EF-1	1-#12, <i>1</i>
	13	Receptacle	1-#12, <i>1</i>
	15	SPARE	
	17	SPARE	
	19	SPARE	
	21	SPARE	
	23	SPACE	
	25	SPACE	
	27	SPACE	
	29	SPACE	
		·	TOTAL CON

<u>NOTES</u>

NOTE: FOR CABLE INSULATION OTHER THAN THHN/THWN, SIZE CONDUIT PER NEC.

JULE		SUPPLY F ENCLOS POLE SPA	ROM: SURE: TYPE SCES: 30	1		PHASES: WIRES: AIC RATING: MAIN TYPE: BUS RATING: MCB RATING:	1 3 10K MCB 100 A 100 A	
WIRE SIZE RATING # OF POLES	A	В	С	# OF POLE	RATING	WIRE SIZE	CIRCUIT DESCRIPTION	Ck
1-#12, 1-#12, 1-#12 20 A 1	144 VA 182 VA			1	20 A	1-#12, 1-#12, 1-#12	Lighting	2
1-#12, 1-#12, 1-#12 20 A 1		720 VA 180 VA		1	20 A	1-#12, 1-#12, 1-#12	Receptacle	4
1-#12, 1-#12, 1-#12 20 A 1			360 VA 250	00 VA 1	30 A	1-#10, 1-#10, 1-#10	DWH-1	6
1-#12, 1-#12, 1-#12 20 A 1	30 VA 2050 VA			2	25 A	2-#10, 1-#10, 1-#10	HP-1	8
1-#12, 1-#12, 1-#12 20 A 1		92 VA 2050 VA						1(
1-#12, 1-#12, 1-#12 20 A 1			62 VA 180	00 VA 1	15 A	1-#12, 1-#12, 1-#12	EWH-1	12
1-#12, 1-#12, 1-#12 20 A 1	180 VA 180 VA			1	20 A	1-#12, 1-#12, 1-#12	Receptacle	14
20 A 1		0 VA 0 VA		1	20 A		SPARE	10
20 A 1			0 VA 0	VA 1	20 A		SPARE	18
20 A 1	0 VA 0 VA			1	20 A		SPARE	20
20 A 1		0 VA 0 VA		1	20 A		SPARE	22
			0 VA 0	VA			SPACE	24
	0 VA 0 VA						SPACE	20
		0 VA 0 VA					SPACE	28
			0 VA 0	VA			SPACE	30
TOTAL CONNECTED APPARENTLY LOAD	2766 VA	3024 VA	4710 VA	۱				

LOCATION: UTILITY / JAN. 100

VOLTAGE: 120/208 WYE

PLAN NORTH <u>revisions</u> REV. #: DESCRIPTION: DATE: PROJECT STATUS **100% CONSTRUCTION DOCUMENTS** JOB NUMBER: 20-0997 & DGS SM-855-210-001 20 JANUARY 2023 ISSUE DATE: SCALE: SHEET TITLE:

SCHEDULES & DETAILS

SHEET NUMBER:

ELECTRICAL SPECIFICATIONS

ELECTRICAL GENERAL PROVISIONS

SUMMARY: FURNISH ALL LABOR, MATERIALS, SERVICES AND SKILLED SUPERVISION NECESSARY FOR THE CONSTRUCTION, ERECTION, INSTALLATION, CONNECTIONS, TESTING AND ADJUSTMENT OF ALL CIRCUITS AND ELECTRICAL EQUIPMENT SPECIFIED HEREIN OR SHOWN ON THE DRAWINGS AND ITS DELIVERY TO THE OWNER COMPLETE IN ALL RESPECTS AND READY FOR USE. ALL ELECTRICAL WORK SHALL BE NEW EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.

QUALITY: CONTRACTOR SHALL PROVIDE WORK OF HIGHEST QUALITY. CONFORMING TO THE ACCEPTED PRACTICES AND STANDARDS OF THE TRADES INVOLVED, FURTHER DEFINITION OF QUALITY IS GIVEN BY VARIOUS LAWS, CODES, STANDARDS AND REGULATIONS.

