ALABAMA PORT AUTHORITY
PORT OF MOBILE

ASPA MARINE LIQUID BULK TERMINAL (MLBT)
DOCK FIRE SYSTEM REFURBISHMENT
MOBILE, ALABAMA
(11041-TASK 002 - MAY 2022)

KAY IVEY, GOVERNOR
JOHN C. DRISCOLL, DIRECTOR AND C.E.O

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LOCATION MAP
N.T.S.

DRAWING SCHEDULE:

4017-C0	–	COVER SHEET
4017-GA1	–	EXISTING MECHANICAL PLAN
4017-GA2	–	MECHANICAL DEMOLITION PLAN
4017-GA3	–	FIRE PUMP/BOATHOUSE PLAN
4017-GA4	–	FIRE PUMP/BOATHOUSE REMODEL DETAILS 1
4017-GA5	–	FIRE PUMP/BOATHOUSE REMODEL DETAILS 2
4017-GA6	–	EXISTING FIRE MONITOR DEMO PLAN 1
4017-GA7	–	EXISTING FIRE MONITOR DEMO PLAN 2
4017-GA8	–	EXISTING FIRE BOAT CONNECTION DEMO PLAN
4017-GA9	–	FIRE PUMP HOUSE DEMO PLAN
4017-GA10	–	VALVE REPLACEMENT LIST AND DETAILS
4017-GA11	–	SPRINKLER SPECIFICATIONS
4017-E1	–	ELECTRICAL DEMOLITION PLAN
4017-E2	–	NEW ELECTRICAL SITE PLAN
4017-E3	–	FIBER OPTIC ROUTING TO "MTF" CONTROL ROOM
4017-E4	–	ELECTRICAL SPECIFICATIONS
4017-R1	–	REFERENCE DRAWING: 81504205
4017-R2	–	REFERENCE DRAWING: C-60-H-537
4017-R3	–	REFERENCE DRAWING: C-60-H-538
4017-R4	–	REFERENCE DRAWING: 24352096

REFERENCE DRAWINGS:
*CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.0 (1998)
*CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.1 (1998)
*CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.2 (1998)
*CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING S-3.7 (1998)
*CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING S-3.4 (1998)

* FOR INFORMATION ONLY, ITS ACCURACY IS NOT GUARANTEED. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY ALL LOCATIONS OF EQUIPMENT BEFORE BEGINNING WORK.

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	MAD	JDG

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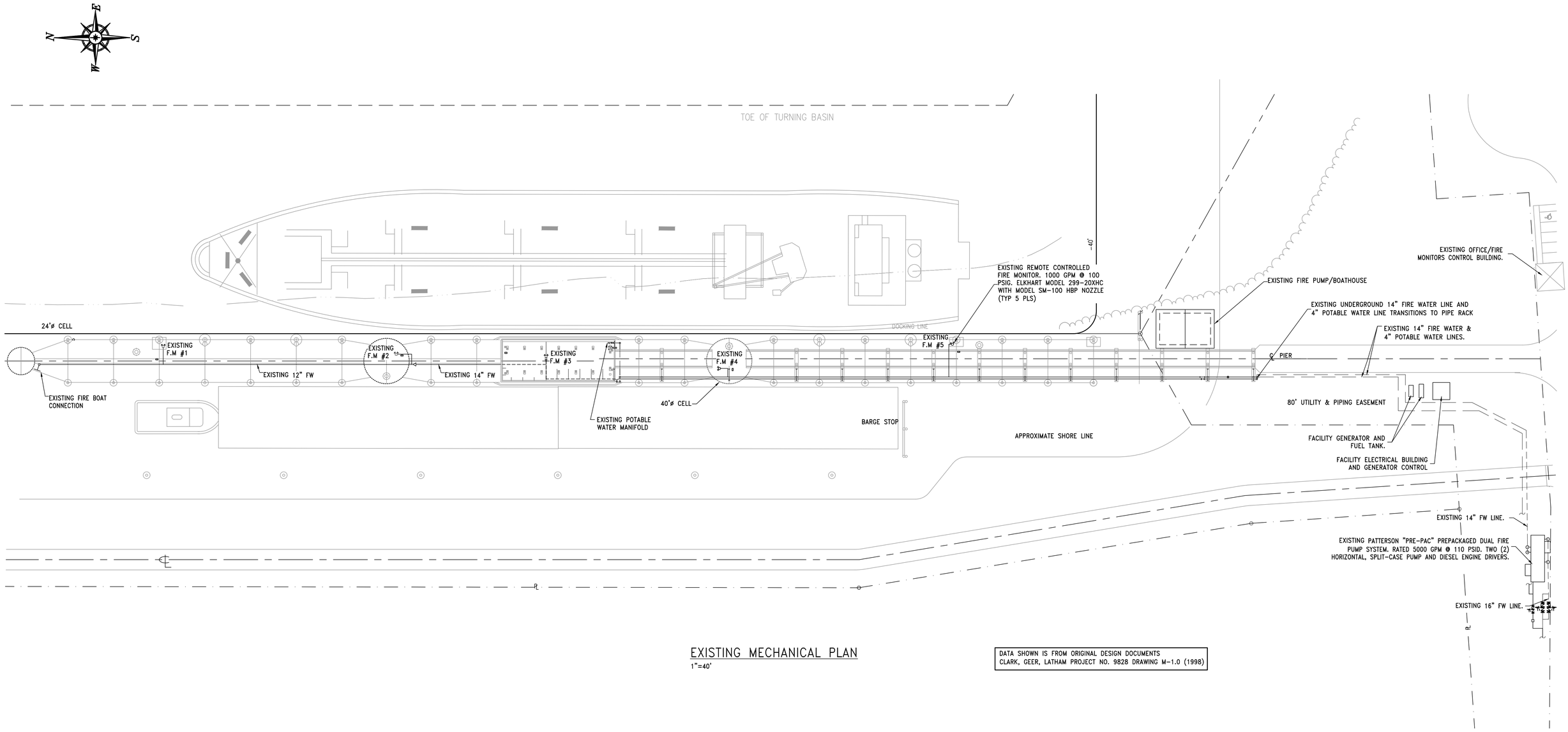
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
COVER SHEET

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ 24x36	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-C0	



EXISTING MECHANICAL PLAN

1"=40'

DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.0 (1998)

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PROJECT
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THEODORE, ALABAMA

TITLE
EXISTING MECHANICAL PLAN

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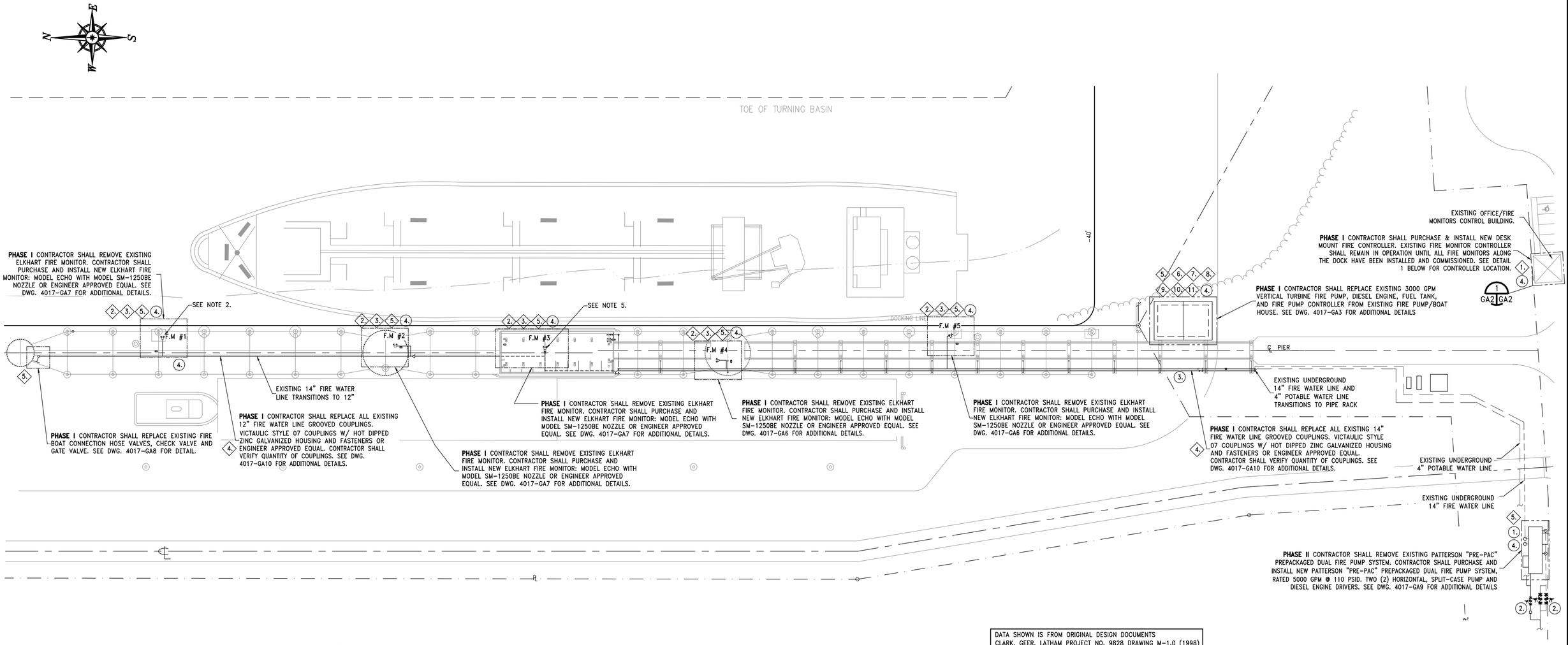
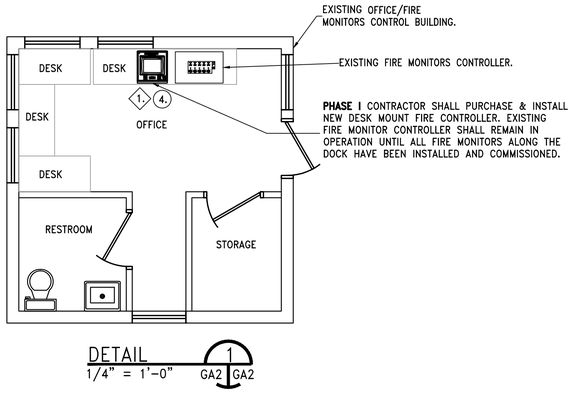
AS NOTED	MAD	01/05/22	____ OF ____ 24x36	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-GA1	





MECHANICAL DEMOLITION PLAN

1"=40'

DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.0 (1998)

PHASE ① SUMMARY OF WORK:

1. PURCHASE & INSTALL NEW DESK MOUNT FIRE CONTROLLER, AS SHOWN ON THIS DWG.
2. PURCHASE & INSTALL FIVE (5) NEW FIRE MONITORS, AS SHOWN ON DWG. 4017-GA6 & 4017-GA7
3. PURCHASE & INSTALL FIVE (5) NEW FIRE MONITOR LOCAL CONTROLLERS AND STANDS, AS SHOWN ON DWG. 4017-GA6 & 4017-GA7
4. PURCHASE & INSTALL NEW FIRE WATER LINE GROOVED COUPLINGS, AS INDICATED ON THIS DWG. (CONTRACTOR TO VERIFY QUANTITY).
5. PURCHASE & INSTALL NEW VALVES AS SHOWN ON PLANS, SEE DWG. 4017-GA10 FOR A COMPLETE LIST.
6. REMOVE EXISTING VERTICAL TURBINE FIRE PUMP, VERTICAL TURBINE FIRE PUMP FOUNDATION, DIESEL ENGINE, DIESEL ENGINE FOUNDATION, FUEL TANK, AND FIRE PUMP CONTROLLER INSIDE OF FIRE PUMP/BOAT HOUSE, AS SHOWN ON 4017-GA3
7. PURCHASE & INSTALL NEW VERTICAL TURBINE FIRE PUMP, DIESEL ENGINE, FUEL TANK, AND FIRE PUMP CONTROLLER INSIDE OF FIRE PUMP/BOAT HOUSE, AS SHOWN ON 4017-GA3
8. PURCHASE & INSTALL NEW JOCKEY PUMP AND CONTROLLER INSIDE OF FIRE PUMP/BOAT HOUSE, AS SHOWN ON DWG. 4017-GA3
9. PURCHASE & INSTALL NEW SIDING AND ROOF PANELS ON FIRE PUMP/BOAT HOUSE AS SHOWN ON DWG. 4017-GA5.
10. PURCHASE & INSTALL NEW WALL EXHAUST FAN, WALL LOUVERS, AND ELECTRIC HEATER INSIDE OF FIRE PUMP/BOAT HOUSE, AS SHOWN ON 4017-GA5.
11. REMOVE EXISTING & INSTALL NEW SPRINKLER SYSTEM INSIDE OF FIRE PUMP/BOAT HOUSE, AS SHOWN ON 4017-GA5.

PHASE ② SUMMARY OF WORK:

1. PURCHASE & INSTALL NEW PREPACKAGED DUAL FIRE PUMP SYSTEM, AS SHOWN ON DWG. 4017-GA9
2. REPAIR OR REPLACE EXISTING BACKFLOW PREVENTER INSULATION, AS SHOWN ON DWG. 4017-GA9
3. PURCHASE & INSTALL NEW CHECK VALVE IN THE OVER HEAD PIPE RACK, AS SHOWN ON DWG. 4017-GA3.
4. CONTRACTOR SHALL HAVE FIRE MONITORS, FIRE MONITOR CONTROLLER, VERTICAL TURBINE FIRE PUMP, DIESEL ENGINE, AND PREPACKAGED DUAL FIRE PUMP SYSTEM COMMISSION BY THE MANUFACTURE.

MECHANICAL DEMO NOTES:

1. **PHASE 1** CONTRACTOR SHALL PURCHASE & INSTALL NEW DESK MOUNTED FIRE CONTROLLER. EXISTING FIRE MONITOR CONTROLLER SHALL REMAIN IN OPERATION UNTIL ALL FIRE MONITORS ALONG THE DOCK HAVE BEEN INSTALLED AND COMMISSIONED.

2. **PHASE 1** CONTRACTOR SHALL PURCHASE & INSTALL FIVE (5) NEW FIRE MONITOR STATIONS. CONTRACTOR SHALL INSTALL MONITORS IN ASCENDING ORDER (#1 THRU #5). CONSTRUCTION SUPERINTENDENT SHALL COORDINATE INSTALLATION OF FIRE MONITOR STATIONS WITH OWNERS P.I.C (PERSON IN CHARGE) TO ENSURE THE INSTALLATION DOES NOT INTERFERE WITH SHIPPING SCHEDULE.

3. CONTRACTOR SHALL COORDINATE THE MODIFICATION OF EACH FIRE MONITOR STATION WITH THE OWNERS SHIPPING SCHEDULE. **ALL FIRE MONITORS SHALL BE ACTIVE WHEN A VESSEL IS DOCKSIDE.** CONTRACTOR SHALL ENSURE MODIFIED FIRE MONITOR STATIONS ARE TESTED AND LISTED FOR SERVICE 1 DAY (24 HOURS) PRIOR TO VESSEL ARRIVAL. OWNER SHALL INFORM AND FURNISH AN UPDATED VESSEL SCHEDULE 2 DAYS (48 HOURS) PRIOR TO A VESSEL ARRIVAL.

4. CONSTRUCTION SUPERINTENDENT SHALL COORDINATE ALL DAILY WORK WITH OWNERS P.I.C. CONTRACTOR SHALL NOT PERFORM ANY WORK THAT WILL INTERFERE WITH THE OWNERS SHIPPING SCHEDULE. OWNER SHALL INFORM AND FURNISH AN UPDATED VESSEL SCHEDULE 2 DAYS (48 HOURS) PRIOR TO A VESSEL ARRIVAL.

5. CONTRACTOR SHALL NOT PERFORM ANY WORK NEAR MONITOR #3 WHILE A VESSEL IS LOADING/UNLOADING. CONSTRUCTION SUPERINTENDENT SHALL COORDINATE ALL WORK NEAR MONITOR #3 DAILY WITH OWNERS P.I.C.

6. CONTRACTOR SHALL NOT PERFORM ANY HOT WORK WHILE A VESSEL IS LOADING/UNLOADING. CONSTRUCTION SUPERINTENDENT SHALL COORDINATE ALL DAILY HOT WORK WITH OWNERS P.I.C.

