5 GENERAL NOTES

1. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE AN AUTOMATIC SPRINKLER SYSTEM TO PROTECT ALL AREAS OF THE FACILITY.
2. SPRINKLER HEADS NEAR HEATERS AND LOCATED WITHIN HEATER ZONES AS DEFINED BY NFPA 13 SHALL BE HIGH TEMPERATURE RATED.
3. THE FIRE PROTECTION CONTRACTOR SHALL VERIFY ALL CEILING TYPES, CEILING HEIGHTS, ROOM DIMENSIONS, AND SPRINKLER HEAD LOCATIONS BEFORE PERFORMING ANY WORK. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND ROOM FINISH SCHEDULES.
4. THE COMPLETE INSTALLATION AND TESTING OF THE AUTOMATIC SPRINKLER SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF THE APPLICABLE EDITION OF NFPA 13, AND THE AUTHORITY HAVING JURISDICTION AND THE CONTRACT SPECIFICATIONS.
5. THE FIRE PROTECTION CONTRACTOR SHALL SHOW ALL LIGHT FIXTURES, HVAC GRILLES, EXPOSED DUCTWORK, AND BULKHEADS ON THE SPRINKLER SHOP DRAWINGS.
6. SPRINKLER PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL PANELS OR SWITCHGEAR IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
7. ALL VALVE SUPERVISORY SWITCHES AND WATER FLOW SWITCHES SHALL BE FURNISHED AND INSTALLED BY THE FIRE PROTECTION CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR. (EXISTING TO REMAIN).
8. MAXIMUM SPRINKLER SPACING FOR LIGHT HAZARD AREAS SHALL NOT EXCEED 225 SQUARE FEET PER SPRINKLER. MAXIMUM SPACING FOR ALL ORDINARY HAZARD AREAS SHALL NOT EXCEED 130 SQUARE FEET PER SPRINKLER.
9. ALL WATERFLOW SWITCHES MUST BE ISOLATED BY MEANS OF A FITTING OR UNION ON BOTH SIDES TO FACILITATE REMOVAL AND SERVICE OF THE FLOW SWITCH. (EXISTING ASSEMBLY TO BE RELOCATED AS REQUIRED).
10. ALL PIPE PENETRATIONS OF SMOKE PARTITIONS AND BARRIERS, FIRE WALLS AND BARRIERS, AND FLOORS SHALL BE PROVIDED WITH SLEEVES AND SEALED WITH FIRE RESISTANT MATERIALS PER MANUFACTURERS RECOMMENDATIONS IN ACCORDANCE WITH DIVISION 7. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR LOCATIONS OF SMOKE PARTITIONS AND FIRE RATED CONSTRUCTION.
11. ALL SPRINKLER SYSTEMS SHALL BE HYDRAULICALLY DESIGNED TO PROVIDE THE MINIMUM DENSITIES AS INDICATED OR SPECIFIED. THE FIRE PROTECTION HYDRAULIC CALCULATIONS FOR THE AUTOMATIC SPRINKLER SYSTEMS SHALL INCORPORATE A MINIMUM 10 PSI SAFETY FACTOR.
12. ALL DRAIN LINES INCLUDING THE DRAIN FOR THE AUTOMATIC SPRINKLER SYSTEM INSPECTOR'S TEST CONNECTION AND THE AUTOMATIC SPRINKLER SYSTEM MAIN DRAIN SHALL BE GALVANIZED STEEL. THE INSPECTORS TEST CONNECTION SHALL TERMINATE WITH A FULL PORT BALL VALVE AND A SMOOTH BORE CORROSION RESISTANT OUTLET GIVING FLOW EQUIVALENT TO ONE SPRINKLER HEAD.
13. A PRESSURE TEST OF THE AUTOMATIC SPRINKLER SYSTEM SHALL BE WITNESSED BY THE FIRE DEPARTMENT, TWO WEEKS ADVANCED WRITTEN NOTICE OF TEST SHALL BE GIVEN. ALL LEAKAGE EVIDENCED BY THE TESTING SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE BY TIGHTENING OR REPLACING FITTINGS OR EQUIPMENT.
14. THE FIRE PROTECTION DRAWINGS ARE INTENDED FOR BIDDING PURPOSE ONLY AND ARE NOT INTENDED TO COVER EACH AND EVERY ITEM REQUIRED FOR AN APPROVED SYSTEM. SHOULD ADDITIONAL SPRINKLER HEADS OR EQUIPMENT NEED TO BE INSTALLED TO MEET THE REQUIREMENTS SET FORTH BY NFPA, THE FIRE PROTECTION CONTRACTOR SHALL DO SO AT HIS EXPENSE.
15. ALL SPRINKLER HEADS LOCATED IN LAY-IN CEILING TILES SHALL BE LOCATED IN THE CENTER OF THE 2x2 PORTION OF THE 2x4 CEILING TILES. REFER TO THE ARCHITECTS REFLECTED CEILING PLANS. IF FOR ANY REASON SPRINKLERS CANNOT BE LOCATED IN THE CENTER OF 2x2 PORTION OF THE 2x4 CEILING TILES OR WHERE SHOWN IN OTHER TYPES OF CEILINGS, THE ARCHITECT SHALL BE CONTACTED FOR NEW LOCATIONS BEFORE INSTALLING ANY SPRINKLER HEADS OR PIPING.
16. THE SPRINKLER HEAD TEMPERATURE RATING (EXCEPT WHERE HIGHER TEMPERATURE REQUIRED BY NFPA 13) SHALL BE 165 DEGREES F.
17. COORDINATE ALL FIRE PROTECTION WORK WITH ALL OTHER TRADES TO ASSURE PROPER INSTALLATION AND AVOID INTERFERENCES. ANY ADDITIONAL PIPING, OFFSETS, ETC.. REQUIRED SHALL BE PROVIDED AT NO ADDITIONAL COST OVER THE CONTRACT AMOUNT.