DEMOLITION:

THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE EXACT CONDITION, LOCATIONS, SIZES AND QUANTITIES OF EXISTING ELECTRICAL EQUIPMENT, WIRING, CONDUIT AND OTHER ACCESSORIES WHICH MUST BE REMOVED, REVISED, RELOCATED, DISCONNECTED, CONNECTED TO OR RECONNECTED. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING ELECTRICAL SERVICE EQUIPMENT, PANELBOARDS, LIGHTING FIXTURES, SWITCHES, RECEPTACLES, BOXES, CONDUITS, WIRING, ETC., THROUGHOUT THE BUILDING AND AT THE EXTERIOR OF THE BUILDING NO LONGER REQUIRED AS PART OF THE NEWLY REMODELED BUILDING AND THE INSTALLATION OF NEW FIXTURES, SWITCHES, RECEPTACLES, MOTOR OUTLETS, PANELBOARDS, SWITCHBOARD, EQUIPMENT, CONDUIT, RACEWAYS, WIRING, BOXES, ETC., COMPLETE IN EVERY DETAIL, UNLESS NOTED OTHERWISE.

ALL PRESENT EXPOSED CONDUIT, WIRING AND SIMILAR MISCELLANEOUS ITEMS THROUGHOUT THE REMODELED AREAS OF THE BUILDING ARE NOT REQUIRED AS PART OF THE REMODELED INSTALLATION, SHALL BE COMPLETELY REMOVED. ALL PRESENT CONCEALED CONDUIT EMBEDDED IN WALLS OR LOCATED IN INACCESSIBLE SPACES AND NOT REQUIRED AS A PART OF THE REMODELED INSTALLATION, SHALL BE SUITABLY CAPPED OR PLUGGED BEHIND WALLS, ABOVE CEILINGS, OR BELOW FLOORS AND RENDERED COMPLETELY "DEAD." WHEN EXISTING CEILINGS OR WALL CONSTRUCTION IS REMOVED, RESULTING EXISTING EXPOSED CONDUIT NO LONGER REQUIRED AS PART OF THE REMODELED INSTALLATION. SHALL BE COMPLETELY DISCONNECTED AND REMOVED.

EXISTING EXPOSED CONDUIT, RACEWAYS, ETC., NO LONGER REQUIRED SHALL NOT BE REUSED AS PART OF THE NEW SYSTEM AND SHALL BE REMOVED FROM THE SITE. PRESENT CONCEALED WIRING SHALL BE DISCONNECTED AND REMOVED WHEREVER POSSIBLE; HOWEVER, WHERE IT IS IMPRACTICABLE TO DO SO, THE WIRING SHALL BE RENDERED COMPLETELY "DEAD." REMOVED WIRING, CONDUITS, AND BOXES SHALL NOT BE REUSED AS A PART OF THE NEW INSTALLATION.

THE INSTALLATION OF A NEW ELECTRICAL SERVICE AND EQUIPMENT SHALL BE COORDINATED WITH WORK BEING PERFORMED UNDER THE OTHER CONTRACTS AND WITH THE POWER COMPANY. ANY EXISTING CONDUIT REMOVED ON THE EXTERIOR OF THE BUILDING FROM THE METER TO THE GROUND SHALL BE CAPPED AT THE GROUND BY THE CONTRACTOR. ANY OPENINGS THAT ARE EXPOSED DUE TO THE REMOVAL OF THE EXISTING SERVICE SHALL BE PATCHED BY THE CONTRACTOR.

EXISTING HEATING, VENTILATING, PLUMBING AND MISCELLANEOUS EQUIPMENT WILL BE REMOVED UNDER THE HEATING, PLUMBING, AND GENERAL CONTRACTS. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT THE EQUIPMENT FROM THEIR PRESENT ELECTRICAL SERVICES AND REMOVE ALL WIRING, CONDUIT, BOXES, SWITCHES, ETC., NO LONGER REQUIRED. NEW EQUIPMENT WILL BE FURNISHED AND INSTALLED UNDER OTHER CONTRACTS AND SHALL BE CONNECTED BY THE ELECTRICAL CONTRACTOR TO THE NEW ELECTRICAL SYSTEM AS SHOWN AND AS REQUIRED FOR A COMPLETE INSTALLATION.

CONTRACT DRAWINGS:

DRAWINGS ARE DIAGRAMMATIC AND SHOW APPROXIMATE LOCATIONS AND EXTENT OF WORK. EXACT LOCATIONS MUST BE COORDINATED WITH OTHER TRADES AND VERIFIED IN THE FIELD.

CEILING GRID LAYOUTS, WHERE SHOWN ON THE DRAWINGS, ARE FOR REFERENCE ONLY. THE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS, ARCHITECTURAL DETAILS, MECHANICAL AND PLUMBING PLANS, PRIOR TO INSTALLATION OF FIXTURES.