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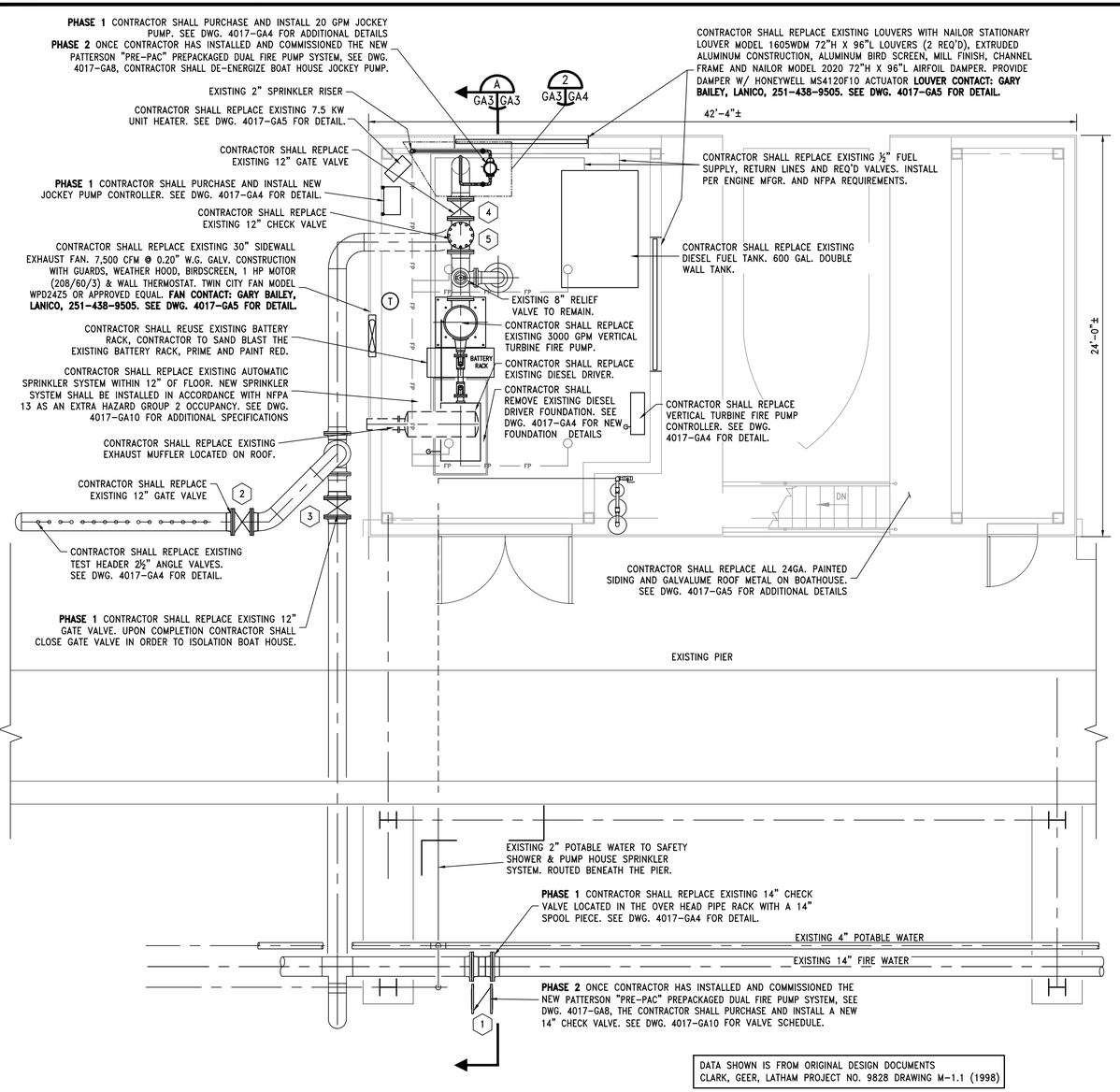
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
MECHANICAL DEMOLITION PLAN

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ 24x36	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-GA2	



DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.1 (1998)

ENLARGED EXISTING FIRE PUMP/BOAT HOUSE DEMO PLAN

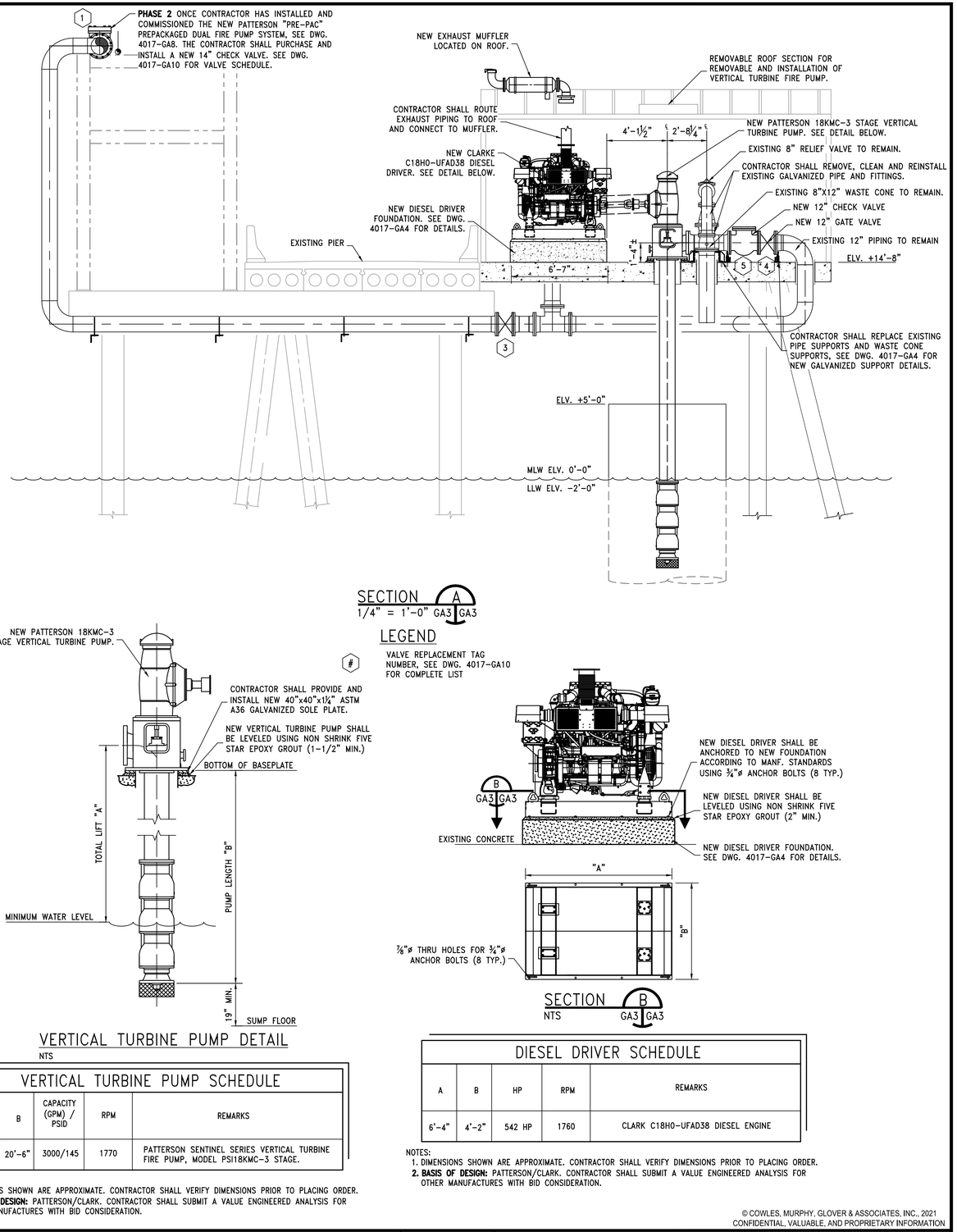
1/4"=1'-0"

LEGEND

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST

EXISTING SPRINKLER SYSTEM —— FP ——

THERMOSTAT (T)



SECTION A

1/4" = 1'-0" GA3 | GA3

LEGEND

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST

VERTICAL TURBINE PUMP DETAIL

NTS

VERTICAL TURBINE PUMP SCHEDULE

A	B	CAPACITY (GPM) / PSID	RPM	REMARKS
18'-1"	20'-6"	3000/145	1770	PATTERSON SENTINEL SERIES VERTICAL TURBINE FIRE PUMP, MODEL PSI18KMC-3 STAGE.

NOTES:
1. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO PLACING ORDER.
2. **BASIS OF DESIGN:** PATTERSON/CLARK. CONTRACTOR SHALL SUBMIT A VALUE ENGINEERED ANALYSIS FOR OTHER MANUFACTURES WITH BID CONSIDERATION.

SECTION B

NTS GA3 | GA3

DIESEL DRIVER SCHEDULE

A	B	HP	RPM	REMARKS
6'-4"	4'-2"	542 HP	1760	CLARK C18H0-UFAD38 DIESEL ENGINE

NOTES:
1. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO PLACING ORDER.
2. **BASIS OF DESIGN:** PATTERSON/CLARK. CONTRACTOR SHALL SUBMIT A VALUE ENGINEERED ANALYSIS FOR OTHER MANUFACTURES WITH BID CONSIDERATION.

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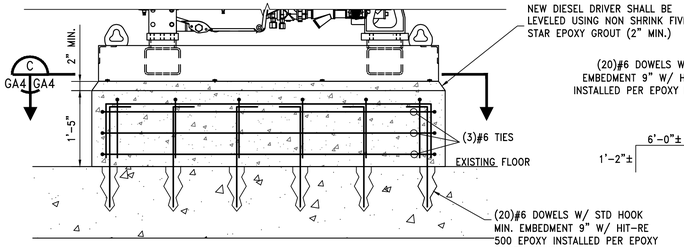
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
FIRE PUMP/ BOAT HOUSE PLAN

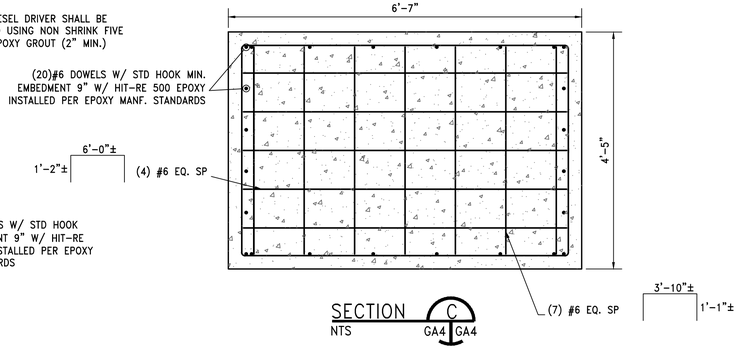
SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ 24x36	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-GA3	



NEW DIESEL DRIVER FOUNDATION DETAIL

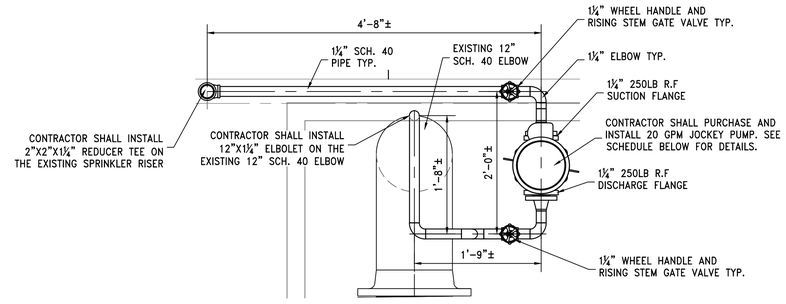
3/4"=1'-0"

NOTES:
1. CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO INSTALLATION OF CONCRETE.



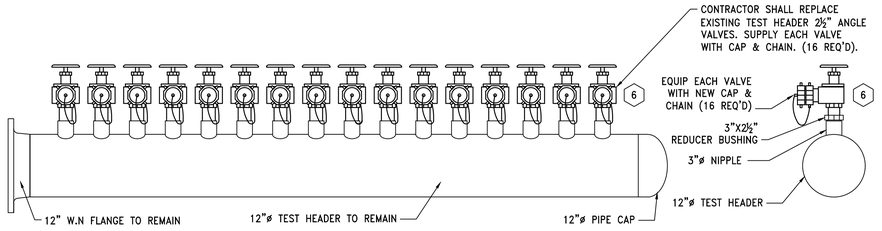
SECTION C

NTS GA4 GA4



DETAIL 2

1" = 1'-0" GA3 GA4

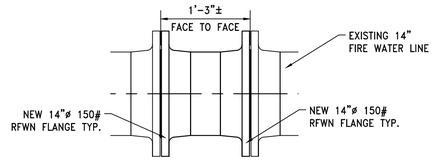


FIRE WATER TEST HEADER DETAIL

3/4"=1'-0"

END VIEW

3/4"=1'-0"



14" PIPE SPOOL DETAIL

NTS

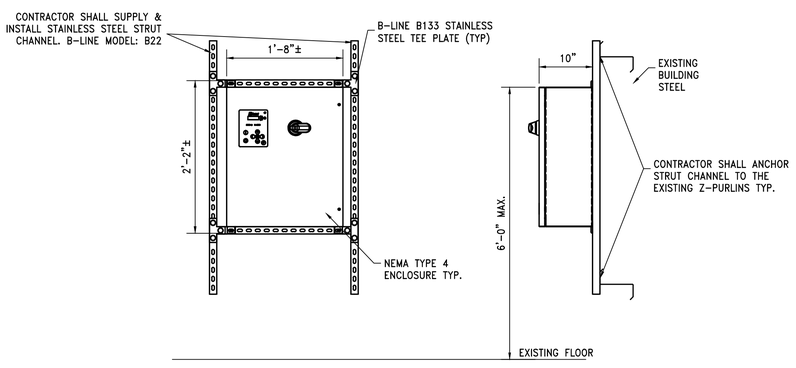
NOTES:
1. CONTRACTOR SHALL VERIFY DIMENSION PRIOR TO FABRICATION.

JOCKEY PUMP SCHEDULE

PUMP HP	PUMP QTY	CAPACITY (GPM) / TDH HEAD	ELECTRICAL DATA/PUMP			REMARKS
			VOLTS	Hz	PHASE	
5	1	20/296	208	60	1	GRUNDFOS MODEL CR5-12-3 MULTI-STAGE, VERTICAL IN-LINE PUMP STATION.

LEGEND

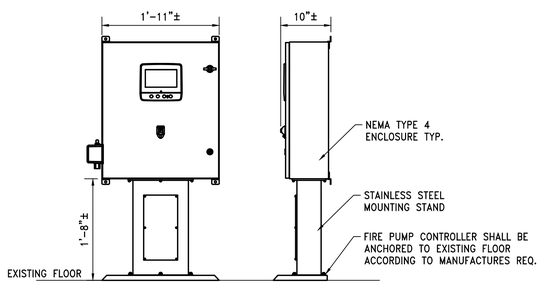
(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST



JOCKEY PUMP CONTROLLER DETAIL

NTS

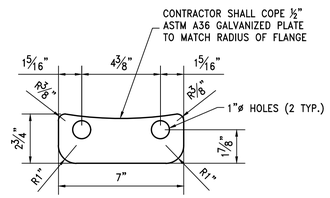
NOTES:
1. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO INSTALLATION.
2. **BASIS OF DESIGN:** FIRETROL MODEL FTA560E. CONTRACTOR SHALL SUBMIT A VALUE ENGINEERED ANALYSIS FOR OTHER MANUFACTURES WITH BID CONSIDERATION.
3. JOCKEY PUMP CONTROL SHALL BE EQUIP W/ NEMA TYPE 3 PAINTED STEEL ENCLOSURE.
4. CONTROLLER SHALL CONFORM TO ALL THE REQUIREMENTS OF THE LATEST EDITION OF NFPA 70. TO BE FURNISHED WITH THE FOLLOWING:
   A) FIVE (5) HORSEPOWER RATED MOTOR STARTER
   B) 0-600 PSI SOLID STATE PRESSURE TRANSDUCER
   C) OPERATOR INTERFACE W/ USER KEYPAD
   D) MAIN DISCONNECT SWITCH
   E) CONTROL CIRCUIT TRANSFORMER W/ 24V SECONDARY
5. CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED CONDUITS AND CONDUCTORS.

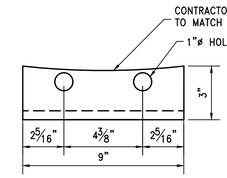


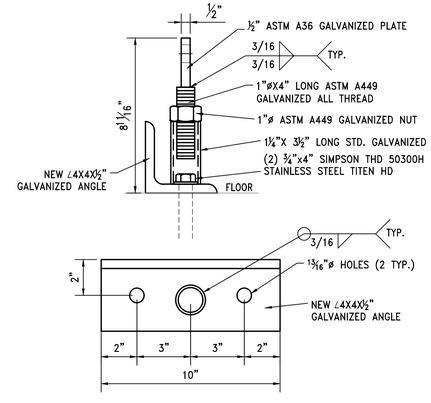
VERTICAL TURBINE PUMP CONTROLLER DETAIL

NTS

NOTES:
1. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO PLACING ORDER.
2. **BASIS OF DESIGN:** FIRETROL MODEL FTA1100. CONTRACTOR SHALL SUBMIT A VALUE ENGINEERED ANALYSIS FOR OTHER MANUFACTURES WITH BID CONSIDERATION.
3. FIRE PUMP CONTROL SHALL BE EQUIP W/ NEMA TYPE 4 ENCLOSURE AND STAINLESS STEEL MOUNTING STAND TYP.
4. CONTROLLER SHALL BE BUILT WITHIN STRICT COMPLIANCE OF NFPA 20. TO BE FURNISHED WITH THE FOLLOWING:
   A) TWO INDEPENDENT BATTERY CHARGERS
   B) 7.0" LCD TOUCH SCREEN, EMBEDDED MICROCOMPUTER W/ AN UPGRADEABLE OPERATOR INTERFACE
   C) PUSH-BUTTONS FOR CRANK FROM BATTERY #1, CRANK FROM BATTERY #2, STOP AND RUN TEST
   D) EXTERNALLY MOUNTED PRESSURE TRANSDUCER
   E) VISIBLE AND AUDIBLE ALARMS
   F) FACTORY INSTALLED INPUT/OUTPUT TERMINALS FOR CONNECTION TO EXTERNAL DEVICES
5. CONTRACTOR SHALL REUSE EXISTING CONDUITS AND CONDUCTORS



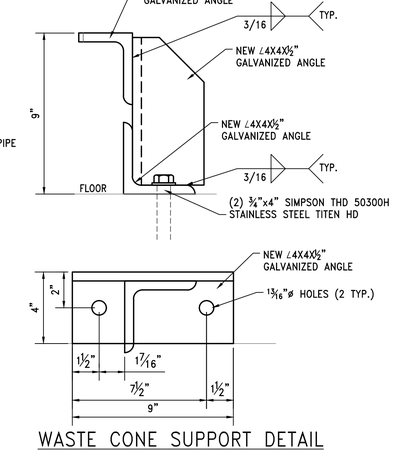




PIPE SUPPORT DETAIL

NTS

NOTES:
1. CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO FABRICATION.
2. CONTRACTOR SHALL HAVE ALL PIECES HOT DIPPED ZINC GALVANIZED
3. TWO (2) ASSEMBLIES REQUIRED.



WASTE CONE SUPPORT DETAIL

NTS

NOTES:
1. CONTRACTOR SHALL VERIFY DIMENSION PRIOR TO FABRICATION.
2. CONTRACTOR SHALL HAVE ALL PIECES HOT DIPPED ZINC GALVANIZED
3. TWO (2) ASSEMBLIES REQUIRED.

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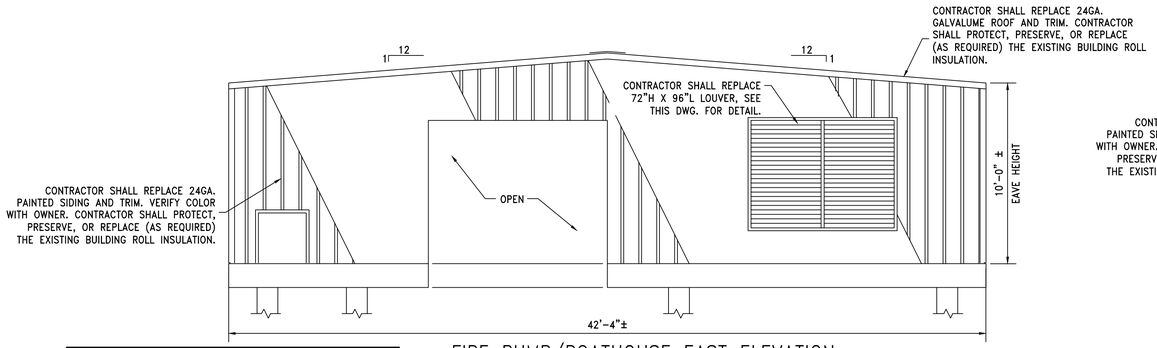
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
FIRE PUMP/ BOATHOUSE REMODEL DETAILS 1

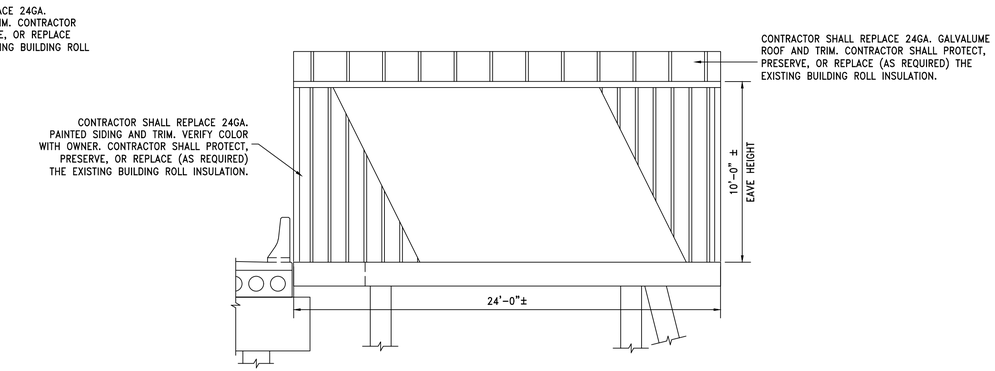
SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ (24x36)	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-GA4	



DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING S-3.7 (1998)

FIRE PUMP/BOATHOUSE EAST ELEVATION

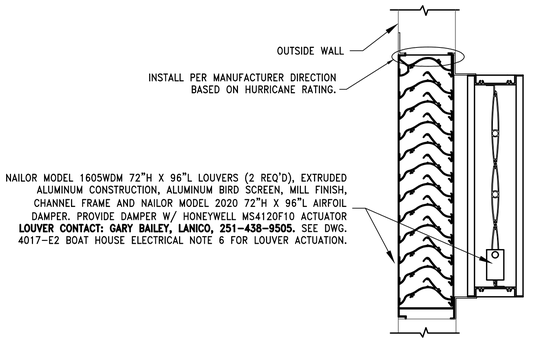
1/4"=1'-0" *WEST ELEVATION SIM.



DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING S-3.7 (1998)

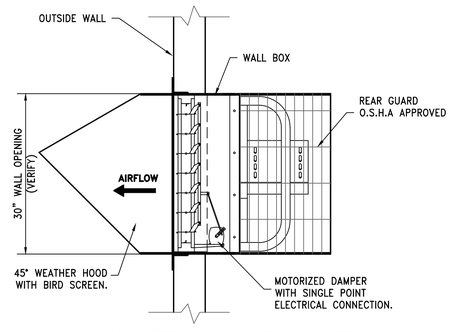
FIRE PUMP/BOATHOUSE SOUTH ELEVATION

1/4"=1'-0" *NORTH ELEVATION SIM.



LOUVER/DAMPER DETAIL

NTS



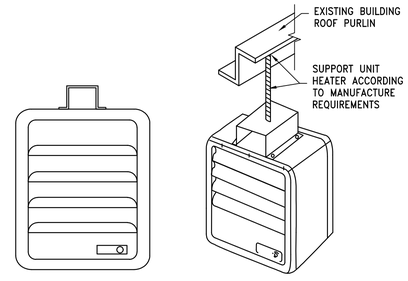
WALL MOUNTED EXHAUST FAN DETAIL

NTS

EXHAUST FAN DATA (1 REQ'D)

TWIN CITY FAN - MODEL: WPD24ZS, DIRECT DRIVEN WALL EXHAUST FAN, 1 HP, 208V, 3ø, 7,500 CFM @ .200 SP, 1750 RPM, WITH H.O.A SWITCH, AUTO CONNECTED TO THERMOSTAT, SEE DWG. 4017-E2 BOAT HOUSE ELECTRICAL NOTE 6 FOR FAN CONNECTION. FAN CONTACT: GARY BAILEY, LANICO, 251-438-9505

FAN TO INCLUDE THE FOLLOWING OPTIONS:
01 GALVANIZED WALL COLLAR
02 MOTORIZED ALUMINUM BACKDRAFT DAMPER,
03 DISCONNECT SWITCH UNFUSED NEMA 3R MOUNTED AND WIRED
04 EXTERNALLY MOUNTED CONDUIT BOX
05 SHAFT MOUNTING PER AE22-88
06 BLADE ADJUSTING TOOL
07 WEATHER HOOD STD. (NO FILTERS)



UNIT HEATER DETAIL

NTS

UNIT HEATER SCHEDULE			
CFM	KW	V/PH/A	REMARKS
850	7.5	208/3/20.9	PROVIDE UNIT W/ CEILING MOUNT BRACKET & THERMOSTAT. CHROMALOX MODEL: LUH-07-83-30-40

NOTES:
1. MANUFACTURER & MODEL LISTED IS BASIS OF DESIGN. EQUIVALENT MANUFACTURER'S SELECTIONS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	MAD	JDG

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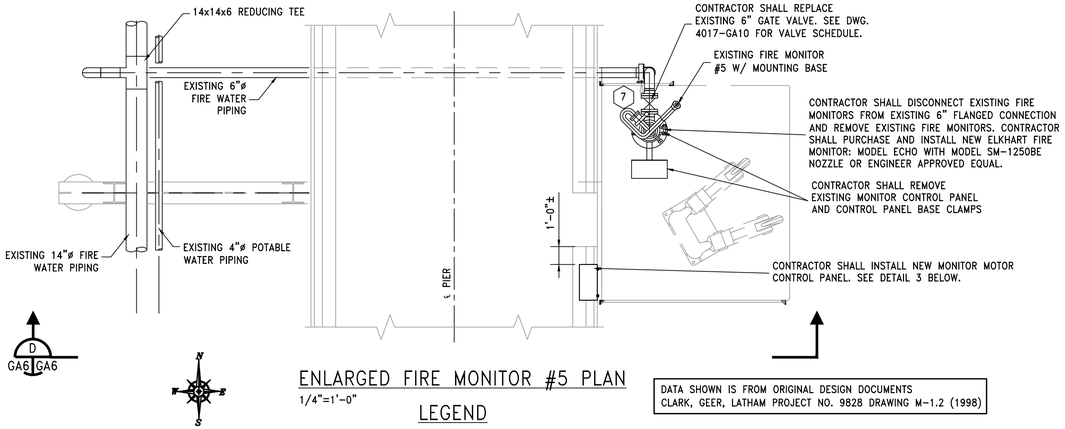
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
FIRE PUMP/ BOATHOUSE REMODEL DETAILS 2

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ 24x36	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-GA5	



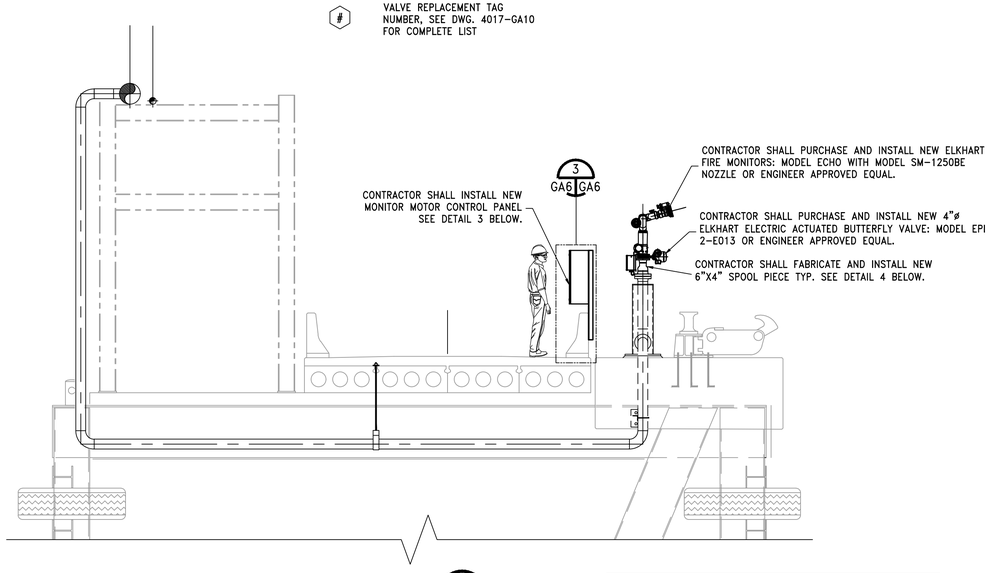
ENLARGED FIRE MONITOR #5 PLAN

1/4"=1'-0"

DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.2 (1998)

LEGEND

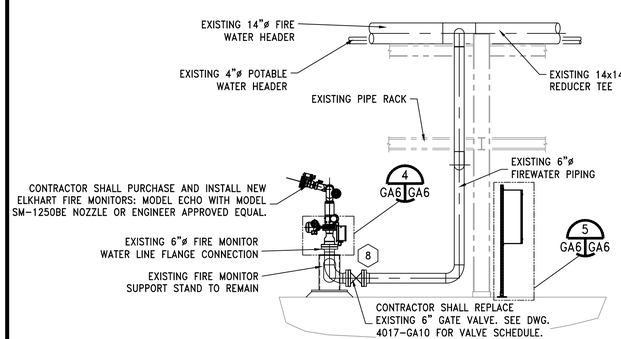
(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST



SECTION D

1/4"=1'-0" GA6 GA6

DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.2 (1998)

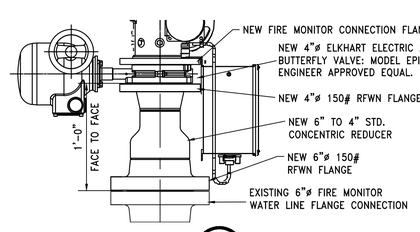


SECTION E

1/4"=1'-0" GA6 GA6

LEGEND

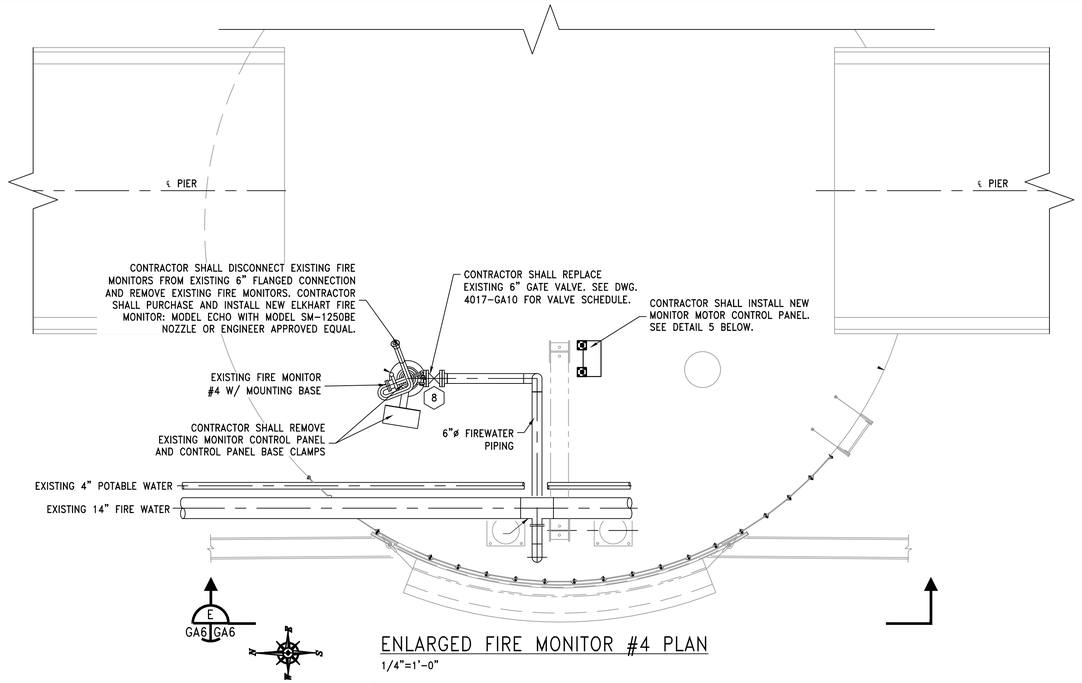
(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST



DETAIL 4

1-1/2" = 1'-0" GA6 GA6

NOTES:
1. CONTRACTOR SHALL HAVE ALL NEW SPOOL PIECES HOT DIPPED ZINC GALVANIZED



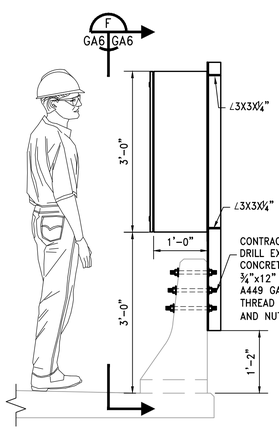
ENLARGED FIRE MONITOR #4 PLAN

1/4"=1'-0"

DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.2 (1998)

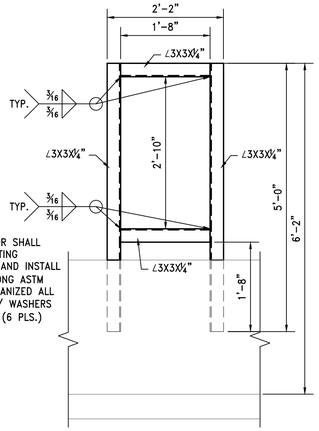
LEGEND

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST



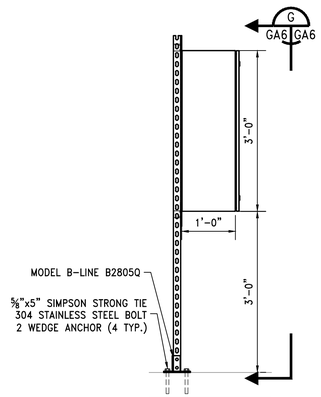
DETAIL 3

3/4" = 1'-0" GA6 GA6



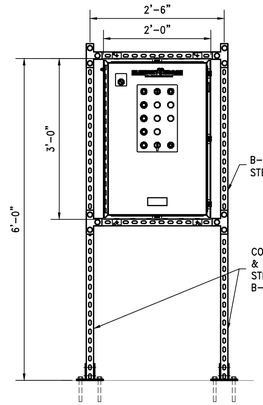
SECTION F

3/4"=1'-0" GA6 GA6



DETAIL 5

3/4" = 1'-0" GA6 GA6



SECTION G

3/4"=1'-0" GA6 GA6

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	MAD	JDG

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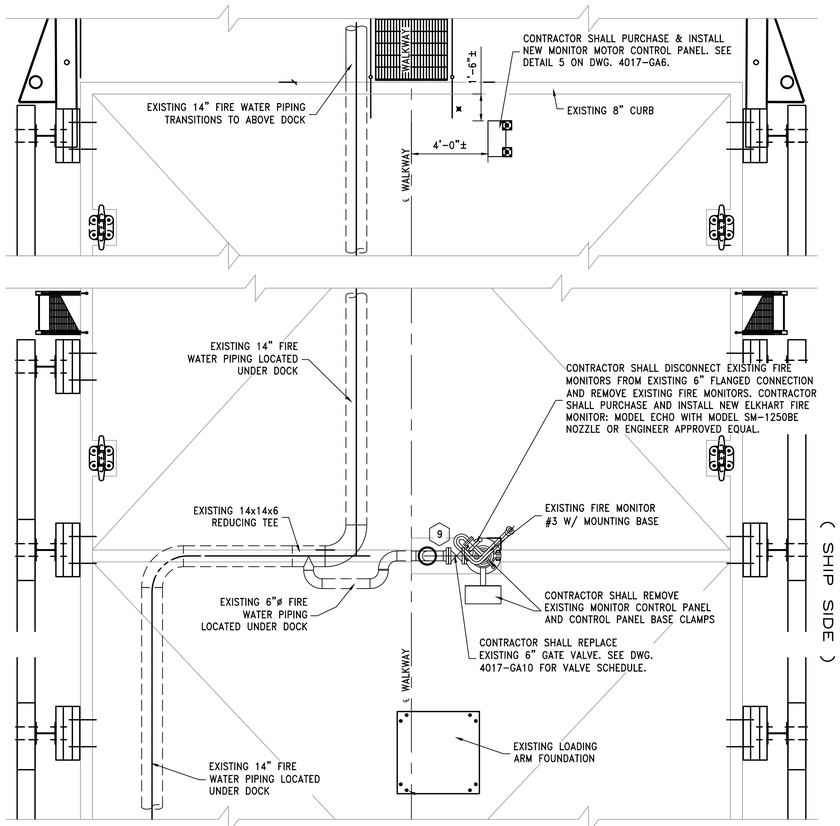
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
EXISTING FIRE MONITOR DEMO PLAN 1

SCALE: AS NOTED	DRAWN BY: MAD	DATE: 01/05/22	SHEET: ____ OF ____ (24x36) REV: A
JOB NO.: 4017-22	CHECKED BY: JDG	DATE: 01/05/22	DRAWING NUMBER: 4017-GA6



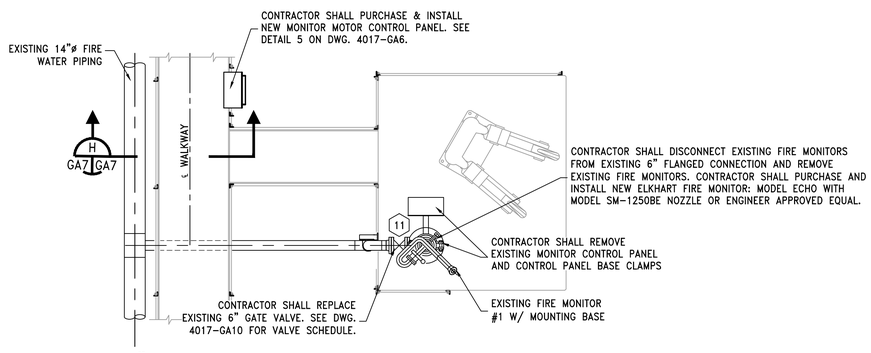
ENLARGED FIRE MONITOR #3 PLAN

1/4"=1'-0"

LEGEND

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST

DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-2.3 (1998)



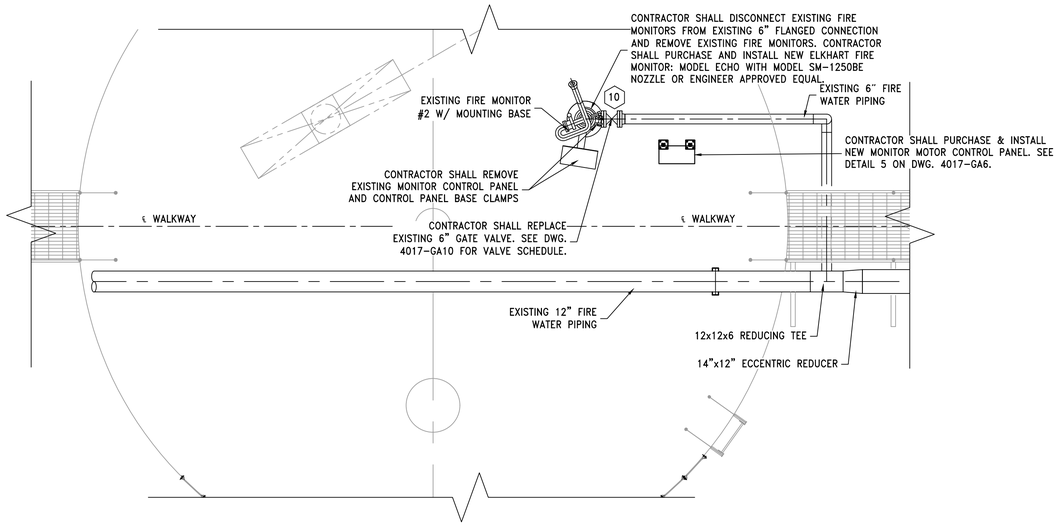
ENLARGED FIRE MONITOR #1 PLAN

1/4"=1'-0"