3 DESIGN CRITERIA

1. SPRINKLER SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH THE V.A. FIRE PROTECTION DESIGN MANUAL SEVENTH EDITION 2015, NFPA 13 AND PA STANDARDS. NEW SPRINKLER PIPING SHALL BE HYDRAULICALLY SIZED TO MEET THE FOLLOWING CRITERIA:
   - A. OCCUPANCY CLASSIFICATION LIGHT HAZARD, AREA OF APPLICATION LARGEST ROOM, DESIGN DENSITY .10 GPM/SQ. FT. SPRINKLER K FACTOR 5.6, CLASSIFICATION 135 DEGREE F.
   - B. LIGHT HAZARD OCCUPANCY - DENSITY .10 GPM PER SQ. FT. OVER MOST HYDRAULICALLY REMOTE 1500 SQ. FT. MAXIMUM COVERAGE PER HEAD 225 SQ. FT.
   - C. ORDINARY HAZARD - DENSITY .15 GPM PER SQ. FT. OVER MOST HYDRAULICALLY REMOTE 1500 SQ. FT. MAXIMUM COVERAGE PER HEAD 130 DQ. FT.
   - D. EXACT LOCATION OF SPRINKLER HEADS IN FINISHED AREAS WITH SUSPENDED CEILINGS SHALL BE ON CENTER OF TILE AND AS INDICATED ON SPRINKLER CEILING PLANS. PIPING TO BE COORDINATED WITH OTHER TRADES.
   - E. DISCHARGE FROM EACH SPRINKLER HEAD SHALL NOT BE LESS THAN REQUIRED FOR AREA COVERED BY THIS HEAD. AREA COVERAGE PER HEAD SHALL BE DETERMINED IN ACCORDANCE WITH NFPA STANDARD NO. 13, PARAGRAPH 7-4.3.1.2.
   - F. MINIMUM PRESSURE AT SPRINKLER HEAD 7 PSI.
   - G. HYDRAULIC CALCULATIONS SHALL BE BROUGHT BACK TO CONNECTION TO WATER SUPPLY.
   - H. CONTRACTOR SHALL ORDER HYDRANT FLOW TEST AND BASE ALL HYDRAULIC CALCULATIONS ON RESULTS OF TEST.
     1. HYDRANTS TESTED SHALL BE LOCATED AS CLOSE AS POSSIBLE TO POINT OF FIRE SERVICE CONNECTION TO CITY MAIN.
     2. TEST DATA SHALL INDICATE STATIC PRESSURE, RESIDUAL PRESSURE AT TEST FLOW AND GRADE ELEVATION AT HYDRANT TESTED.
     3. HYDRANT TEST DATA SHALL BE SUBMITTED FOR REVIEW ALONG WITH SHOP DRAWINGS AND HYDRAULIC CALCULATIONS.
   - I. RESULT OF HYDRAULIC CALCULATIONS SHALL INDICATE MINIMUM 10 PSI PRESSURE SAFETY MARGIN, I.E. EXCESS OF PRESSURE AVAILABLE OVER PRESSURE REQUIRED.
2. FIRE PUMP INFORMATION:
   - A. FIRE PUMP PATTERSON PUMP MODEL 5x4x12 SSC HORIZONTAL SPLIT CASE FIRE PUMP. RATED AT 750 GPM AT 140 PSI 323' TDH, DRIVEN BY 100 HP, 3550 RPM, 460 VOLT, 3 PHASE 60 CYCLE. (COUNTER CLOCKWISE ROTATION).
   - B. JOCKEY PUMP - PATTERSON PUMP MODEL PM3-17 VERTICAL MULTI-STAGE CENTRIFUGAL JOCKEY PUMP. RATED AT 15 GPM AT 164 PSI 379' TDH, 3 HP, 460 VOLT, 3 PHASE, 60 CYCLE, 3450 RPM.