CEILING TYPES SHALL BE AS NOTED ON THE ARCHITECTURAL REFLECTED CEILING PLANS AND ARCHITECTURAL DETAILS. COORDINATE ALL REQUIRED LIGHTING FIXTURE ACCESSORIES AND MOUNTING HARDWARE WITH THE CEILING TYPES AS SHOWN ON THE DRAWINGS PRIOR TO INSTALLATION OF LIGHTING FIXTURES. THE CONTRACTOR SHALL PROVIDE ALL FIXTURE ACCESSORIES AND MOUNTING HARDWARE AS REQUIRED FOR A COMPLETE INSTALLATION OF THE FIXTURES.

ALL DEVICES SHALL BE FLUSH MOUNTED WITH CONCEALED CONDUIT, EXCEPT AS NOTED ON THE DRAWINGS AND IN ELECTRICAL EQUIPMENT ROOMS. EXIT LIGHTS SHALL BE CENTERED IN CEILING TILE OR ABOVE DOOR IF WALL MOUNTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE AND OPERABLE SYSTEMS IN ACCORDANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL INCIDENTAL ITEMS NOT ACTUALLY SHOWN OR SPECIFIED, BUT WHICH ARE REQUIRED BY GOOD PRACTICE TO PROVIDE COMPLETE FUNCTIONAL SYSTEMS.

WARRANTY: CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE.

EXAMINATION OF SITE: CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED PROJECT. CERTAIN EXISTING CONDITIONS MAY AFFECT THE MANNER OR SEQUENCE OF THE PERFORMANCE OF THE WORK.

RECORD DRAWINGS: CONTRACTOR SHALL MAINTAIN AT THE JOB SITE, ONE COPY OF THE DRAWINGS WHICH SHALL BE USED EXCLUSIVELY FOR RECORDING ANY INSTALLATION DEVIATION FROM THE CONTRACT DRAWINGS. SUBMIT DRAWINGS TO ARCHITECT UPON COMPLETION OF PROJECT.

CUTTING AND PATCHING: CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED. WORK MUST BE ACCOMPLISHED IN A NEAT AND WORKMANLIKE MANNER, ACCEPTABLE TO THE ARCHITECT. PATCH TO MATCH ADJACENT SURFACE CONSTRUCTION.

SLEEVES AND SEALS: FURNISH SLEEVES FOR CONDUIT PENETRATIONS THROUGH MASONRY AND CONCRETE CONSTRUCTION.

THE CONTRACTOR SHALL MAINTAIN THE FIRE RATINGS AS INDICATED ON THE ARCHITECTURAL DRAWINGS. REFER TO THE APPLICABLE DETAILS ON THE FIRE PROTECTION AND LIFE SAFETY INFRASTRUCTURE IMPROVEMENTS PROJECT FOR REQUIREMENTS.

ELECTRICAL PROCEDURES AND CONTROLS:

TESTS: THE CONTRACTOR SHALL BEAR ALL COSTS OF SUCH INSPECTIONS, TESTS OR APPROVALS, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

CONTRACTOR SHALL OPERATE THE SYSTEMS FOR A PERIOD OF AT LEAST THREE DAYS, NOT NECESSARILY CONSECUTIVE TO DEMONSTRATE FULFILLMENT OF THE REQUIREMENTS OF THE CONTRACT. DURING THIS TIME, ADJUST EQUIPMENT SO THAT IT WILL PERFORM AS THE MANUFACTURER INTENDED, AND SO THAT SYSTEMS WILL FUNCTION AS DESIGNED. EXECUTE TESTS AND ADJUSTMENTS OF EQUIPMENT AS REQUIRED TO VERIFY PERFORMANCE REQUIREMENTS. SUBMIT DATA TAKEN DURING SUCH TESTS TO THE ARCHITECT.

TESTS SHALL INCLUDE:

PROPER OPERATION OF LIGHTS AND EQUIPMENT.

CONTINUITY OF CONDUIT SYSTEM. INSULATION LEAKAGE AND IMPEDANCES.

GROUND SYSTEM RESISTANCE. ANY SUB-SYSTEM TESTS DESCRIBED IN OTHER SECTIONS OF THESE

SPECIFICATIONS. SUBMITTALS:

MATERIALS AND EQUIPMENT INSTALLED IN THIS WORK SHALL BE NEW AND MEET ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. NO MATERIALS OR EQUIPMENT SHALL BE ORDERED UNTIL SUBMITTALS ARE REVIEWED AND APPROVED. MATERIALS AND EQUIPMENT SHALL MEET THE MANUFACTURERS' ASSOCIATION (NEMA) AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARDS/REQUIREMENTS, WHERE STANDARDS HAVE BEEN ESTABLISHED. THE MATERIALS AND EQUIPMENT SHALL BEAR THE UL LABEL AND SHALL BE LISTED FOR THE APPLICATION USED.