LEGEND

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST

DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.3 (1998)



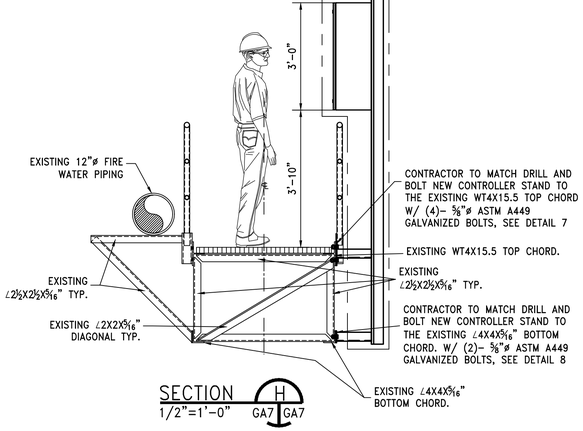
ENLARGED FIRE MONITOR #2 PLAN

1/4"=1'-0"

LEGEND

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST

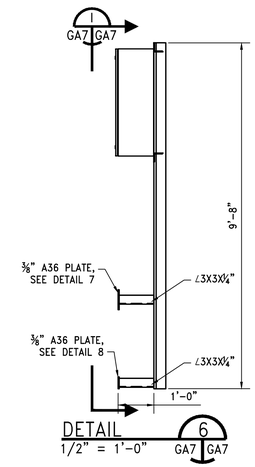
DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.2 (1998)



SECTION H

1/2"=1'-0" GA7 GA7

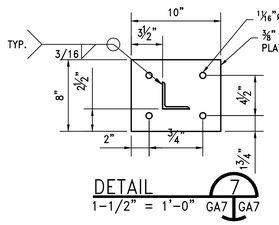
DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING S-3.4 (1998)



DETAIL 6

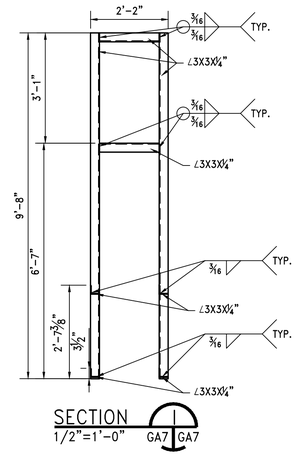
1/2" = 1'-0" GA7 GA7

NOTES:
1. CONTRACTOR SHALL HAVE ALL NEW ANGLE IRON HOT DIPPED ZINC GALVANIZED.



DETAIL 7

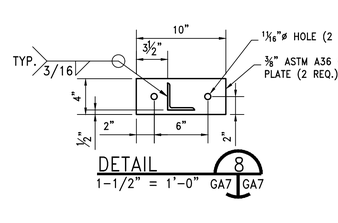
1-1/2" = 1'-0" GA7 GA7



SECTION I

1/2"=1'-0" GA7 GA7

NOTES:
1. CONTRACTOR SHALL HAVE ALL NEW ANGLE IRON HOT DIPPED ZINC GALVANIZED



DETAIL 8

1-1/2" = 1'-0" GA7 GA7

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A	ISSUED FOR BID	05/31/22	MAD	JDG

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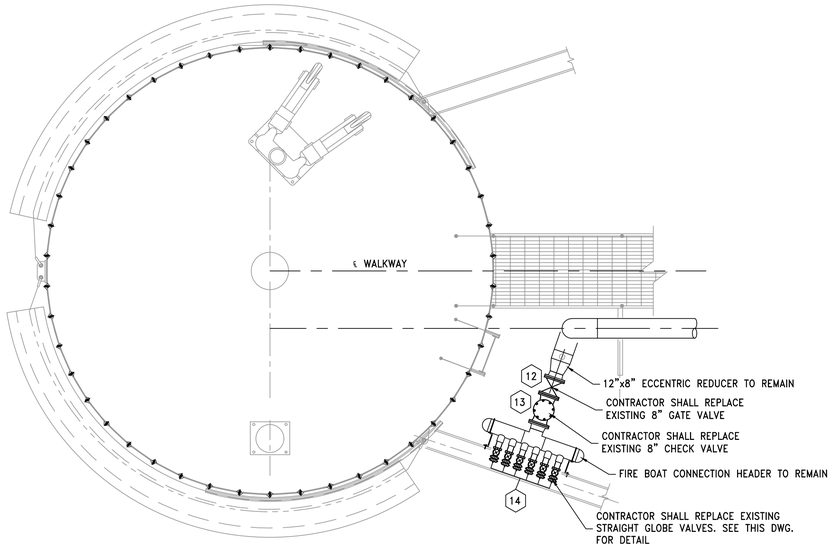
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
EXISTING FIRE MONITOR DEMO PLAN 2

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ 24x36	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-GA7	



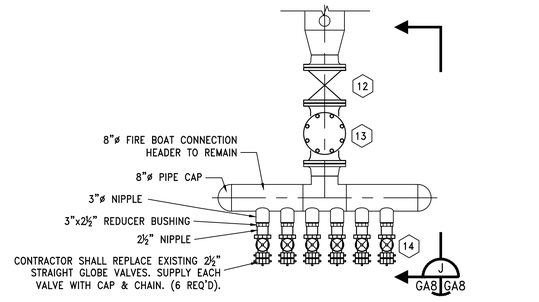
ENLARGED FIRE BOAT CONNECTION PLAN

1/4"=1'-0"

LEGEND

DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.4 (1998)

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST

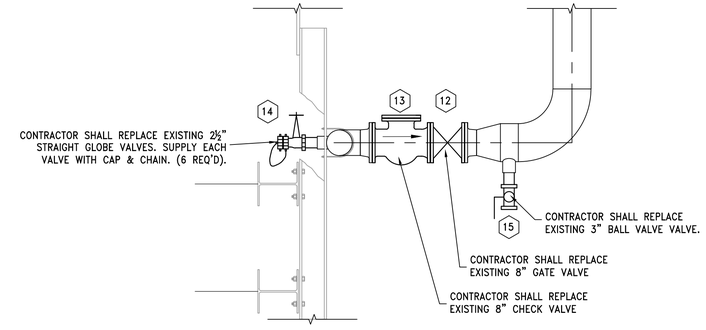


ENLARGED FIRE BOAT CONNECTION DETAIL

NTS

LEGEND

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST



SECTION J GA8 | GA8

1/2"=1'-0"

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	MAD	JDG

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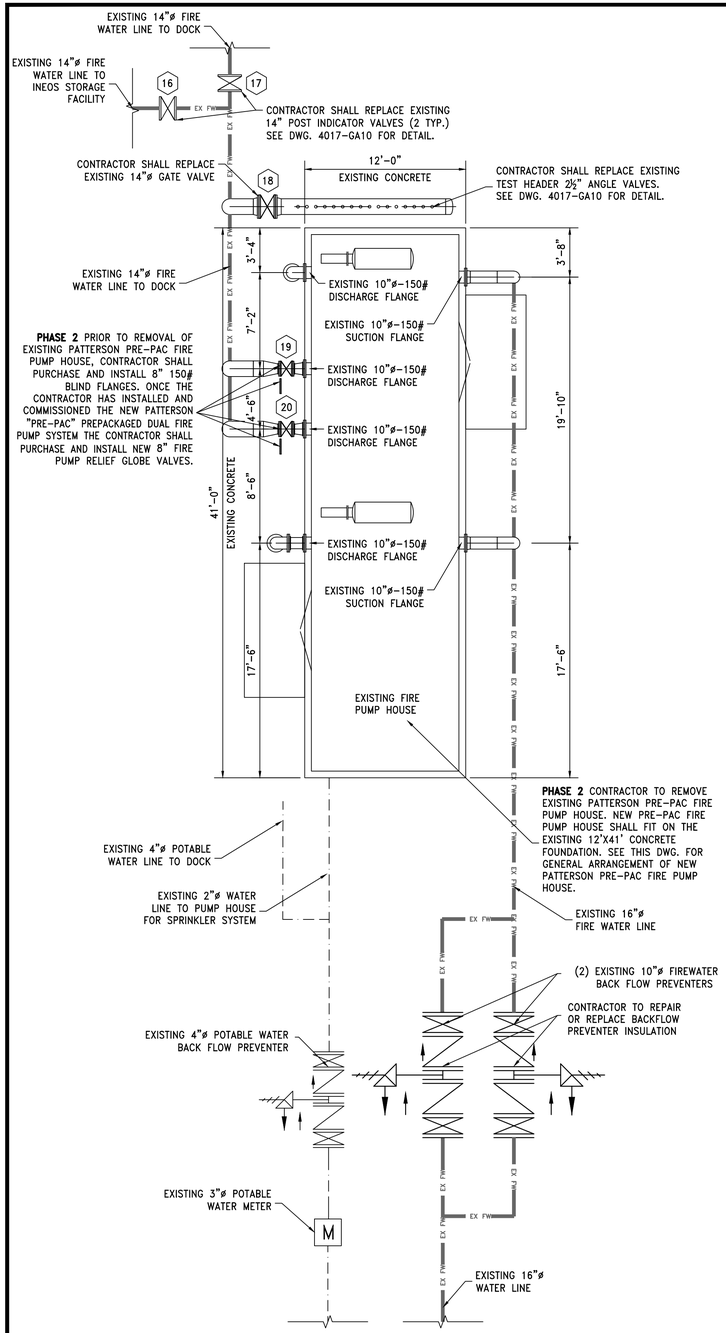
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
EXISTING FIRE BOAT CONNECTION DEMO PLAN

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ 24x36	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-GA8	

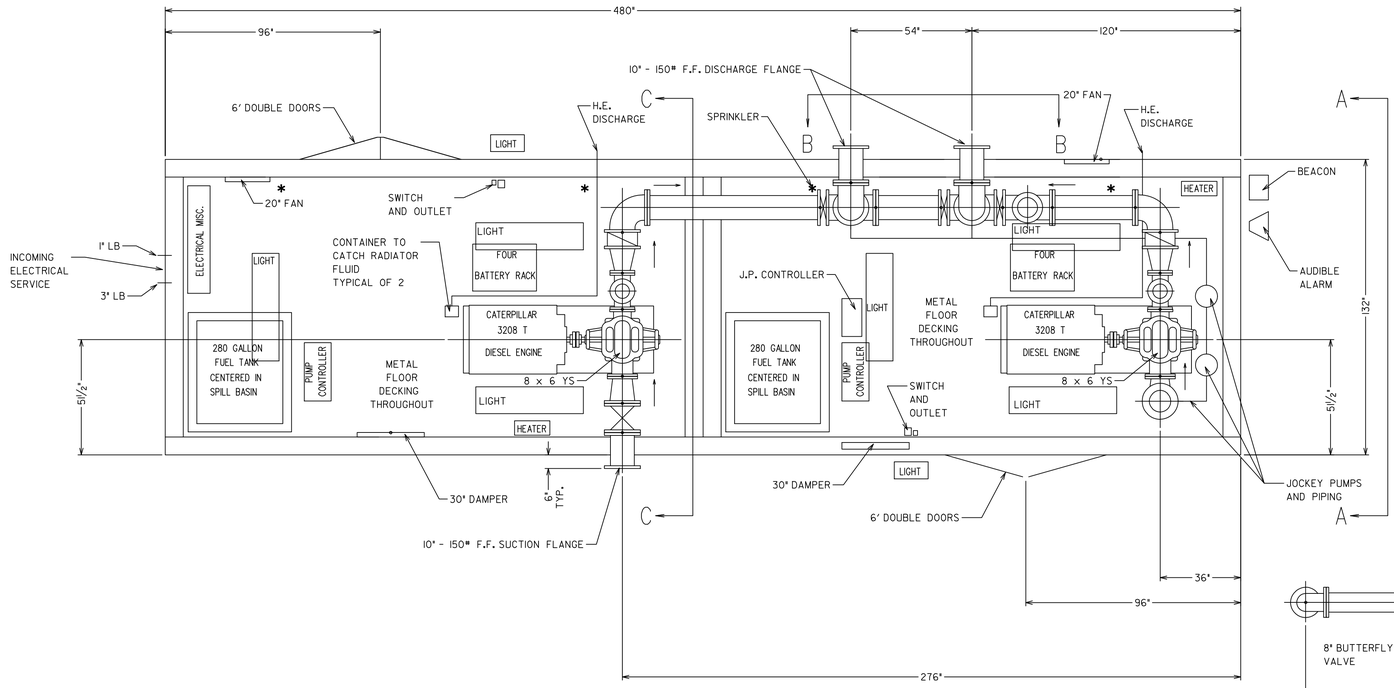


ENLARGED EXISTING FIRE PUMP HOUSE DEMO PLAN

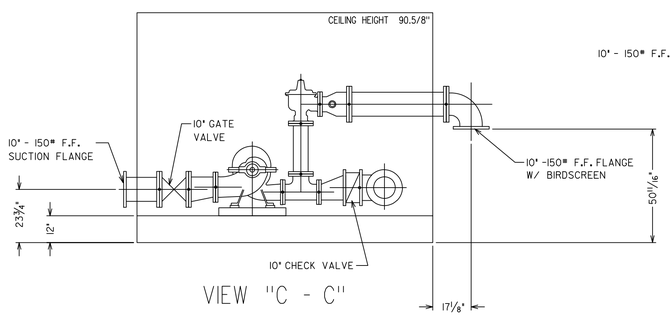
3/16"=1'-0"

LEGEND

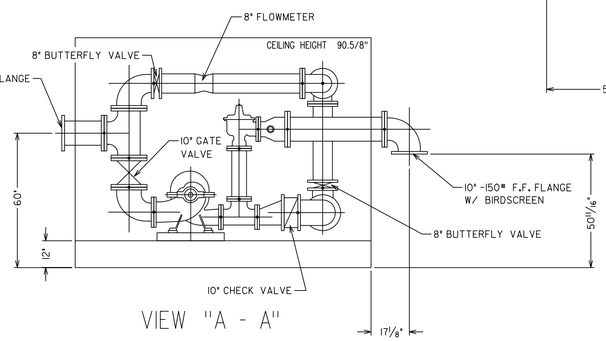
(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST



VIEW "B - B"



VIEW "C - C"



VIEW "A - A"

NEW FIRE PUMP HOUSE GENERAL ARRANGEMENT

NTS **REFERENCE ONLY, FINAL DESIGN SHALL INCLUDED TWO JOCKEY PUMPS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS**

NOTES

1. ANCHOR BOLT HOLES AVAILABLE ONLY UPON CUSTOMER REQUEST.
2. ONLY MAIN STRUCTURAL SUPPORTS ARE SHOWN ON DRAWING. ADDITIONAL CROSS MEMBERS ARE REQUIRED TO SUPPORT PIPING, PUMP CONTROLLER, OR ANY OTHER APPLICABLE COMPONENTS. IF THERE IS A DRAIN OR ANY OTHER OBSTRUCTION IN THE FLOOR THAT SHOULD BE CONSIDERED, PLEASE LOCATE IT ON THE DRAWING.
3. THIS SKID IS DESIGNED TO BE FILLED WITH CONCRETE AT INSTALLATION. THE BASE PLATE (UNDER PUMP & DRIVER) IS TO BE GROUTED PER INSTRUCTIONS IN THE O & M MANUALS SENT WITH THE UNIT.
4. DUE TO VARIATIONS IN PIPE FITTINGS, CUSTOMER PIPE CONNECTION LOCATIONS MAY VARY SLIGHTLY. IT IS RECOMMENDED THAT PIPING NOT BE ANCHORED RIGIDLY UNTIL FINAL FIT-UP IS COMPLETE.
5. THIS LINE IS 12" LONG ON THE ORIGINAL DRAWING. USE THIS LINE TO MAKE SCALING ADJUSTMENTS WHEN INQUIRING ON LENGTHS.

12"

REV.	DESCRIPTION	DATE	BY	CHK'D
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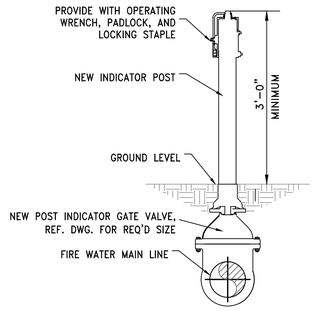
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
FIRE PUMP HOUSE DEMO PLAN

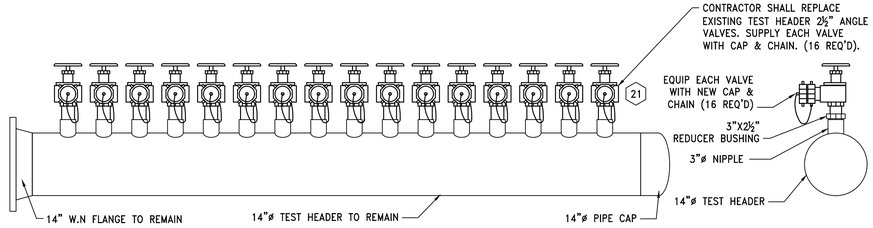
SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ (24x36)	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-GA9	

VALVE REPLACEMENT LIST						
Tag No.	Valve Type	Size	Manufacture	Rating	Type	Quanity
1	CHECK	14"	MUELLER	250 psig	SWING	1
2	GATE	12"	MUELLER	350 psig	OS&Y	1
3	GATE	12"	MUELLER	350psig	OS&Y	1
4	GATE	12"	MUELLER	350 psig	OS&Y	1
5	CHECK	12"	MUELLER	350 psig	SWING	1
6	GLOBE	2-1/2"	DIXON	300 psig	HAND	16
7	GATE	6"	MUELLER	350 psig	OS&Y	1
8	GATE	6"	MUELLER	350 psig	OS&Y	1
9	GATE	6"	MUELLER	350 psig	OS&Y	1
10	GATE	6"	MUELLER	350 psig	OS&Y	1
11	GATE	6"	MUELLER	350 psig	OS&Y	1
12	GATE	8"	MUELLER	350 psig	OS&Y	1
13	CHECK	8"	MUELLER	350 psig	SWING	1
14	GLOBE	2-1/2"	DIXON	300 psig	HAND	6
15	BALL	3"	VALWORX	150 psig	BALL	1
16	GATE	14"	MUELLER	250 psig	PIV	1
17	GATE	14"	MUELLER	250 psig	PIV	1
18	GATE	14"	MUELLER	250 psig	OS&Y	1
19	GLOBE	8"	WATTS	175 psig	RELIEF	1
20	GLOBE	8"	WATTS	175 psig	RELIEF	1
21	GLOBE	2-1/2"	DIXON	300 psig	HAND	16

HAND = HAND WHEEL
OS&Y = OUTSIDE SCREW & YOKE
PIV = POST INDICATOR
SWING = SWING CHECK
RELIEF = RELIEF VALVE



TYP. POST INDICATOR VALVE DETAIL
N.T.S.