4 DEMOLITION NOTES

1. DEMOLITION INFORMATION SHOWN ON THE DRAWINGS IS BASED ON EXISTING DRAWINGS AND A PRELIMINARY REVIEW OF THE EXISTING CONDITIONS. PERFORM ALL WORK OF A DEMOLITION NATURE THAT MAY BE REQUIRED OR NECESSARY FOR A FULL AND COMPLETE EXECUTION OF THE WORK, WHETHER OR NOT SHOWN OR SPECIFIED. THE EXACT EXTENT OF DEMOLITION MAY NOT BE FULLY INDICATED ON THE DRAWINGS. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDS AND CONFIRM COMPLETE EXTENT OF DEMOLITION REQUIRED.
2. MATERIALS AND EQUIPMENT TO BE SALVAGED SHALL BE IDENTIFIED BY THE OWNER. THESE ITEMS ARE THE PROPERTY OF THE OWNER AND SHALL BE RETURNED TO THE OWNERS DESIGNATED STORAGE AREA. WHERE REMOVAL IS REQUIRED THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARE TAKEN DURING THE HANDLING OF THESE ITEMS.
3. DEMOLISHED MATERIALS AND EQUIPMENT NOT BEING SALVAGED OR REUSED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE AND LEGALLY DISPOSED OF.
4. COORDINATE ALL DEMOLITION WORK REQUIRED INCLUDING DRAINING OF SYSTEMS, PHASING, SHUTDOWNS AND/OR DISRUPTIONS AS REQUIRED.

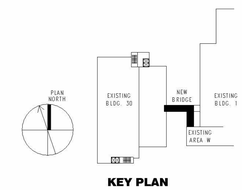
2 SYMBOLS

FP	FIRE PROTECTION PIPING
EX. FP	FIRE PROTECTION PIPING - EXISTING
	FIRE PROTECTION PIPING - DEMO
	AREA MATCHLINE
	BACKFLOW PREVENTER (BFP)
	BOTTOM DROP
	CAPPED PIPING
	DIRECTION OF FLOW
	ELBOW DOWN
	ELBOW UP
	FLOW SWITCH
FDV	FIRE DEPARTMENT VALVE
FHC	FIRE HOSE CABINET
FDC	FIRE DEPARTMENT CONNECTION
	FIRE DEPARTMENT CONNECTION - FREE-STANDING
	FIRE DEPARTMENT HOSE VALVE
FPT	FIRE PUMP TEST HEADER - FLUSH
	FIRE PUMP TEST HEADER - FREE-STANDING
	PIPE ANCHOR
	POINT OF CONNECTION (NEW TO EXISTING)
	POINT OF CONNECTION (NEW TO EXISTING)
	POINT OF DISCONNECT (DEMO TO EXISTING)
	PUMP (SCHEMATIC)
	PRESSURE SWITCH
	SPRINKLER HEAD - CONCEALED
	SPRINKLER HEAD - UPRIGHT
	UNION
	VALVE
	VALVE - BALL
	VALVE - OS&Y
	VALVE - CHECK (SHOWN W/FLOW)
PIV	VALVE - POST INDICATOR
DPV	VALVE - DRY PIPE
	VALVE - SOLENOID
	VALVE - CONTROL