REQUIRED SUBMITTALS INCLUDE:

WIRING DEVICES AND PLATES

LIGHTING FIXTURES PANELBOARDS, DISCONNECTS

OR WHERE SHOWN ON THE DRAWINGS.

ALL SWITCHES SHALL BE BY SAME MANUFACTURER. HAMMER INSTALLATION:

DOCUMENTS.

MANUFACTURER: LITTLEFUSE, BUSSMAN OR GOULD-SHAMUT.

PROVIDE ALL REQUIRED INSTALLATION ACCESSORIES FOR THE FIXTURES AS REQUIRED FOR THE SPECIFIC LOCATION WHETHER OR NOT INCLUDED IN THE MANUFACTURER'S CATALOG NUMBER. SUCH ACCESSORIES INCLUDE PLASTER FRAMES, RINGS, FLANGES, CANOPIES, STEM HANGERS, AND SUSPENSION STRAPS. FIXTURES SHALL BE SECURELY MOUNTED TO ELEMENTS OF THE BUILDING. PROVIDE MEANS OF SUPPORT AS REQUIRED IN NEC ARTICLE 410-16 AND LOCAL CODE. PROVIDE SUPPORT FROM THE BUILDING STRUCTURE FROM AT LEAST TWO (OPPOSITE) CORNERS OF EACH

FIXTURE.

SUMMARY: PROVIDE LED FIXTURES AS INDICATED ON THE DRAWINGS

LIGHTING FIXTURES, LAMPS AND BALLASTS

<u>GROUNDING</u> SUMMARY: GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 250. METAL ENCLOSURES OR RACEWAYS FOR CONDUCTORS OR EQUIPMENT SHALL BE GROUNDED.

SHALL BE MADE ONLY IN PULL, JUNCTION OR OUTLET BOXES. CONNECTIONS AND SPLICES SHALL BE MADE WITH APPROVED CONNECTORS TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS IN ACCORDANCE WITH

THE MANUFACTURER'S PUBLISHED TORQUE TIGHTENING RECOMMENDATIONS OR PER UL 486A. TEST ALL CONDUCTORS AND CABLES TO ENSURE NO SHORTS, OPENS OR

ACCIDENTAL GROUNDS EXISTS.

PROVIDE CABLE/CONDUCTOR IDENTIFICATION BANDS WITH PANEL AND CIRCUIT DESIGNATIONS AT PANELBOARDS AND DEVICE TERMINATIONS, ENCLOSURES AND ALL PULL, JUNCTION AND OUTLET BOX LOCATIONS.

BOXES

OUTLET BOXES

WIRE AND CABLE

WIRE AND CABLE:

SMALLER. TYPE THHN/THWN.

STRIP ARMOR CABLE.

LENGTH.

AFC.

RING LUGS.

INSTALLATION:

SECTION-16110.

ONLY.

INTERIOR DRY LOCATIONS.

ACCORDANCE WITH THE NEC.

SPLICES AND CONNECTORS:

CRIMP-TYPE CONNECTORS.

SUMMARY: FURNISH AND INSTALL ALL ELECTRICAL AND ELECTRONIC

ALL WIRE SHALL BE UL LISTED COPPER, 600 VOLT RATED, STRANDED FOR

MC CABLE SHALL BE UL-LISTED TYPE MC METAL CLAD CABLE PER NEMA

CONDUCTORS. PROVIDE INTERLOCKING ALUMINUM OR GALVANIZED STEEL

BRANCH CIRCUIT CONDUCTORS MAY BE TYPE THHN WHEN INSTALLED IN

MINIMUM WIRE SIZE SHALL BE NO. 12 AWG FOR LIGHTING AND POWER

BRANCH CIRCUITS, NO. 14 AWG FOR CONTROL AND AUXILIARY SYSTEMS.

PROVIDE #10 AWG MINIMUM FOR BRANCH CIRCUITS EXCEEDING 100-FEET IN

COLOR CODING SYSTEM ON FEEDERS AND BRANCH CIRCUITS SHALL BE IN

PANELBOARDS, JUNCTION BOXES AND OUTLETS BOXES. THE IDENTIFICATION

BANDS SHALL INCLUDE CIRCUIT NUMBER AND PANEL BOARD DESIGNATIONS.

MANUFACTURERS: GENERAL CABLE, CABLEC, TRIANGLE, OKONITE, ROME OR

NO. 10 WIRE AND SMALLER IN AUXILIARY SYSTEMS: PREINSULATED CRIMP

PROVIDE CABLE / CONDUCTOR IDENTIFICATION BANDS ON WIRING AT

NO. 8 AND SMALLER: SCOTCH LOCK CONNECTORS OR INDENTOR

PROVIDE WIRING AND CABLES AS INDICATED ON THE DRAWINGS.