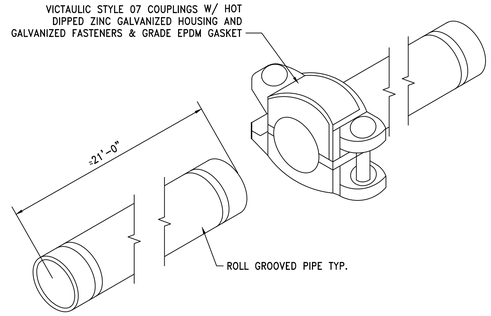


FIRE WATER TEST HEADER DETAIL
3/4"=1'-0"

END VIEW
3/4"=1'-0"

LEGEND

(#) VALVE REPLACEMENT TAG NUMBER, SEE DWG. 4017-GA10 FOR COMPLETE LIST



GROOVED COUPLINGS DETAIL
NTS

GROOVED COUPLINGS SCHEDULE	
SIZE	REMARKS
12"	VICTAULIC STYLE 07 COUPLINGS W/ HOT DIPPED ZINC GALVANIZED HOUSING, GALVANIZED FASTENERS & GRADE EPDM GASKET
14"	VICTAULIC STYLE 07 COUPLINGS W/ HOT DIPPED ZINC GALVANIZED HOUSING, GALVANIZED FASTENERS & GRADE EPDM GASKET

NOTES:
1. MANUFACTURER & MODEL LISTED IS BASIS OF DESIGN. EQUIVALENT MANUFACTURER'S SELECTIONS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.
2. CONTRACTOR SHALL VERIFY QUANTITIES PRIOR TO PLACING ORDER.

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	MAD	JDG

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PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
VALVE REPLACEMENT LIST AND DETAILS

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ 24x36	A
JOB NO. 4017-22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017-GA10	

FIRE SUPPRESSION SPRINKLERS SPECIFICATION

PART 1 – GENERAL PROVISIONS
1. GENERAL

1.1 THE FOLLOWING SPECIFICATION, TAKEN IN CONJUNCTION WITH THE DRAWINGS AND GENERAL CONDITIONS, DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR. THEY AMPLIFY AND EXPLAIN CERTAIN ITEMS IN CONNECTION WITH THE WORK, BUT DO NOT ALTER THE SCOPE OF SAME AS DESCRIBED IN THE GENERAL CONDITIONS OF THE SPECIFICATIONS AND CONTRACT FORM.

1.2 ALL MATERIALS USED IN THE WORK, WHICH ARE NOT DESCRIBED SPECIFICALLY, SHALL BE NEW AND THE BEST QUALITY THAT IS CUSTOMARY TO EMPLOY IN CONSTRUCTION OF A WET PIPE SPRINKLER SYSTEM. THE FOLLOWING DETAILS ARE NOT NECESSARILY COMPLETE IN THE DESCRIPTION OF ALL ITEMS ENTERING INTO THE WORK, BUT ARE INTENDED TO FURNISH A BASIS OF ACCEPTANCE OF THE MORE IMPORTANT ITEMS. OTHER DETAILS SHALL BE CONSISTENT WITH THEM.

1.3 THE CONTRACTOR SHALL FOLLOW THE DRAWINGS AND SPECIFICATIONS CLOSELY IN ALL DETAILS, ELEVATIONS, DIMENSIONS, ETC., BUT IT IS UNDERSTOOD THAT ALTERATIONS MAY BE REQUIRED TO CONFORM TO LOCAL CONDITIONS AND THAT SUCH ALTERATIONS MUST BE OF THE SAME CHARACTER OF CONSTRUCTION AS THAT SPECIFIED. WORKMANSHIP SHALL BE OF THE BEST QUALITY IN EACH CLASS OF WORK.

PART 2 – SPRINKLER SYSTEM
1. SCOPE

THE WORK INCLUDES DESIGNING AND PROVIDING NEW AUTOMATIC WET PIPE FIRE EXTINGUISHING SPRINKLER SYSTEM EXTRA HAZARD GROUP 2 OCCUPANCY WITH UNIFORM DISTRIBUTION OF WATER BY HYDRAULIC DESIGN TO AFFORD COMPLETE FIRE PROTECTION COVERAGE THROUGHOUT THE BUILDING. WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE DESIGN AND INSTALLATION OF NEW SPRINKLER MAINS, NEW SPRINKLER BRANCHES, NEW SPRINKLER HEADS, PIPE HANGERS, NEW INSPECTION TEST VALVES AND LOW POINT DRAINS FOR THE COMPLETE SYSTEM. SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED PER LATEST EDITION OF N.F.P.A. CODE 13 AND ALL SIZING CALCULATIONS AND FINAL PIPING LAYOUT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE DRAWINGS SHALL BE SUBMITTED TO THE FIRE DEPARTMENT FOR REVIEW, CERTIFICATION, AND PERMITTING. THE SYSTEM SHALL INCLUDE THE CONNECTION TO THE WATER MAIN LOCATED 12" ABOVE EXISTING FLOOR LOCATED INSIDE OF BUILDING. THE DESIGN, EQUIPMENT, MATERIALS, INSTALLATION, WORKMANSHIP, EXAMINATION, INSPECTION, AND TESTING SHALL BE IN STRICT ACCORDANCE WITH THE REQUIRED AND ADVISORY PROVISIONS OF NFPA 13, EXCEPT AS MODIFIED HEREIN. EACH SYSTEM SHALL INCLUDE ALL MATERIALS, ACCESSORIES, AND EQUIPMENT INSIDE AND OUTSIDE THE BUILDING TO PROVIDE EACH SYSTEM COMPLETE AND READY FOR USE. DESIGN AND PROVIDE EACH SYSTEM TO GIVE FULL CONSIDERATION TO BLIND SPACES, PIPING, ELECTRICAL EQUIPMENT, DUCTWORK, AND OTHER CONSTRUCTION AND EQUIPMENT IN ACCORDANCE WITH DETAILED DRAWINGS TO BE SUBMITTED FOR APPROVAL. LOCATE SPRINKLER HEADS IN A CONSISTENT PATTERN WITH CEILING GRID, LIGHTS, AND SUPPLY AIR DIFFUSERS. DEVICES AND EQUIPMENT FOR FIRE PROTECTION SERVICE SHALL BE UL LISTED OR FM APPROVED FOR USE IN WET PIPE SPRINKLER SYSTEMS. IN THE NFPA PUBLICATIONS REFERRED TO HEREIN, THE ADVISORY PROVISIONS SHALL BE CONSIDERED TO BE MANDATORY.

2. QUALIFICATIONS OF INSTALLER

PRIOR TO INSTALLATION, SUBMIT DATA FOR APPROVAL SHOWING THAT THE CONTRACTOR HAS SUCCESSFULLY INSTALLED AUTOMATIC FIRE EXTINGUISHING SPRINKLER SYSTEMS OF THE SAME TYPE AND DESIGN AS SPECIFIED HEREIN, OR THAT CONTRACTOR HAS A FIRM CONTRACTUAL AGREEMENT WITH A SUBCONTRACTOR HAVING SUCH REQUIRED EXPERIENCE. THE DATA SHALL INCLUDE THE NAMES AND LOCATIONS OF AT LEAST TWO INSTALLATIONS WHERE THE CONTRACTOR, OR THE SUBCONTRACTOR REFERRED TO ABOVE, HAS INSTALLED SUCH SYSTEMS. THE CONTRACTOR SHALL INDICATE THE TYPE AND DESIGN OF EACH SYSTEM AND CERTIFY THAT EACH SYSTEM HAS PERFORMED SATISFACTORILY IN THE MANNER INTENDED FOR A PERIOD OF NOT LESS THAN 18 MONTHS.

3.0 QUALITY ASSURANCE

3.1 MATERIALS, INSTALLATION AND TESTING SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING CODE AND REGULATIONS:

1. NFPA 13 – INSTALLATION OF SPRINKLER SYSTEMS.
2. FM – FACTORY MUTUAL APPROVAL GUIDE.
3. NFPA 14 – INSTALLATION OF STANDPIPE AND HOSE SYSTEMS.
4. UL – FIRE PROTECTION EQUIPMENT DIRECTORY.
5. FM – DATA SHEETS.
6. NFPA 101 – LIFE SAFETY CODE
7. NFPA 70 – NATIONAL ELECTRIC CODE
8. MOBILE COUNTY & SAINT ELMO FIRE DEPARTMENT REQUIREMENTS.

3.2 EQUIPMENT AND COMPONENTS SHALL BEAR UL AND FM LABEL OR MARKING AND SHALL BE FM APPROVED FOR FIRE SERVICE.

4. SHOP DRAWINGS AND DESCRIPTIVE DATA

4.1 EXCEPT AS OTHERWISE SPECIFIED OR APPROVED, SHOP DRAWINGS AND/OR DESCRIPTIVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO USE OF ALL MATERIAL AND COMPONENTS LISTED BELOW:

CERTIFICATES OF COMPLIANCE:
- A. CONTRACTOR'S MATERIAL AND TEST CERTIFICATE
- B. PIPE AND FITTINGS

MANUFACTURER'S DATA:
- A. PIPE, FITTINGS, AND MECHANICAL COUPLINGS
- B. VALVES, INCLUDING GATE, CHECK, AND GLOBE
- C. TAMPER SWITCH
- D. SPRINKLER HEADS
- E. PIPE HANGERS AND SUPPORTS
- F. WATER FLOW SWITCH
- G. FIRE DEPARTMENT CONNECTION(S)

SHOP DRAWINGS:
- A. SPRINKLER HEADS AND PIPING SYSTEM LAYOUT
- B. SYSTEM CALCULATIONS

4.2 PARTIAL SUBMITTALS WILL NOT BE ACCEPTABLE. ANNOTATE DESCRIPTIVE DATA TO SHOW THE SPECIFIC MODEL, TYPE, FINISH, AND SIZE OF EACH ITEM THE CONTRACTOR PROPOSES TO PROVIDE. PREPARE WORKING DRAWINGS ON SHEETS NOT SMALLER THAN 30 INCHES BY 42 INCHES, IN ACCORDANCE WITH THE REQUIREMENTS FOR "WORKING DRAWINGS" AS SPECIFIED IN NFPA 13; INCLUDE DATA FOR PROPER INSTALLATION OF EACH SYSTEM. AN AUTOCAD ELECTRONIC COPY OF THE FLOOR PLAN WILL BE PROVIDED TO THE CONTRACTOR UPON REQUEST. THE ENGINEER WILL REVIEW AND APPROVE SUBMITTALS. BEFORE ANY WORK IS COMMENCED, SUBMIT THE DESIGN, MANUFACTURER'S DATA, SYSTEM HYDRAULIC CALCULATIONS, AND COMPLETE SETS OF WORKING DRAWINGS FOR EACH SYSTEM.

5. ORDER OF WORK

THE WORK SHALL BE SCHEDULED AND COORDINATED WITH THE OWNER/GENERAL CONTRACTOR. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, FOR APPROVAL, HIS PLANS FOR ACCOMPLISHING THE INSTALLATION PRIOR TO BEGINNING WORK.

6. EXISTING CONDITIONS

IT SHALL BE THE BIDDER'S RESPONSIBILITY TO VISIT THE SITE AND TO DETERMINE ALL CONDITIONS AND MEASUREMENTS THAT MAY AFFECT THE EXECUTION AND FABRICATION OF THE WORK PRIOR TO SUBMITTING HIS PROPOSAL. NEW SPRINKLER PIPE MUST BE ROUTED SUCH THAT MAIN PIPE, BRANCHES OR SPRINKLER HEADS DO NOT INTERFERE WITH THE OTHER UTILITIES.

7. PROTECTION OF EXISTING STRUCTURES

THE INSTALLATION WORK REQUIRED UNDER THIS SECTION SHALL BE PERFORMED IN SUCH A MANNER SO AS NOT TO DAMAGE ANY EXISTING STRUCTURES AND ANY DAMAGE THERETO BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.

8. DESIGN OF SPRINKLER SYSTEMS: NFPA 13 AND REQUIREMENTS SPECIFIED HEREIN.

DESIGN OF AUTOMATIC WET PIPE FIRE EXTINGUISHING SPRINKLER SYSTEMS SHALL BE BY HYDRAULIC CALCULATIONS FOR UNIFORM DISTRIBUTION OF WATER OVER THE DESIGN AREA.

8.1 WATER DISTRIBUTION: DISTRIBUTION SHALL BE UNIFORM THROUGHOUT THE AREA IN WHICH IT IS ASSUMED THE SPRINKLER HEADS WILL OPEN. VARIATION IN DISCHARGE FROM INDIVIDUAL HEADS IN THE HYDRAULICALLY MOST REMOTE AREA SHALL BE BETWEEN 100 AND 120 PERCENT OF THE SPECIFIED DENSITY.

8.2 DENSITY OF APPLICATION OF WATER: SIZE PIPE TO PROVIDE THE SPECIFIED DENSITY WHEN THE SYSTEM IS DISCHARGING THE SPECIFIED TOTAL MAXIMUM REQUIRED FLOW. APPLICATION TO HORIZONTAL SURFACES BELOW THE SPRINKLERS SHALL BE PER NFPA 13 DENSITY REQUIREMENTS FOR THE PROTECTED HAZARD.

8.3 SPRINKLER DISCHARGE AREA: AUTOMATIC SPRINKLER SHALL BE DESIGNED FOR A DENSITY OF 0.25 GPM/SQFT OVER THE ENTIRE FIRE AREA AS DEFINED IN NFPA 13.

8.4 HOSE ALLOWANCES: N/A.

8.5 FRICTION LOSSES: CALCULATE LOSSES IN PIPING IN ACCORDANCE WITH THE HAZEN–WILLIAMS FORMULA WITH 'C' VALUE OF 120 FOR STEEL PIPING, 150 FOR COPPER TUBING, AND 140 FOR CEMENT–LINED DUCTILE–IRON PIPING AND ASBESTOS CEMENT PIPING.

8.6 LOCATION OF SPRINKLER HEADS: HEADS IN RELATION TO THE CEILING AND THE SPACING OF SPRINKLER HEADS SHALL NOT EXCEED THAT PERMITTED BY NFPA 13 FOR ORDINARY AND/ OR EXTRA HAZARD OCCUPANCY. UNIFORMLY SPACE SPRINKLERS ON THE BRANCH PIPING. SPRINKLER HEADS SHALL BE LOCATED A MINIMUM OF 18 INCHES AWAY FROM CEILING MOUNTED AIR DIFFUSERS.

8.7 WATER SUPPLY: BASE HYDRAULIC CALCULATIONS ON CURRENT WATER SUPPLY AVAILABLE AT THE CITY MAIN AND APPROVED BY THE CITY OF SAINT ELMO AND THE ENGINEER. THIS INFORMATION SHALL BE OBTAIN BY THE CONTRACTOR FROM THE CITY OF FAIRHOPE. INCLUDE A 10 PERCENT MARGIN OF SAFETY FOR AVAILABLE WATER FLOW AND PRESSURE.

9. SPRINKLER HEADS: HEADS SHALL HAVE NOMINAL 0.50–INCH ORIFICE. RELEASE ELEMENT OF EACH HEAD SHALL COMPLY WITH UL 1767, FOR EARLY SUPPRESSION, FAST–RESPONSE APPLICATIONS OR HIGHER AS SUITABLE FOR THE SPECIFIC APPLICATION. PROVIDE POLISHED STAINLESS STEEL CEILING PLATES OR CHROMIUM–PLATED FINISH ON COPPER ALLOY CEILING PLATES, AND CHROMIUM–PLATED PENDENT SPRINKLERS BELOW SUSPENDED CEILINGS. PROVIDE CORROSION–RESISTANT SPRINKLER HEADS AND SPRINKLER HEAD GUARDS AS REQUIRED BY NFPA 13.

10. CABINET: PROVIDE METAL CABINET WITH 10 EXTRA SPRINKLER HEADS AND SPRINKLER HEAD WRENCH. A MINIMUM OF (2) OF EACH TYPE OF SPRINKLER HEAD INSTALLED SHALL BE INCLUDED IN CABINET. PROVIDE A WRENCH FOR EACH TYPE OF SPRINKLER HEAD INSTALLED.

11. WATER FLOW SWITCH: PROVIDE SWITCH WITH CIRCUIT CLOSER FOR THE AUTOMATIC TRANSMITTAL OF AN ALARM OVER THE FACILITY FIRE ALARM SYSTEM. ALARM ACTUATING DEVICE SHALL BE OF FLEXIBLE PADDLE TYPE WITH A TIME ADJUSTABLE RETARD DEVICE AND SHALL BE OF A TYPE WHICH INSTANTLY RECYCLES WHEN WATER FLOW IS RELEASED ON THE PADDLE.

12. TAMPER SWITCH: PROVIDE SWITCH ON THE SPRINKLER SYSTEM CONTROL VALVE. SWITCH WILL OPEN NORMALLY CLOSED CIRCUIT TO TRANSMIT A TROUBLE ALARM SIGNAL TO THE FIRE ALARM SYSTEM. SWITCH WILL BE PROVIDED WITH NORMALLY CLOSED CONTACT. THE TROUBLE SIGNAL SHALL BE OBTAINED EITHER DURING THE FIRST TWO REVOLUTIONS OF THE HAND WHEEL OR WHEN STEM OF THE VALVE HAS MOVED ONE FIFTH OF THE DISTANCE FROM ITS NORMAL, OPEN POSITION. THE SWITCH SHALL BE OF THE RESET TYPE UPON RETURN OF THE VALVE TO ITS NORMAL, OPEN POSITION. THE SWITCH SHALL NOT INTERFERE WITH THE OPERATION OF THE VALVE, NOR OBSTRUCT THE VIEW OF ITS INDICATOR. WHERE SIGNALING ATTACHMENTS OF TWO OR MORE VALVES UTILIZE A COMMON CIRCUIT, THE TROUBLE SIGNAL SHALL RESET ONLY WHEN ALL OF THE VALVES OF THE GROUP ARE IN THE NORMAL, OPEN POSITION.

13. ABOVEGROUND PIPING SYSTEMS: INSPECT, TEST, AND APPROVE PIPING BEFORE COVERING OR CONCEALING. PROVIDE FITTINGS FOR CHANGES IN DIRECTION OF PIPING AND FOR ALL CONNECTIONS. MAKE CHANGES IN PIPING SIZES THROUGH TAPERED REDUCING PIPE FITTINGS; BUSHINGS WILL NOT BE PERMITTED. PERFORM WELDING IN THE SHOP; FIELD WELDING WILL NOT BE PERMITTED. CONCEAL PIPING IN AREAS WITH SUSPENDED CEILING.