1 ABBREVIATIONS

AC	AIR COMPRESSOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AP	ACCESS PANEL
ARCH	ARCHITECTURE
ASSY	ASSEMBLY
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
BOB	BOTTOM OF BEAM
BOP	BOTTOM OF PIPE
CA	COMPRESSED AIR OR CLEAN AGENT
CALCS	CALCULATIONS
CAP	CAPACITY
CC	CEILING COLUMN
CCD	CHICAGO CITY DATUM
CLG	CEILING
CM	CENTIMETER
CO2	CARBON DIOXIDE
COL	COLUMN
CONC	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUED
CSP	COMBINED STANDPIPE/SPRINKLER SYSTEM
CV	CHECK VALVE
DCV	DOUBLE CHECK VALVE
DDCV	DOUBLE DETECTOR CHECK VALVE
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DPV	DRY PIPE VALVE
DR	DRAIN
DV	DRAIN VALVE
DWG	DRAWING
EA	EACH
ELEV.	ELEVATION
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
EX	EXISTING
EXIST	EXISTING
EXP	EXPANSION
F	FAHRENHEIT
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FDC	FIRE DEPARTMENT CONNECTION
FDV	FIRE DEPARTMENT VALVE
FEC	FIRE EXTINGUISHER CABINET
FH	FIRE HOSE
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FIN	FINISHED
FLR	FLOOR
FP	FIRE PROTECTION
FPC	FIRE PUMP CONTROLLER
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FPTC	FIRE PUMP TEST CONNECTION
FS	FLOW SWITCH
FT	FEET
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
IN	INCHES
ITC	INSPECTORS TEST CONNECTION
MD	MAIN DRAIN
NA	NOT APPLICABLE
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO.	NUMBER
N.O.	NORMALLY OPEN
NS	NOT SPRINKLERED
NTS	NOT TO SCALE
N&C	NIPPLE AND CAP
OSW	OPEN SITE WASTE
OS&Y	OUTSIDE SCREW AND YOKE
P	PUMP
PG	PRESSURE GAUGE
PIV	POST INDICATOR VALVE
PKG	PACKAGE
POC	POINT OF CONNECTION
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
QTY	QUANTITY
RN	RISER NIPPLE
RPM	REVOLUTIONS PER MINUTE
SCV	SECTIONAL CONTROL VALVE W/ TAMPER SWITCH
SP	STANDPIPE
SPKR	SPRINKLER
SUB-CTR.	SUB CONTRACTOR
SYS	SYSTEM
TB	THRUST BLOCK
TEMP	TEMPERATURE
TH	THERMOMETER
TS	TAMPER SWITCH
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS OTHERWISE NOTED
VEL	VELOCITY
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WIP	WALL INDICATOR POST

FIRE SPRINKLER WATER DEMAND	CORRIDOR GA153. LANDING 1,2, & 3. STAIR #5
OCCUPANCY CLASSIFICATION:	LIGHT HAZARD
TYPE OF SPRINKLER SYSTEM:	WET
DESIGN OF WATER APPLICATION:	1500 SQ. FT.
MINIMUM DENSITY	.10 GPM/SQ. FT.
SPRINKLER TEMERATURE RATING	135°
SPRINKLER 'K' FACTOR:	K = 5.6
SPRINKLER HEAD TYPE:	QUICK RESPONSE CONCEALED PENDENT
HOSE STREAM ALLOWANCE:	100 GPM



KEY PLAN

PEER REVIEW DOCUMENTS - DECEMBER 21st, 2016

FULLY SPRINKLERED

Revisions:	Date
1 AMENDMENT 3	01-31-17

CONSULTANTS:

ARCHITECT/ENGINEERS:

ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD ASTORINO

227 Fort Pitt Boulevard Pittsburgh Pennsylvania 15222
TEL 412 765 1700 FAX 412 765 1711 www.astorino.com

Drawing Title: **FIRE PROT. SYMBOLS & ABBREVIATIONS**

Approved: Project Director

Project Title: **VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA CONNECTING BRIDGE**

Location: **VAPHS UNIVERSITY DRIVE**

Date | Checked: **Checker** | Drawn: **Author**

Project Number: **646CA2500B**

Building Number: **1 & 30**

Drawing Number: **FA-001**

Dwg. of

Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978