CABLES SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATION

MAKE ALL CONNECTIONS AND SPLICES NECESSARY TO PROPERLY COMPLETE

THE ELECTRICAL WIRING. PROVIDE A MINIMUM NUMBER OF SPLICES. SPLICES

NO. 8 AWG AND LARGER, SOLID OR STRANDED FOR NO. 10 AWG AND

WC-7, UL-83 AND UL-1569 WITH 90-DEGREE CELSIUS RATED

CONDUCTORS FOR BRANCH CIRCUIT WIRING AND SYSTEM WIRING.

THE DRAWINGS AND SPECIFICATIONS ARE BASED ON THE REQUIREMENTS

AND LAYOUTS OF THE EQUIPMENT OF THE DESIGN BASE MANUFACTURER.

DESIGN COORDINATION OF EQUIPMENT WITH THE BUILDING AND WITH OTHER

TRADES HAS BEEN MADE FOR THIS SPECIFIC MODEL AND MANUFACTURER

FIRST-NAMED IS THE DESIGN BASE MANUFACTURER, UNLESS SPECIFICALLY

COORDINATION DRAWINGS, WHERE NECESSARY, PREPARE NEW LAYOUTS TO

BE USED EITHER FOR SUBSTITUTED EQUIPMENT OF OTHER EQUIPMENT LISTED

ALTERNATE EQUIPMENT OR MATERIAL DOES NOT RELIEVE THE CONTRACTOR

ELECTRICAL IDENTIFICATION: ALL ELECTRICAL EQUIPMENT MUST BE TAGGED

METHOD. FASTEN BY STAINLESS STEEL SCREWS TO EQUIPMENT OR DEVICE.

DESCRIPTIONS SHALL INCLUDED FINAL ROOM NUMBERS. PROVIDE ADHESIVE

VINYL PRINTED LABELS INDICATING THE CIRCUIT NUMBER AND PANELBOARD

COVERS, (INTERIOR FOR NON EXPOSED INSTALLATIONS AND EXTERIOR FOR

WIRING SHALL BE COLOR CODED PER SPECIFICATION SECTION 16120. LIGHT

FIXTURES ON EMERGENCY CIRCUITS SHALL BE IDENTIFIED WITH A RED DOT

WIRING INSTALLATION: NOT MORE THAN THREE 120 VOLT BRANCH CIRCUITS

COMMON NEUTRAL BE USED WHEN TWO CIRCUITS ARE CONNECTED TO THE

CLEANING: UPON COMPLETION OF WORK, ALL MATERIAL AND EQUIPMENT

OIL. PREPARE FOR FINISH PAINTING, WHERE PAINTING IS SPECIFIED.

FURNISHED SHALL BE THOROUGHLY CLEANED OF DIRT, GREASE, RUST, AND

AFTER ALL SYSTEM OPERATIONAL TESTS HAVE BEEN COMPLETED, PROVIDE

MANUALS TO FAMILIARIZE THE OWNER WITH EQUIPMENT AND PROCEDURES.

EIGHT HOURS OF INSTRUCTION TO THE DESIGNATED PERSONNEL IN THE

OPERATION AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. USE

SCHEDULE TIME CONVENIENT FOR THE OWNER AND THE ARCHITECT.

LOCATION OF ITEMS OF EQUIPMENT AND EXPLANATION OF THEIR USE.

UPON COMPLETION OF THE WORK. A CERTIFICATION OF INSPECTION AND

RULES AND REGULATIONS SHALL BE COMPLIED WITH AS SET FORTH IN ALL

PUBLICATIONS, AND ALL SUPPLEMENTS THERETO THAT MAY BE IN EFFECT.

BUT NOT LIMITED TO, THE LATEST EDITIONS OF THE FOLLOWING

NFPA-70, NATIONAL ELECTRICAL CODE (NEC), 2005, HERE-IN-AFTER

LIST OF ELECTRICAL FITTINGS, PUBLISHED BY THE UNDERWRITER'S

ALL CONDUCTORS SHALL BE ENCLOSED IN A CONTINUOUS GROUNDED

ALL CONDUITS SHALL BE ELECTRICAL METALLIC TUBING (EMT) WITH UL

FLEXIBLE CONDUIT WITH GREEN GROUNDING CONDUCTOR SHALL BE USED

FOR CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATIONS/MOVEMENT AND

LIQUID-TIGHT FLEXIBLE CONDUIT AND APPROPRIATE LIQUID-TIGHT FITTINGS

ALL CONDUIT FITTINGS SHALL BE GALVANIZED MALLEABLE IRON OR STEEL

SHALL BE USED IN AREAS EXPOSED TO THE WEATHER OR LIKELY TO

CONNECTORS AND COUPLINGS SHALL BE THREADED, SET SCREW OR

MALLEABLE IRON, THREADED FOR HEAVY WALL CONDUIT WITH CADMIUM

MANUFACTURERS: REPUBLIC, PITTSBURGH, TRIANGLE, AFC OR ALLIED.