13.1 SPRINKLER PIPE AND FITTINGS: NFPA 13, EXCEPT AS MODIFIED HEREIN. STEEL PIPING SHALL BE NEW AND UNUSED, DOMESTIC, SCHEDULE 40, BLACK STEEL, ASTM A53, WELDED CARBON STEEL. (ALLOWABLE BID ALTERNATES–HOT DIPPED GALVANIZED PIPE, SCHEDULE 10 PIPE FOR PIPE SIZES 1.5 INCHES AND LARGER). FITTINGS INTO WHICH SPRINKLER HEADS, SPRINKLER HEAD RISER NIPPLES, OR DROP NIPPLES ARE THREADED SHALL BE WELDED, THREADED, OR GROOVED–END TYPE. PLAIN–END FITTINGS WITH MECHANICAL COUPLINGS AND FITTINGS WHICH USE STEEL GRIPPING DEVICES TO BITE INTO THE PIPE WHEN PRESSURE IS APPLIED WILL NOT BE PERMITTED. RUBBER GASKETED GROOVED–END PIPE AND FITTINGS WITH MECHANICAL COUPLINGS SHALL BE PERMITTED IN PIPE SIZES 1.5 INCHES AND LARGER, SMALLER THAN 1.5 INCHES SHALL BE GALVANIZED, THREADED AND COUPLED (T&C). FITTINGS SHALL BE UL LISTED OR FM APPROVED FOR USE IN WET PIPE SPRINKLER SYSTEMS. FITTINGS, MECHANICAL COUPLINGS, AND RUBBER GASKETS SHALL BE SUPPLIED BY THE SAME MANUFACTURER.

13.1.1 FLANGE CONNECTIONS. THE CONTRACTOR SHALL USE FLANGES ONLY FOR VALVE FLANGE CONNECTION, LOCATIONS SHOWN ON THE DRAWINGS, AND LIENS SPECIFIED HEREIN. ALL SLIP–ON FLANGES ARE TO BE WELDED ON FRONT AND BACK. WELDING NECK FLANGES SHALL BE BORED TO MATCH THE ATTACHED PIPE. FLANGES 2½" THROUGH 24" SHALL BE CLASS 150 FORGED CARBON STEEL WELDING NECK OR SLIP–ON TYPE IN ACCORDANCE WITH ANSI B16.5 AND RAISED FACE. MATERIAL SHALL CONFORM TO ASTM A105.

13.1.2 SCREWED THREADS. SCREWED THREADS SHALL BE CLEAN CUT WITH NO BURRS NOR STRIPPING, SHALL BE ACCORDING TO ANSI B–2.1. DIES SHALL BE NEW, SHARP, AND PROPERLY DESIGNED FOR THE PIPING MATERIAL. IMMEDIATELY BEFORE ERECTING THE PIPING, ALL THREADS ON PIPE AND ON FITTINGS SHALL BE THOROUGHLY CLEANED OF CUTTINGS, DIRT, OIL, OR OTHER FOREIGN MATTER. THE ENTIRE SURFACE OF THE MALE THREADS SHALL BE LIBERALLY COATED WITH PIPE COMPOUND AND THE PIPING MADE UP SUFFICIENTLY FOR THE THREADS TO SEAL.

13.2 PIPE HANGERS AND SUPPORTS: PROVIDE IN ACCORDANCE WITH NFPA 13.

13.3 VALVES: NFPA 13. PROVIDE VALVES OF TYPES APPROVED FOR FIRE SERVICE. GATE VALVES SHALL OPEN BY COUNTERCLOCKWISE ROTATION. CHECK VALVES SHALL BE FLANGED CLEAR OPENING SWING–CHECK TYPE WITH FLANGED INSPECTION AND ACCESS COVER PLATE FOR SIZES 4 INCHES AND LARGER. ALL VALVES SHALL BE INSTALLED WHERE, THEY WILL BE READILY ACCESSIBLE. VALVES LOCATED ABOVE CEILINGS SHALL BE EQUIPPED WITH SUITABLY SIZED ACCESS PANELS APPROPRIATELY IDENTIFIED BY A LETTERED DESIGNATION.

13.4 IDENTIFICATION SIGNS: NFPA 13. ATTACH PROPERLY LETTERED AND APPROVED METAL SIGNS TO EACH VALVE AND ALARM DEVICE. PERMANENTLY AFFIX HYDRAULIC DESIGN DATA NAMEPLATES TO THE RISER OF EACH SYSTEM.

13.5 INSPECTOR'S TEST CONNECTION: PROVIDE TEST CONNECTIONS APPROXIMATELY 6 FEET ABOVE THE FLOOR FOR EACH SPRINKLER SYSTEM OR PORTION OF EACH SPRINKLER SYSTEM EQUIPPED WITH AN ALARM DEVICE; LOCATE AT THE HYDRAULICALLY MOST REMOTE PART OF EACH SYSTEM. PROVIDE TEST CONNECTION PIPING TO A LOCATION WHERE THE DISCHARGE WILL BE READILY VISIBLE AND WHERE WATER MAY BE DISCHARGED WITHOUT PROPERTY DAMAGE.

13.6 MAIN DRAINS: PROVIDE DRAIN PIPING TO DISCHARGE AT SAFE POINTS OUTSIDE EACH BUILDING OR TO SIGHT CONES ATTACHED TO DRAINS OF ADEQUATE SIZE TO READILY RECEIVE THE FULL FLOW FROM EACH DRAIN UNDER MAXIMUM PRESSURE WITHOUT CAUSING PROPERTY DAMAGE. PROVIDE AUXILIARY DRAINS AS REQUIRED BY NFPA 13. ALL ASSOCIATED CONTROL VALVES FOR THESE DRAINS SHALL BE INSTALLED WHERE THEY WILL BE READILY ACCESSIBLE. VALVES LOCATED ABOVE THE CEILINGS SHALL BE EQUIPPED WITH SUITABLY SIZED ACCESS PANELS APPROPRIATELY IDENTIFIED BY A LETTERED DESIGNATION.

14. PIPE SLEEVES: PROVIDE WHERE PIPING PASSES THROUGH WALLS, FLOORS, ROOFS, AND PARTITIONS. SECURE SLEEVES IN POSITION AND LOCATION DURING CONSTRUCTION. PROVIDE SLEEVES OF SUFFICIENT LENGTH TO PASS THROUGH ENTIRE THICKNESS OF WALLS, FLOORS, ROOFS, AND PARTITIONS. PROVIDE CLEARANCE BETWEEN EXTERIOR OF PIPING AND INTERIOR OF SLEEVE IN ACCORDANCE WITH NFPA 13. FIRMLY PACK SPACE WITH AN APPROVED U.L. LISTED FIRE STOPPING MATERIAL.

14.1 SLEEVES IN MASONRY AND CONCRETE WALLS, FLOORS, AND ROOFS: PROVIDE ASTM A 53 OR ASTM A 120, HOT–DIP GALVANIZED STEEL PIPE SLEEVES. EXTEND SLEEVES 3 INCHES ABOVE THE FINISHED FLOOR.

14.2 SLEEVES IN PARTITIONS AND OTHER THAN MASONRY AND CONCRETE WALLS, FLOORS, AND ROOFS: PROVIDE HOT–DIP GALVANIZED STEEL SHEET HAVING A NOMINAL WEIGHT OF NOT LESS THAN 0.90 PSF.

15. ESCUTCHEON PLATES: PROVIDE ONE PIECE OR SPLIT HINGE TYPE METAL PLATES FOR PIPING PASSING THROUGH FLOORS, WALLS, AND CEILINGS IN EXPOSED SPACES. PROVIDE POLISHED STAINLESS STEEL PLATES OR CHROMIUM–PLATED FINISH ON COPPER ALLOY PLATES IN FINISHED SPACES. PROVIDE PAINT FINISH ON PLATES IN UNFINISHED SPACES. SECURE PLATES IN PROPER POSITION.

PART 3 – EXECUTION

1. INSTALLATION: EQUIPMENT, MATERIALS, INSTALLATION, WORKMANSHIP, EXAMINATION, INSPECTION, AND TESTING SHALL BE IN ACCORDANCE WITH NFPA 13, EXCEPT AS MODIFIED HEREIN. INSTALL PIPING STRAIGHT AND TRUE TO BEAR EVENLY ON HANGERS AND SUPPORTS. KEEP THE INTERIOR AND ENDS OF NEW PIPING AND EXISTING PIPING AFFECTED BY CONTRACTOR'S OPERATIONS THOROUGHLY CLEANED OF WATER AND FOREIGN MATTER. KEEP PIPING SYSTEMS CLEAN DURING INSTALLATION BY MEANS OF PLUGS OR OTHER APPROVED METHODS. WHEN WORK IS NOT IN PROGRESS, SECURELY CLOSE OPEN ENDS OF PIPING TO PREVENT ENTRY OF WATER AND FOREIGN MATTER. INSPECT PIPING BEFORE PLACING INTO POSITION.

2. DISINFECTION: DISINFECT THE NEW WATER PIPING AND EXISTING WATER PIPING AFFECTED BY CONTRACTOR'S OPERATIONS IN ACCORDANCE WITH AWWA C601. FILL PIPING SYSTEMS WITH SOLUTION CONTAINING MINIMUM OF 50 PARTS PER MILLION OF AVAILABLE CHLORINE AND ALLOW SOLUTION TO STAND FOR MINIMUM OF 24 HOURS. FLUSH SOLUTION FROM THE SYSTEMS WITH CLEAN WATER UNTIL MAXIMUM RESIDUAL CHLORINE CONTENT IS NOT GREATER THAN 0.2 PARTS PER MILLION. EXERCISE CAUTION WHEN MIXING CHLORINE DISINFECTION SOLUTIONS. COMPLY WITH LOCAL STATE ENVIRONMENTAL DISCHARGE REGULATIONS.

3. CONNECTIONS TO EXISTING WATER SUPPLY SYSTEMS: USE TAPPING OR DRILLING MACHINE VALVE AND MECHANICAL JOINT TYPE SLEEVES FOR CONNECTIONS TO BE MADE UNDER PRESSURE. BOLT SLEEVES AROUND THE MAIN PIPING; BOLT VALVE CONFORMING TO AWWA C500 OR UL 262 TO THE BRANCH CONNECTION. OPEN VALVE, ATTACH DRILLING MACHINE, MAKE TAP, CLOSE VALVE, AND REMOVE DRILLING MACHINE, ALL WITHOUT INTERRUPTION OF SERVICE. NOTIFY THE PROJECT OFFICER IN WRITING AT LEAST 15 DAYS PRIOR TO CONNECTION DATE; RECEIVE APPROVAL BEFORE ANY SERVICE IS INTERRUPTED. FURNISH MATERIALS REQUIRED TO MAKE CONNECTIONS INTO EXISTING WATER SUPPLY SYSTEMS, AND PERFORM ALL EXCAVATING, BACKFILLING, AND OTHER INCIDENTAL LABOR AS REQUIRED. FURNISH THE LABOR AND THE TAPPING OR DRILLING MACHINE FOR MAKING THE ACTUAL CONNECTIONS TO EXISTING SYSTEMS.

4. FIELD PAINTING: CLEAN, PRETREAT, PRIME, AND PAINT NEW FIRE EXTINGUISHING SPRINKLER SYSTEMS INCLUDING VALVES, PIPING, CONDUIT, HANGERS, SUPPORTS, MISCELLANEOUS METALWORK, AND ACCESSORIES. APPLY COATINGS TO CLEAN, DRY SURFACES, USING CLEAN BRUSHES. CLEAN THE SURFACES TO REMOVE DUST, DIRT, RUST, AND LOOSE MILL SCALE. IMMEDIATELY AFTER CLEANING, PROVIDE THE METAL SURFACES WITH ONE COAT OF PRETREATMENT PRIMER APPLIED TO A MINIMUM DRY FILM THICKNESS OF 0.3 MIL, AND ONE COAT OF PRIMER APPLIED TO A MINIMUM DRY FILM THICKNESS OF 1.0 MIL. SHIELD SPRINKLER HEADS WITH PROTECTIVE COVERING WHILE PAINTING IS IN PROCESS. UPON COMPLETION OF PAINTING, REMOVE PROTECTIVE COVERING FROM SPRINKLER HEADS. REMOVE SPRINKLER HEADS WHICH HAVE BEEN PAINTED AND REPLACE WITH NEW SPRINKLER HEADS. PROVIDE PRIMED SURFACES WITH THE FOLLOWING:

4.1 SYSTEMS IN UNFINISHED AREAS: UNFINISHED AREAS ARE DEFINED AS ATTIC SPACES, SPACES ABOVE SUSPENDED CEILINGS, CRAWL SPACES, PIPE CHASES, AND SPACES WHERE WALLS OR CEILING ARE NOT PAINTED OR NOT CONSTRUCTED OF A PRE–FINISHED MATERIAL. SUCH AS IN MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS. PROVIDE PRIMED SURFACES WITH ONE COAT OF RED ENAMEL APPLIED TO A MINIMUM DRY FILM THICKNESS OF 1.0 MIL. PROVIDE PIPING WITH 4–INCH WIDE RED ENAMEL BANDS OR SELF–ADHERING RED PLASTIC BANDS SPACED AT MAXIMUM OF 20–FOOT INTERVALS.

4.2 SYSTEMS IN OTHER AREAS: PROVIDE PRIMED SURFACES WITH TWO COATS OF PAINT TO MATCH ADJACENT SURFACES, EXCEPT PROVIDE VALVES AND OPERATING ACCESSORIES WITH ONE COAT OF RED ENAMEL APPLIED TO A MINIMUM DRY FILM THICKNESS OF 1.0 MIL. PROVIDE PIPING WITH 4–INCH WIDE RED ENAMEL BANDS OR SELF–ADHERING RED PLASTIC BANDS SPACED AT MAXIMUM OF 20–FOOT INTERVALS.

4.3 ALLOWABLE BID ALTERNATE– HOT DIPPED GALVANIZED PIPING, CONDUIT, HANGERS, SUPPORTS, MISCELLANEOUS METALWORK, AND ACCESSORIES.

5. FIELD TESTING AND FLUSHING:

5.1 PRELIMINARY TESTS: HYDROSTATICALLY TEST EACH SYSTEM AT 200 PSIG FOR A 2–HOUR PERIOD WITH NO LEAKAGE OR REDUCTION IN GAUGE PRESSURE. FLUSH PIPING WITH POTABLE WATER IN ACCORDANCE WITH NFPA 13. PIPING ABOVE SUSPENDED CEILINGS SHALL BE INSPECTED, TESTED, AND APPROVED BEFORE INSTALLATION OF CEILINGS. TEST THE ALARMS AND OTHER DEVICES. TEST THE WATER FLOW ALARMS BY FLOWING WATER THROUGH THE INSPECTOR'S TEST CONNECTION. WHEN TESTS ARE COMPLETED AND CORRECTIONS MADE, SUBMIT A SIGNED AND DATED CERTIFICATE, SIMILAR TO THAT SPECIFIED IN NFPA 13, WITH A REQUEST FOR FORMAL INSPECTION AND TESTS.

5.2 FORMAL INSPECTION AND TESTS: THE ENGINEER WILL WITNESS FORMAL TESTS AND APPROVE ALL SYSTEMS BEFORE ACCEPTANCE. SUBMIT THE REQUEST FOR FORMAL INSPECTION AT LEAST 15 DAYS PRIOR TO INSPECTION DATE. AN EXPERIENCED TECHNICIAN REGULARLY EMPLOYED BY THE SYSTEM INSTALLER SHALL BE PRESENT DURING THE INSPECTION. DURING THE INSPECTION, REPEAT ANY OR ALL OF THE REQUIRED TESTS AS DIRECTED. CORRECT DEFECTS IN WORK PROVIDED BY THE CONTRACTOR, AND MAKE ADDITIONAL TESTS UNTIL THE SYSTEMS COMPLY WITH ALL CONTRACT REQUIREMENTS AND LOCAL CODES. FURNISH APPLIANCES, EQUIPMENT, INSTRUMENTS, CONNECTING DEVICES, AND PERSONNEL FOR THE TESTS.

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	MAD	JDG

Cowles, Murphy, Glover & ASSOCIATES
A Full Service Engineering Firm
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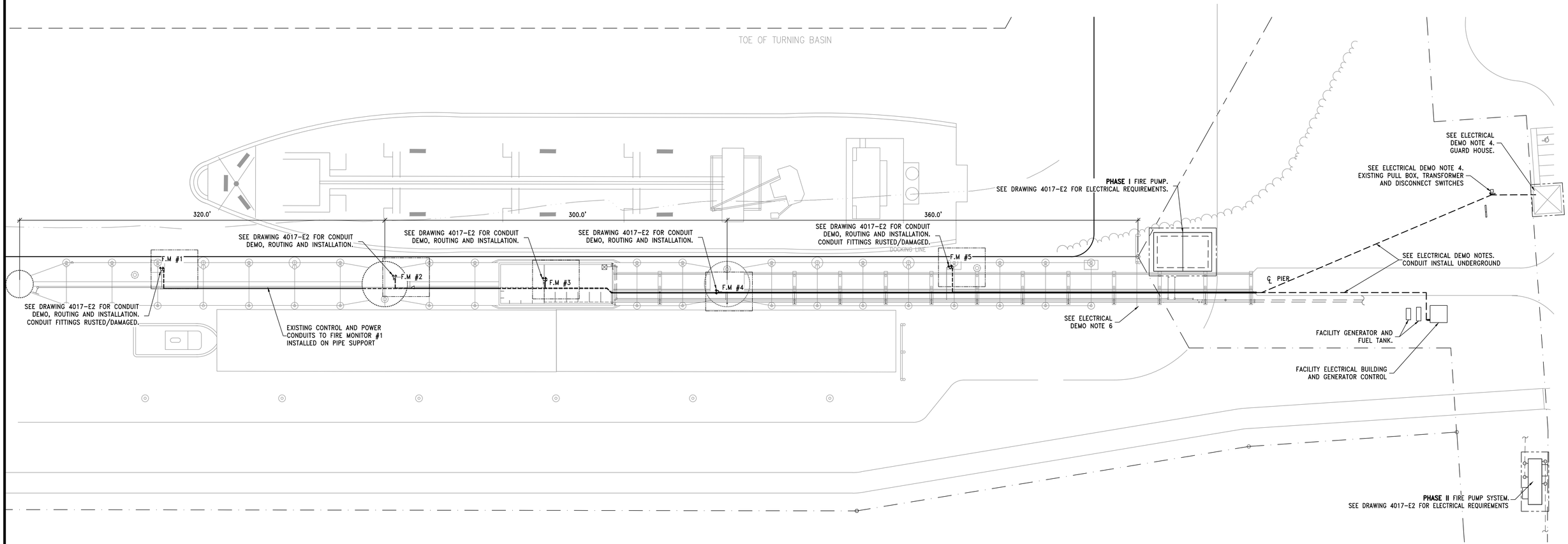
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
SPRINKLER SPECIFICATIONS

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	MAD	01/05/22	____ OF ____ (24x36)	A
JOB NO. 4017–22	CHECKED BY JDG	DATE 01/05/22	DRAWING NUMBER 4017–GA11	



DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.0 (1998)

ELECTRICAL DEMOLITION PLAN

1"=40'

ELECTRICAL DEMO NOTES:

1. ALL ELECTRICAL WORK SHALL BE INSTALLED AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY. (DEFINITION "CODE" – STATE, CITY AND/OR LOCAL CODE REQUIREMENTS)

2. CONTRACTOR SHALL INSTALL ALL GROUNDING AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY.

3. CONTRACTOR SHALL (PRIOR TO BID)
   (a) VISIT THE JOB/CONSTRUCTION SITE AND FIELD VERIFY ALL EXISTING CONDITIONS
   (b) TAKE ALL CONSIDERATIONS INTO ACCOUNT AT THE TIME OF BID. NO CONSIDERATIONS WILL BE GRANTED TO THE CONTRACTOR AFTER THE BID HAS BEEN ACCEPTED.

4. CONTRACTOR SHALL VERIFY LOCATION AND CONDUIT ROUTING FOR FIRE MONITORING EXISTING CONTROL CONDUCTORS AND POWER CONDUCTORS. CONTRACTOR SHALL IDENTIFY THE EXISTING CONDUIT ROUTING FOR RE-USE. CONTRACTOR SHALL REUSE THE MAIN CONTROL CONDUITS TO FIRE MONITOR #1 AND #2 CONTROL ENCLOSURE FROM THE CABLE TROUGH NEAR THE GUARD HOUSE. SEE DRAWING 4017-E2 FOR INSTALLATION NOTES.

5. CONTRACTOR SHALL INSPECT ALL CONDUIT FITTINGS AND REPLACE IF RUSTED AND/OR DAMAGED. CONDUIT FILLINGS THAT CANNOT BE USED AS DESIGNED SHALL BE REPLACED.

6. CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTING CIRCUIT BREAKER SIZE, POWER CONDUCTOR SIZE AND CONDUIT ROUTING. CONTRACTOR SHALL PROVIDE OWNER AND ENGINEER WITH A CONDUIT LOCATION PLAN WITH THE CONDUIT SIZE AND ROUTING, CONDUCTOR SIZE AND CIRCUIT BREAKER LOCATION WITH TRIP SIZE. EXISTING CIRCUIT BREAKER, CONDUIT AND CONDUCTORS SHALL BE REUSED AS MUCH AS PRACTICAL. SEE DRAWING 4017-E2 FOR NEW CONTROL AND POWER INTERFACE.

6. CONTRACTOR SHALL INSPECT THE EXISTING CABLE TRAY THAT IS ROUTED TO THE TANK FARM MCC BUILDING, EXISTING CONDUIT BANK TO THE 'MTF' CONTROL ROOM AND REPORT ANY DAMAGE THAT WILL NEED TO BE REPAIRED PRIOR TO INSTALL NEW FIBER OPTIC CABLE TO THE 'MTF' CONTROL ROOM.

7. SEE DRAWING 4017-E2 FOR NEW ELECTRICAL SITE WITH CONDUIT ROUTING REQUIREMENTS.

8. SEE DRAWING 4017-E3 FOR "MTF" CONTROL ROOM FIBER OPTIC ROUTING AND REQUIREMENTS.

9. CONTRACTOR SHALL COORDINATE THE MODIFICATION OF EACH FIRE MONITOR STATION WITH THE CLIENTS SHIPPING SCHEDULE. ALL FIRE MONITORS SHALL BE ACTIVE WHEN A SHIP IS DOCKSIDE. CONTRACTOR SHALL ENSURE MODIFIED FIRE MONITOR STATIONS ARE TESTED AND LISTED FOR SERVICE 1-DAY (24 HOURS) PRIOR TO SHIP ARRIVAL.

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	RCC	JJM

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Alabama (251) 433-1611
Georgia (706) 302-2831 Tennessee (901) 290-5444

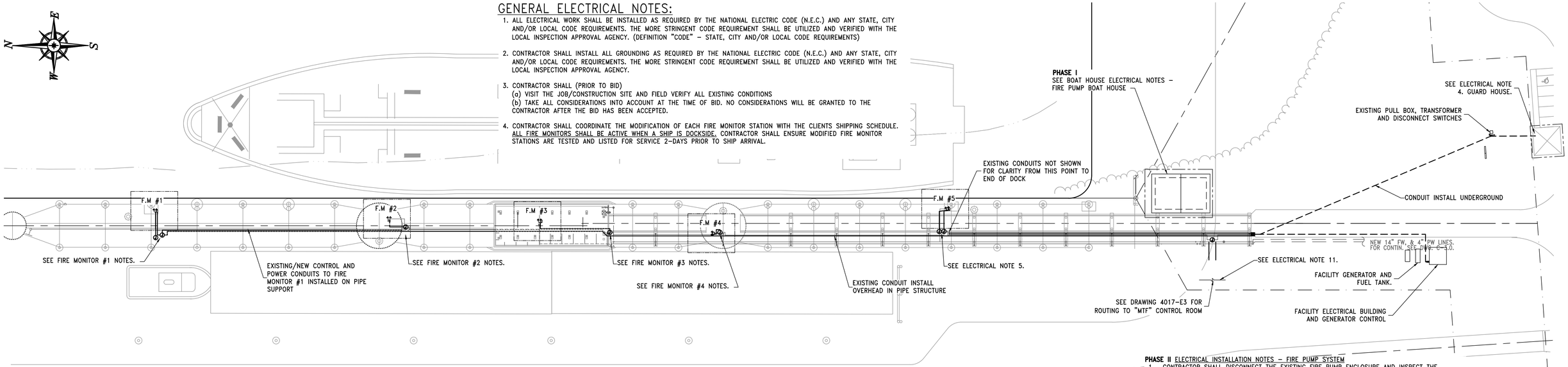
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
ELECTRICAL DEMOLITION PLAN

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	RCC	01/05/22	1 OF ____ (24x36)	A
JOB NO. 4017-22	CHECKED BY JJM	DATE 01/05/22	DRAWING NUMBER 4017-E1	

GENERAL ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE INSTALLED AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY. (DEFINITION "CODE" – STATE, CITY AND/OR LOCAL CODE REQUIREMENTS)
2. CONTRACTOR SHALL INSTALL ALL GROUNDING AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY.
3. CONTRACTOR SHALL (PRIOR TO BID)
   (a) VISIT THE JOB/CONSTRUCTION SITE AND FIELD VERIFY ALL EXISTING CONDITIONS
   (b) TAKE ALL CONSIDERATIONS INTO ACCOUNT AT THE TIME OF BID. NO CONSIDERATIONS WILL BE GRANTED TO THE CONTRACTOR AFTER THE BID HAS BEEN ACCEPTED.
4. CONTRACTOR SHALL COORDINATE THE MODIFICATION OF EACH FIRE MONITOR STATION WITH THE CLIENTS SHIPPING SCHEDULE. ALL FIRE MONITORS SHALL BE ACTIVE WHEN A SHIP IS DOCKSIDE. CONTRACTOR SHALL ENSURE MODIFIED FIRE MONITOR STATIONS ARE TESTED AND LISTED FOR SERVICE 2-DAYS PRIOR TO SHIP ARRIVAL.



DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.0 (1998)

NEW ELECTRICAL PLAN

1"=40'

PHASE II ELECTRICAL INSTALLATION NOTES – FIRE PUMP SYSTEM

1. CONTRACTOR SHALL DISCONNECT THE EXISTING FIRE PUMP ENCLOSURE AND INSPECT THE EXISTING CONDUIT/CONDUCTORS AND PULL BACK AND STORE/PROTECT FOR RE-INSTALLATION.
2. AFTER CONDUIT/CONDUCTOR INSPECTION, IF THE EXISTING CONDUIT/CONDUCTORS ARE NOT LONG ENOUGH TO REACH NEW ELECTRICAL PANEL, CONTRACTOR SHALL FURNISH AND INSTALL PULL BOX AND ADDITIONAL CONDUIT/CONDUCTORS TO TERMINATE TO NEW ELECTRICAL PANEL.
3. CONTRACTOR SHALL INSPECT ALL CONDUIT FITTINGS AND REPLACE ANY DAMAGED/RUSTED FITTINGS WITH NEW.
4. CONTRACTOR, AFTER NEW FIRE PUMP ENCLOSURE HAS BEEN INSTALLED, CONTRACTOR SHALL RECONNECT EXISTING CONDUIT/CONDUCTORS TO NEW ELECTRICAL PANEL AND PERFORM AN OPERATIONAL TEST.

FIRE MONITOR #1 NOTES:

1. CONTRACTOR SHALL USE THE EXISTING CONTROL CONDUIT FROM GUARD HOUSE SERVING FIRE MONITOR #1 FOR FIBER OPTIC CONTROL CABLE TO FIRE MONITOR #1 CONTROL ENCLOSURE.
2. CONTRACTOR SHALL INSTALL NEW 6"x6"x4" DEEP PULL BOX IN CONDUIT SERVING FIRE MONITOR #1 FOR INTERFACE WITH FIRE MONITOR #2 AND INTERFACE WITH FIRE MONITOR #1.
3. CONTRACTOR SHALL FURNISH AND INSTALL NEW CONDUIT FROM THE NEW FIRE MONITOR #1 CONTROL PULL BOX TO THE NEW FIRE MONITOR #1 CONTROL ENCLOSURE. THE EXISTING CONTROL CONDUIT IS DAMAGED/RUSTED AND SHALL BE FILLED WITH NON-SHRINK GROUT AND ABANDON IN PLACE.
4. CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE FROM THE GUARD HOUSE FIRE MONITOR CONTROL STATION TO THE NEW FIRE MONITOR #1 CONTROL ENCLOSURE.
5. CONTRACTOR SHALL FURNISH AND INSTALL PULL STRING FROM FIRE MONITOR #1 CONTROL ENCLOSURE WITH THE FIBER OPTIC CABLE TO THE NEW FIRE MONITOR #1 PULL BOX AND COIL UP FOR FUTURE FIBER OPTIC CABLE INSTALLATION TO FIRE MONITOR #2 CONTROL ENCLOSURE.
6. CONTRACTOR SHALL USE THE EXISTING 120V POWER CONDUIT FROM ELECTRICAL BUILDING SERVING FIRE MONITOR #1 FOR 120V POWER INTERFACE TO FIRE MONITOR #1 CONTROL ENCLOSURE.
7. CONTRACTOR SHALL INSTALL NEW 4"x4"x4" DEEP PULL BOX IN 120V POWER CONDUIT SERVING FIRE MONITOR #1 AND INSTALL NEW CONDUIT FROM THE NEW 120V POWER PULL BOX TO THE NEW FIRE MONITOR #1 CONTROL ENCLOSURE.. THE EXISTING 120V POWER CONDUIT IS DAMAGED/RUSTED AND SHALL BE FILLED WITH NON-SHRINK GROUT AND ABANDON IN PLACE.
8. CONTRACTOR SHALL ROUTE THE EXISTING 120V POWER CONDUCTORS THROUGH THE NEW PULL BOX AND CONDUIT TO THE NEW FIRE MONITOR #1 CONTROL ENCLOSURE.
9. CONTRACTOR SHALL TERMINATE THE 120V POWER AND FIBER OPTIC CABLE AS DIRECTED BY THE MANUFACTURER IN THE FIRE MONITOR #1 CONTROL ENCLOSURE. CONTRACTOR SHALL TERMINATE THE FIBER OPTIC CABLE AT THE GUARD HOUSE CONTROL STATION AND VERIFY THE 120V CONTINUITY.
10. CONTRACTOR SHALL TEST FIRE MONITOR #1 AFTER THE TERMINATION OF THE FIBER OPTIC CABLE AND 120V POWER IN THE FIRE MONITOR CONTROL ENCLOSURE AND GUARD HOUSE STATION PRIOR TO WORKING ON FIRE MONITOR #2.
11. ALL PULL BOXES AND CONDUIT INSTALLATION SHALL MEET THE REQUIREMENTS OF THE DOCK CLASSIFICATION, CLASS 1 DIV 2.

FIRE MONITOR #2 NOTES:

1. CONTRACTOR SHALL LOCATE THE EXISTING CONDUIT FROM THE GUARD HOUSE TO FIRE MONITOR #2 AND INSTALL NEW 6"x6"x4" DEEP PULL BOX IN CONDUIT SERVING FIRE MONITOR #2 AND RECONNECT CONDUIT TO FIRE MONITOR #2 CONTROL ENCLOSURE.
2. CONTRACTOR SHALL FURNISH AND INSTALL NEW CONDUIT FROM THE NEW FIRE MONITOR #1 CONTROL PULL BOX TO THE NEW FIRE MONITOR #2 CONTROL PULL BOX.
3. CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE FROM THE FIRE MONITOR #1 CONTROL ENCLOSURE TO THE NEW FIRE MONITOR #2 CONTROL ENCLOSURE.
4. CONTRACTOR SHALL FURNISH AND INSTALL PULL STRING FROM FIRE MONITOR #2 CONTROL ENCLOSURE WITH THE FIBER OPTIC CABLE TO THE NEW FIRE MONITOR #2 PULL BOX AND COIL UP FOR FUTURE FIBER OPTIC CABLE INSTALLATION TO FIRE MONITOR #3 CONTROL ENCLOSURE.
5. CONTRACTOR SHALL REUSE THE EXISTING 120V POWER CONDUIT AND CONDUCTORS FROM ELECTRICAL BUILDING SERVING FIRE MONITOR #2.
6. CONTRACTOR SHALL TERMINATE THE 120V POWER AND FIBER OPTIC CABLE AS DIRECTED BY THE MANUFACTURER IN THE FIRE MONITOR #2 CONTROL ENCLOSURE. CONTRACTOR SHALL VERIFY THE 120V CONTINUITY TO FIRE MONITOR #2.
7. CONTRACTOR SHALL TEST FIRE MONITOR #2 AFTER THE TERMINATION OF THE FIBER OPTIC CABLE AND 120V POWER IN THE FIRE MONITOR #2 CONTROL ENCLOSURE AND SYSTEM CONFIGURATION IN THE GUARD HOUSE STATION FOR FIRE MONITOR #2 PRIOR TO WORKING ON FIRE MONITOR #3.
8. ALL PULL BOXES AND CONDUIT INSTALLATION SHALL MEET THE REQUIREMENTS OF THE DOCK CLASSIFICATION, CLASS 1 DIV 2.

FIRE MONITOR #3 NOTES:

1. CONTRACTOR SHALL LOCATE THE EXISTING CONDUIT FROM THE GUARD HOUSE TO FIRE MONITOR #2 AND INSTALL NEW 6"x6"x4" DEEP PULL BOX IN CONDUIT SERVING FIRE MONITOR #2 AND RECONNECT CONDUIT TO FIRE MONITOR #3 CONTROL ENCLOSURE.
2. CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE FROM THE FIRE MONITOR #2 CONTROL ENCLOSURE TO THE NEW FIRE MONITOR #3 CONTROL ENCLOSURE.
3. CONTRACTOR SHALL FURNISH AND INSTALL PULL STRING FROM FIRE MONITOR #3 CONTROL ENCLOSURE WITH THE FIBER OPTIC CABLE TO THE NEW FIRE MONITOR #2 PULL BOX AND COIL UP FOR FUTURE FIBER OPTIC CABLE INSTALLATION TO FIRE MONITOR #4 CONTROL ENCLOSURE.
4. CONTRACTOR SHALL REUSE THE EXISTING 120V POWER CONDUIT AND CONDUCTORS FROM ELECTRICAL BUILDING SERVING FIRE MONITOR #3.
5. CONTRACTOR SHALL TERMINATE THE 120V POWER AND FIBER OPTIC CABLE AS DIRECTED BY THE MANUFACTURER IN THE FIRE MONITOR #3 CONTROL ENCLOSURE. CONTRACTOR SHALL VERIFY THE 120V CONTINUITY TO FIRE MONITOR #3.
6. CONTRACTOR SHALL TEST FIRE MONITOR #3 AFTER THE TERMINATION OF THE FIBER OPTIC CABLE AND 120V POWER IN THE FIRE MONITOR #3 CONTROL ENCLOSURE AND SYSTEM CONFIGURATION IN THE GUARD HOUSE STATION FOR FIRE MONITOR #3 PRIOR TO WORKING ON FIRE MONITOR #4.
7. ALL PULL BOXES AND CONDUIT INSTALLATION SHALL MEET THE REQUIREMENTS OF THE DOCK CLASSIFICATION, CLASS 1 DIV 2.

FIRE MONITOR #4 NOTES:

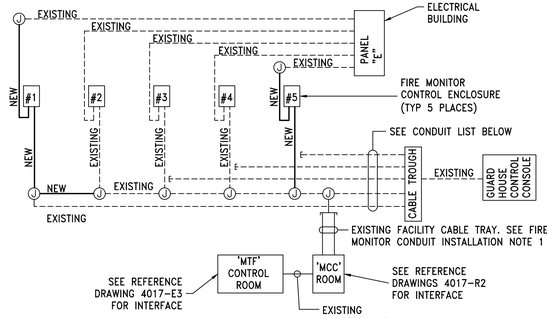
1. CONTRACTOR SHALL LOCATE THE EXISTING CONDUIT FROM THE GUARD HOUSE TO FIRE MONITOR #2 AND INSTALL NEW 6"x6"x4" DEEP PULL BOX IN CONDUIT SERVING FIRE MONITOR #2 AND RECONNECT CONDUIT TO FIRE MONITOR #4 CONTROL ENCLOSURE.
2. CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE FROM THE FIRE MONITOR #3 CONTROL ENCLOSURE TO THE NEW FIRE MONITOR #4 CONTROL ENCLOSURE.
3. CONTRACTOR SHALL FURNISH AND INSTALL PULL STRING FROM FIRE MONITOR #4 CONTROL ENCLOSURE WITH THE FIBER OPTIC CABLE TO THE NEW FIRE MONITOR #2 PULL BOX AND COIL UP FOR FUTURE FIBER OPTIC CABLE INSTALLATION TO FIRE MONITOR #5 CONTROL ENCLOSURE.
4. CONTRACTOR SHALL REUSE THE EXISTING 120V POWER CONDUIT AND CONDUCTORS FROM ELECTRICAL BUILDING SERVING FIRE MONITOR #4.
5. CONTRACTOR SHALL TERMINATE THE 120V POWER AND FIBER OPTIC CABLE AS DIRECTED BY THE MANUFACTURER IN THE FIRE MONITOR #4 CONTROL ENCLOSURE. CONTRACTOR SHALL VERIFY THE 120V CONTINUITY TO FIRE MONITOR #4.
6. CONTRACTOR SHALL TEST FIRE MONITOR #4 AFTER THE TERMINATION OF THE FIBER OPTIC CABLE AND 120V POWER IN THE FIRE MONITOR #4 CONTROL ENCLOSURE AND SYSTEM CONFIGURATION IN THE GUARD HOUSE STATION FOR FIRE MONITOR #4 PRIOR TO WORKING ON FIRE MONITOR #5.
7. ALL PULL BOXES AND CONDUIT INSTALLATION SHALL MEET THE REQUIREMENTS OF THE DOCK CLASSIFICATION, CLASS 1 DIV 2.