FINISH AND CADMIUM PLATED SHEET STEEL COVERS. PROVIDE NEOPRENE

COVER GASKETS FOR CONDUIT BODY COVERS EXPOSED TO THE WEATHER. PROVIDE "EYS" CONDUIT SEALING FITTING AS REQUIRED BY CODE AND AS

PROVIDE CONDUITS AND SURFACE MOUNTED RACEWAYS AS INDICATED ON

CONDUITS SHALL BE INSTALLED CONCEALED ABOVE CEILINGS OR IN WALLS

CONDUITS SHALL RUN PARALLEL OR PERPENDICULAR TO BUILDING WALLS

CONDUITS SHALL BE INSTALLED TO AVOID CONFLICTS WITH MECHANICAL

SUPPORT CONDUITS FROM BUILDING STRUCTURE AT A MAXIMUM INTERVALS

OF 8-FEET FOR EMT AND 3-FEET FOR MC. PROVIDE ADDITIONAL SUPPORT

FOR MC CABLE WITHIN 12-INCHES OF EACH TERMINATION. CONDUITS SHALL

INSTALL A SEPARATE GREEN GROUNDING CONDUCTOR FOR ALL CONDUITS

INSTALL POWER CONDUITS WITH A MAXIMUM OF FOUR NINETY-DEGREE

INSTALL CONDUITS ABOVE BOTTOM OF BUILDING TRUSSES, JOIST AND

PROVIDE 200-POUND TENSILE STRENGTH PULL ROPE FOR ALL EMPTY

BENDS. INSTALL TELE/DATA CONDUITS WITH A MAXIMUM OF TWO

PROVIDE INSULATED BUSHINGS AT ALL CONDUIT ENDS.

CONDUITS. LEAVE 3-FEET SLACK AT EACH END.

NOT BE SUPPORTED FROM OR ATTACHED TO THE CEILING, HVAC DUCTWORK

INSTALL CONDUITS 12-INCHES FROM STEAM AND HOT WATER PIPING.

COMPRESSION TYPE, CONCRETE TIGHT. CONDUIT BODIES SHALL BE

LABEL, MINIMUM 3/4-INCH TRADE SIZE. MC CABLE MAY BE USED AS

ALLOWED BY CODE. MC NOT PERMITTED TO BE RUN EXPOSED.

LIGHT FIXTURES. MAXIMUM LENGTH SHALL BE SIX FEET.

SHOWN ON DRAWINGS (CROUSE-HINDS).

UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

AND CEILINGS. INSTALL CONDUITS LEVEL AND SQUARE.

APPLICABLE, STATE REGULATIONS, ORDINANCES, AND STATUTES INCLUDING,

APPROVAL SHALL BE SECURED BEFORE FINAL PAYMENT OF CONTRACT WILL

REFERENCE TO SERVICE MANUAL FOR RECORD AND CLARITY.

COORDINATION OF WRITTEN AND VERBAL INSTRUCTIONS

MAY BE SERVED WITH A COMMON NEUTRAL BUS, IN NO INSTANCE MAY A

IDENTIFICATION FOR WIRING DEVICE WALL PLATES. LABEL THE JUNCTION BOX

OF THE RESPONSIBILITY FOR PROVIDING A WORKING SYSTEM THAT COMPLIES

OF EQUIPMENT. WHERE SEVERAL MANUFACTURERS ARE LISTED, THE

AS AN APPROVED EQUIVALENT AND WHICH MAY HAVE DIFFERENT

DIMENSIONAL OR SERVICE REQUIREMENTS FROM THE DESIGN BASE

MANUFACTURER. SUBMIT THESE FOR REVIEW. APPROVAL OF THE

PERMITS, FEES, AND NOTICES: REFER TO SPECIFICATION SECTION

BY USING PHENOLIC PLASTIC NAMEPLATES OR OTHER PRE-APPROVED

PANELBOARD CIRCUIT DIRECTORIES SHALL BE TYPE WRITTEN. LOAD

EXPOSED INSTALLATIONS) TO INDICATE PANEL AND CIRCUIT NUMBERS.

ON THE FRAME. THE MARKING SHALL BE VISIBLE WITHOUT REMOVING

WITH ALL APPLICABLE CODE REQUIREMENTS.

DIVISION-0 FOR REQUIREMENTS.

SAME BUS OF THE PANELBOARD.

PERSONNEL INSTRUCTION:

START UP PROVISIONS FOR ELECTRICAL WORK:

THE INSTRUCTION IS TO INCLUDE THE FOLLOWING:

COMPLETE REVIEW OF ITEMS IN THE MANUALS.

MAINTENANCE PROCEDURES TO BE FOLLOWED.

EXPLANATION OF CONTROL SYSTEM.

BOCA NATIONAL FIRE PREVENTION CODE:

REFERRED TO AS THE "CODE".

LABORATORIES, INC. (UL).

RACEWAYS AND FITTINGS

CONDUIT AND FITTINGS:

RACEWAY SYSTEM.

BECOME DAMP.

INSTALLATION:

THE DRAWINGS.

DUCTWORK AND PIPING.

OR CEILING SUPPORT SYSTEM.

SIMILAR STRUCTURAL MEMBERS.

AND RACEWAYS.

NINETY-DEGREE BENDS.

NFPA-72

BE ALLOWED.

RULES AND REGULATIONS:

CEILING.

NOTED OTHERWISE.

OUTLET BOXES SHALL BE PROVIDED FOR DEVICES, LIGHTING FIXTURES, MOTORS, EQUIPMENT CONNECTIONS, SYSTEMS EQUIPMENT CONNECTIONS, SPECIAL POWER OUTLETS, AND AS OTHERWISE REQUIRED FOR SPECIAL SYSTEMS.

OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL STANDARD 4 INCHES SQUARE, MINIMUM 1-1/2-INCHES DEEP. PROVIDE SINGLE GANG PLASTER

RINGS

MANUFACTURERS: RACO OR STEEL CITY.

PULL AND JUNCTION BOXES:

PULL OR JUNCTION BOXES SHALL BE PROVIDED IN ALL RACEWAY SYSTEMS WHERE REQUIRED TO FACILITATE WIRE PULLING, TO ENCLOSE SPECIFIED EQUIPMENT DEVICES AND APPURTENANCES, OR TO PROVIDE ACCESS TO THESE RACEWAY SYSTEMS.

MANUFACTURERS: HOFFMAN, RACO, OR STEEL CITY

INSTALLATION:

PROVIDE SUPPORTS FOR ALL PULL, JUNCTION AND OUTLET BOXES. LABEL JUNCTION BOX COVERS AS INDICATED IN SPECIFICATION SECTION

INSTALL JUNCTION AND OUTLET BOXES SQUARE TO THE WALLS, FLOORS

SUMMARY: PROVIDE PANELBOARDS AS INDICATED ON THE DRAWINGS.

BREAKERS AND DOOR-IN-DOOR CONSTRUCTION. CONTRACTOR SHALL

SIZE AND INSTALL CIRCUIT BREAKERS IN ACCORDANCE TO THE PANEL

SCHEDULES AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE

MANUFACATURERS: EATON, SQUARE D, SIEMENS OR GENERAL ELECTRIC

SUMMARY: PROVIDE UL LISTED WIRING DEVICES AND COVER PLATES FOR SWITCHES, AND RECEPTACLES. ALL WIRING DEVICES SHALL BE BY THE

SWITCHES SHALL BE GENERAL USE AC, QUIET TYPE, 20 AMPERE, 120 VOLT

BACK AND SIDE WIRED, SPECIFICATION GRADE. COLOR SHALL BE BY THE

CONVENIENCE OUTLETS SHALL BE 20 AMPERE, 125 VOLT, 3-WIRE

GROUNDING TYPE, SPECIFICATION GRADE. COLOR SHALL BE BY THE

MANUFACTURERS: HUBBELL, PASS & SEYMOUR, COOPER OR LEVITON.

PROTECT DEVICES DURING PAINTING. INSTALL WALL PLATES AFTER

FLUSH MOUNT ALL DEVICES EXCEPT AS NOTED OTHERWISE ON THE

MOUNT DEVICE BOXES WITH THE LONG DIMENSION VERTICAL. MOUNT

MOUNT DEVICES AT HEIGHT INDICATED ON THE DRAWINGS. COORDINATE

WORK WITH COUNTERTOP HEIGHTS PRIOR TO ROUGH IN OF BOXES.

INSTALL COVERPLATES FOR ALL DEVICES AND BLANK OUTLET BOXES.

INDICATING THE CIRCUIT NUMBER AND PANELBOARD IDENTIFICATION.

LABEL WIRING DEVICE WALL PLATES WITH ADHESIVE VINYL PRINTED LABEL

TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS IN ACCORDANCE WITH

THE MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES AND UL486

RECEPTACLES WITH THE GROUNDING TERMINAL FACING UP.

PROVIDE A GROUND CONNECTION TO ALL OUTLET BOXES.

INSTALL DEVICES AND ASSEMBLIES PLUMB AND SECURE.

PANELBOARDS SHALL CONTAIN COPPER BUSING, BOLT ON TYPE CIRCUIT

AND CEILINGS.

PANELBOARDS

WIRING DEVICES

ARCHITECT.

ARCHITECT.

INSTALLATION:

DRAWINGS.

A & B.

PAINTING IS COMPLETE

SAME MANUFACTURER.

PROVIDE COVERS FOR ALL JUNCTION AND PULL BOXES.

RATED AS INDICATED ON PANEL SCHEDULES.

COVER PLATES SHALL BE BY THE ARCHITECT.

MOTOR AND CIRCUIT DISCONNECTS

SUMMARY: MOTORS, HVAC AND OTHER DRIVEN EQUIPMENT NOT WITHIN SIGHT OF THEIR FEEDER OVER CURRENT PROTECTION DEVICES SHALL HAVE NON-FUSIBLE TYPE DISCONNECT SWITCHES LOCATED AT MOTOR

SAFETY SWITCHES LOCATED OUTDOORS OR SUBJECT TO MOISTURE TO BE IN NEMA 3R ENCLOSURES.

NON-FUSIBLE SAFETY SWITCHES TO BE HEAVY DUTY TYPE WITH SINGLE THROW BLADE CONSTRUCTION AND NO FUSE CLIPS.

MAIN SWITCH SHALL BE SERVICE ENTRANCE RATED.

MANUFACTURERS: GENERAL ELECTRIC, SQUARE D COMPANY, OR CUTLER

INSTALL DEVICES AND ASSEMBLIES PLUMB AND SECURE

PROVIDE IDENTIFICATION PER SPECIFICATION SECTION 16010. LABEL SHALL INDICATE EQUIPMENT SERVED, AND BRANCH CIRCUIT PANEL AND CIRCUIT DESIGNATIONS.

SUPPORT ENCLOSURE INDEPENDENT OF THE CONNECTION CONDUIT OR RACEWAY.

OVERCURRENT PROTECTIVE DEVICES

SUMMARY: PROVIDE FUSES IN ACCORDANCE WITH THE CONTRACT

ALL FUSES SHALL BE LABELED AS UL CLASS 2 OR UL CLASS R, CURRENT LIMITING AND RATED FOR UP TO 200,000 AMPERES.

EXPOSED NON-CURRENT-CARRYING METAL PARTS OF FIXED EQUIPMENT LIKELY TO BECOME ENERGIZED SHALL BE GROUNDED.

BONDING SHALL BE PROVIDED AND CONFORM TO ALL REQUIREMENTS OF NEC ARTICLE 250-G.

PROVIDE A SEPARATE GROUNDING CONDUCTOR FOR ALL FEEDERS AND BRANCH CIRCUITS.

FIXTURE MANUFACTURERS: AS SHOWN ON DRAWING.

OCCUPANCY SENSORS

SUMMARY: PROVIDE ALL OCCUPANCY SENSORS, LOW VOLTAGE CONTROL WIRING, ROOM CONTROLLERS, AND SWITCHES AS INDICATED ON THE DRAWINGS AND DETAILS. CONTRACTOR SHALL LOCATE AND INSTALL ALL COMPONENTS OF OCCUPANCY SENSOR SYSTEM AS INDICATED ON THE DRAWINGS.

MANUFACTURERS: CRESTNET, WATTSTOPPER, LEVITON, LUTRON.

<u>TESTING</u>

THE OWNER RESERVES THE RIGHT TO INSPECT AND TEST ANY PORTION OF THE EQUIPMENT DURING THE CONSTRUCTION. THE ELECTRICAL CONTRACTOR SHALL TEST THE ENTIRE SYSTEM IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE WHEN THE WORK IS COMPLETED TO INSURE ALL PORTIONS OF THE WORK ARE FREE FROM DEFECT. ALL EQUIPMENT NECESSARY TO CONDUCT THE ABOVE TESTS SHALL BE FURNISHED AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR. THE CONTRACTOR SHALL REPAIR ANY DEFECTS NOTED AT NO EXTRA COST TO THE OWNER.