FIRE MONITOR #5 NOTES:

1. CONTRACTOR SHALL USE THE EXISTING CONTROL CONDUIT FROM GUARD HOUSE SERVING FIRE MONITOR #2 FOR FIBER OPTIC CONTROL CABLE TO FIRE MONITOR #5 CONTROL ENCLOSURE.
2. CONTRACTOR SHALL INSTALL NEW 6"x6"x4" DEEP PULL BOX IN CONDUIT SERVING FIRE MONITOR #5 FOR INTERFACE WITH FIRE MONITOR #5 AND INTERFACE WITH THE FIBER LOOP TO THE 'MTF' BUILDING.
3. CONTRACTOR SHALL FURNISH AND INSTALL NEW CONDUIT FROM THE NEW FIRE MONITOR #5 CONTROL PULL BOX TO THE NEW FIRE MONITOR #5 CONTROL ENCLOSURE. THE EXISTING CONTROL CONDUIT IS DAMAGED/RUSTED AND SHALL BE FILLED WITH NON-SHRINK GROUT AND ABANDON IN PLACE.
4. CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE FROM THE FIRE MONITOR #4 CONTROL ENCLOSURE TO THE NEW FIRE MONITOR #5 CONTROL ENCLOSURE.
5. CONTRACTOR SHALL FURNISH AND INSTALL PULL STRING FROM FIRE MONITOR #5 CONTROL ENCLOSURE WITH THE FIBER OPTIC CABLE TO THE NEW FIRE MONITOR #5 PULL BOX AND COIL UP FOR FUTURE FIBER OPTIC CABLE INSTALLATION TO THE 'MTF' BUILDING.
6. CONTRACTOR SHALL USE THE EXISTING 120V POWER CONDUIT FROM ELECTRICAL BUILDING SERVING FIRE MONITOR #5 FOR 120V POWER INTERFACE TO FIRE MONITOR #5 CONTROL ENCLOSURE.
7. CONTRACTOR SHALL INSTALL NEW 4"x4"x4" DEEP PULL BOX IN 120V POWER CONDUIT SERVING FIRE MONITOR #5 AND INSTALL NEW CONDUIT FROM THE NEW 120V POWER PULL BOX TO THE NEW FIRE MONITOR #5 CONTROL ENCLOSURE.. THE EXISTING 120V POWER CONDUIT IS DAMAGED/RUSTED AND SHALL BE FILLED WITH NON-SHRINK GROUT AND ABANDON IN PLACE.
8. CONTRACTOR SHALL ROUTE THE EXISTING 120V POWER CONDUCTORS THROUGH THE NEW PULL BOX AND CONDUIT TO THE NEW FIRE MONITOR #5 CONTROL ENCLOSURE.
9. CONTRACTOR SHALL TERMINATE THE 120V POWER AND FIBER OPTIC CABLE AS DIRECTED BY THE MANUFACTURER IN THE FIRE MONITOR #5 CONTROL ENCLOSURE.
10. CONTRACTOR SHALL TEST FIRE MONITOR #5 AFTER THE TERMINATION OF THE FIBER OPTIC CABLE AND 120V POWER IN THE FIRE MONITOR CONTROL ENCLOSURE PRIOR TO WORKING ON FIBER OPTIC TO THE 'MTF' BUILDING.
11. CONTRACTOR SHALL SEE DRAWING 4017-E3 FOR FIBER OPTIC ROUTING TO THE 'MTF' BUILDING.
12. ALL PULL BOXES AND CONDUIT INSTALLATION SHALL MEET THE REQUIREMENTS OF THE DOCK CLASSIFICATION, CLASS 1 DIV 2.

BOAT HOUSE ELECTRICAL NOTES:

1. CONTRACTOR SHALL DISCONNECT THE EXISTING CONTROL PANEL AND INSPECT THE EXISTING CONDUIT/CONDUCTORS AND STORE/PROTECT FOR RE-INSTALLATION.
2. AFTER CONDUIT/CONDUCTOR INSPECTION, IF THE EXISTING CONDUIT/CONDUCTORS ARE NOT LONG ENOUGH TO REACH NEW CONTROL PANEL, CONTRACTOR SHALL FURNISH AND INSTALL PULL BOX AND ADDITIONAL CONDUIT/CONDUCTORS TO TERMINATE TO NEW CONTROL PANEL.
3. CONTRACTOR SHALL INSPECT ALL CONDUIT FITTINGS AND REPLACE ANY DAMAGED/RUSTED FITTINGS WITH NEW IN KIND.
4. CONTRACTOR, AFTER NEW CONTROL PANEL INSTALLATION, SHALL RECONNECT EXISTING CONDUIT/CONDUCTORS TO NEW CONTROL PANEL AND PERFORM AN OPERATIONAL TEST.
5. CONTRACTOR SHALL DISCONNECT EXISTING EXHAUST FAN AND DISPOSE OF AS DIRECTED BY OWNER.
6. CONTRACTOR SHALL FURNISH AND INSTALL NEW EXHAUST FAN MOTOR STARTER WITH (4)AUX N.O. CONTACTS, H/O/A AND 208V/120V, 750VA CONTROL TRANSFORMER FOR THE NEW LOUVER CONTROL VOLTAGE. CONTRACTOR SHALL INSTALL NEW 20A, 3-POLE CIRCUIT BREAKER IN THE EXISTING BOAT HOUSE PANELS 'D' AND ROUTE (1)1/2"ø CONDUIT W/(3)#10AWG & (1)#12AWG GRD FROM BOAT HOUSE PANEL 'D' TO NEW EXHAUST FAN MOTOR STARTER AND FROM MOTOR STARTER TO FAN MOTOR CONNECTION BOX.
7. CONTRACTOR SHALL FURNISH AND INSTALL (2)½"øC CONDUITS W/(3)#14AWG CONTROL CONDUCTORS FROM THE NEW EXHAUST FAN MOTOR STARTER TO THE NEW INTAKE LOUVER ACTUATOR MOTORS. CONTRACTOR SHALL USE FLEX CONDUIT FOR THE FINAL CONNECTION TO THE LOUVER ACTUATOR MOTOR CONNECTION BOX. SEE DRAWINGS 4017-GA3 AND 4017-GA5 FOR DETAILS.
8. CONTRACTOR SHALL FURNISH AND INSTALL (1)30A, 3-POLE, 208V CIRCUIT BREAKER IN THE EXISTING PANELBOARD 'D' IN THE BOAT HOUSE AND ROUTE (1)1/2"ø CONDUIT W/(3)#10AWG AND (1)#12AWG GRD TO THE NEW HEATER. SEE DRAWING 4017-GA5 FOR HEATER REQUIREMENTS.
9. CONTRACTOR SHALL FURNISH AND INSTALL (1) NEW 25A, 3-POLE, 208V CIRCUIT BREAKER IN THE EXISTING PANELBOARD 'D' LOCATED IN THE BOAT HOUSE FOR THE NEW JOCKEY PUMP. SEE DRAWING 4017-GA4 FOR JOCKEY PUMP AND JOCKEY PUMP CONTROLLER REQUIREMENTS.



FIRE MONITOR CONDUIT INSTALLATION SCHEMATIC

SCALE: N.T.S. (SEE REFERENCE DRAWING 4017-R1 FOR MANUFACTURER WIRING DIAGRAM)

FIRE MONITOR CONDUIT INSTALLATION NOTES:

1. CONTRACTOR SHALL ROUTE FIBER OPTIC FROM FIRE MONITOR #5 CONTROL ENCLOSURE TO THE FACILITY 'MTF' BUILDING AND FROM THE FACILITY 'MTF' BUILDING TO THE GUARD HOUSE.
2. SEE DRAWING 4017-E3 FOR FIBER OPTIC ROUTING THROUGH FACILITY.

CONDUIT LIST
TOP TO BOTTOM
- EXISTING CONDUIT TO FIRE MONITOR #5 – INSTALL PULL STRING TO CABLE TROUGH AND CAP
- EXISTING CONDUIT TO FIRE MONITOR #4 – INSTALL PULL STRING TO CABLE TROUGH AND CAP
- EXISTING CONDUIT TO FIRE MONITOR #3 – INSTALL PULL STRING TO CABLE TROUGH AND CAP
- EXISTING CONDUIT TO FIRE MONITOR #2 – USE FOR FIBER OPTIC TO FIRE MONITOR CONTROL ENCLOSURES, 'MTF' BUILDING AND GUARD HOUSE
- EXISTING CONDUIT TO FIRE MONITOR #1 – USE FOR FIBER OPTIC TO FIRE MONITOR CONTROL ENCLOSURE AND GUARD HOUSE

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	RCC	JJM

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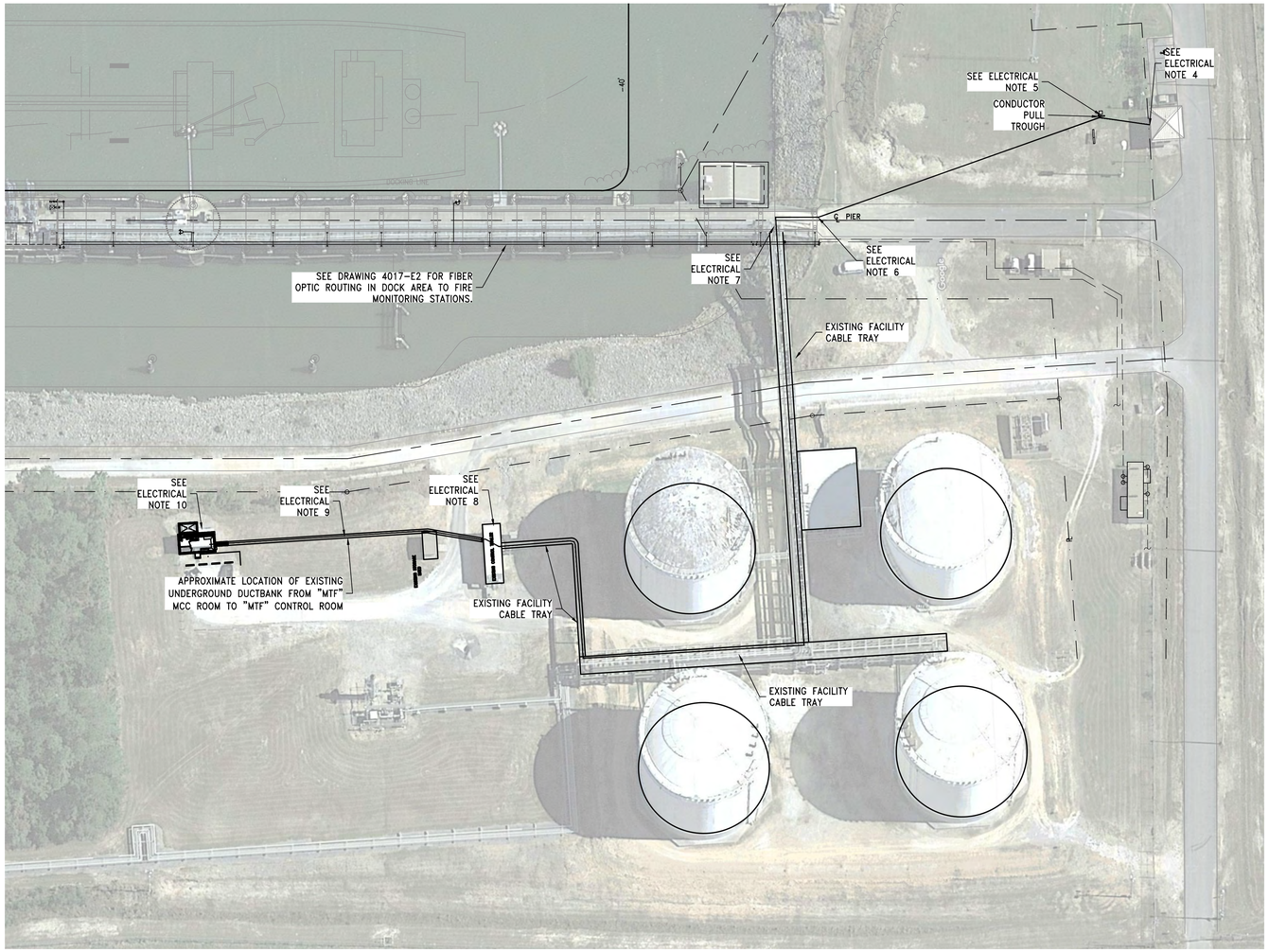
PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
NEW ELECTRICAL SITE PLAN

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	RCC	01/05/22	2 OF ____ (24x36)	A
JOB NO. 4017-22	CHECKED BY JJM	DATE 01/05/22	DRAWING NUMBER 4017-E2	



FIBER OPTIC INSTALLATION SITE PLAN
1"=50'

DATA SHOWN IS FROM ORIGINAL DESIGN DOCUMENTS
CLARK, GEER, LATHAM PROJECT NO. 9828 DRAWING M-1.0 (1998)
PROJECT DESIGN GROUP INC. DRAWING NO. C-60-H-535 (2010)

ELECTRICAL DEMO NOTES:

1. ALL ELECTRICAL WORK SHALL BE INSTALLED AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY. (DEFINITION "CODE" – STATE, CITY AND/OR LOCAL CODE REQUIREMENTS)

2. CONTRACTOR SHALL INSTALL ALL GROUNDING AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY.

3. CONTRACTOR SHALL (PRIOR TO BID)
   (a) VISIT THE JOB/CONSTRUCTION SITE AND FIELD VERIFY ALL EXISTING CONDITIONS
   (b) TAKE ALL CONSIDERATIONS INTO ACCOUNT AT THE TIME OF BID. NO CONSIDERATIONS WILL BE GRANTED TO THE CONTRACTOR AFTER THE BID HAS BEEN ACCEPTED.

4. CONTRACTOR SHALL LOCATE THE EXISTING CONDUIT ROUTED FROM THE GUARD HOUSE TO THE PULL TROUGH LOCATED NEAR THE TRANSFORMER AND DISCONNECT SWITCHES JUST NORTH OF THE GUARD HOUSE. CONTRACTOR SHALL, DURING FIRE MONITOR FIBER OPTIC INSTALLATION, INSTALL FIBER OPTIC CABLES FOR INTERFACE TO THE FIRE MONITOR CONTROL SYSTEM TO BE LOCATED IN THE 'MTF' CONTROL ROOM BUILDING.

5. CONTRACTOR SHALL LOCATE THE EXISTING CABLE TROUGH AND CONDUITS ROUTED TO THE DOCK FIRE MONITOR STATIONS. SEE DRAWING 4017-E1 FOR DEMO REQUIREMENTS AND DRAWING 4017-E2 FOR NEW INSTALLATION. PULL STRINGS SHALL BE INSTALLED IN ALL EXISTING CONDUITS THAT WILL NOT BE USED AFTER THE EXISTING CONTROL CONDUCTORS ARE REMOVED.

6. CONTRACTOR SHALL LOCATE THE EXISTING CONDUIT ROUTED TO FIRE MONITOR #1 AND MARK TO BE REUSED. SEE DRAWING 4017-E2 FOR FIBER OPTIC ROUTING REQUIREMENTS.

7. CONTRACTOR SHALL LOCATE THE EXISTING CONDUIT ROUTED TO THE FIRE MONITOR #1 AND INSTALL PULL BOX FOR INTERFACE TO THE EXISTING FACILITY CABLE TRAY. CONTRACTOR SHALL INSPECT THE EXISTING FACILITY CABLE TRAY AND VERIFY A SUITABLE LOCATION FOR INSTALLING THE NEW FIBER OPTIC CABLE TO BE ROUTED TO THE EXISTING "MTF" CONTROL ROOM VIA THE "MTF" MCC ROOM. (1)FIBER OPTIC CABLE WILL BE ROUTED TO FIRE MONITOR #1 AND CONTINUE TO THE "MTF" CONTROL ROOM AND FROM THE "MTF" CONTROL ROOM TO THE GUARD HOUSE FIRE MONITRO CONTROL STATION. SEE DRAWING 4017-E2 FOR FIBER OPTIC ROUTING REQUIREMENTS TO THE DOCK FIRE MONITOR STATIONS, "MTF" CONTROL ROOM CONTROL STATION AND GUARD HOUSE CONTROL STATION.

8. CONTRACTOR SHALL ROUTE THE NEW FIBER OPTIC THROUGH THE EXISTING FACILITY CABLE TRAY TO THE "MTF" MCC ROOM, SEE REFERENCE DRAWING 4017-R2. FIBER OPTIC SHALL BE ROUTED TO THE INTERIOR OF THE "MTF" MCC ROOM TO THE NORTH EAST UPPER CORNER AND INTERFACE WITH THE EXISTING CONDUITS FROM THE UNDERGROUND DUCTBANK ROUTED TO THE "MTF" CONTROL ROOM, SEE REFERENCE DRAWING 4017-R3.

9. CONTRACTOR SHALL INSPECT THE EXISTING UNDERGROUND DUCTBANK CONDUITS FROM THE "MTF" MCC ROOM TO THE "MTF" CONTROL ROOM AND SELECT A SUITABLE SPARE CONDUIT TO USE FOR ROUTING THE FIBER OPTIC CABLE, SEE REFERENCE DRAWING 4017-R2 & 4017-R3.

10. CONTRACTOR SHALL ROUTE THE FIBER OPTIC THROUGH THE UNDERGROUND DUCTBANK FROM THE "MTF" MCC ROOM TO THE "MTF" CONTROL ROOM AND LEAVE SLACK FOR INTERFACE TO THE NEW FIRE MONITOR CONTROL STATION TO BE LOCATED AS DIRECTED BY THE OWNER.

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	RCC	JJM

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PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
FIBER OPTIC ROUTING TO "MTF" CONTROL ROOM

SCALE	DRAWN BY	DATE	SHEET	REV.
AS NOTED	RCC	01/05/22	____ OF ____ (24x36)	A
JOB NO. 4017-22	CHECKED BY JJM	DATE 01/05/22	DRAWING NUMBER 4017-E3	

ELECTRICAL SPECIFICATIONS:

PART 1 – GENERAL SCOPE

FURNISHING OF ALL LABOR, MATERIAL, EQUIPMENT, SUPPLIES, AND SERVICES NECESSARY TO CONSTRUCT AND INSTALL THE COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. WORK SHALL INCLUDE BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING ITEMS:

- INTERIOR/EXTERIOR CIRCUIT DISTRIBUTION
- PANELBOARD MODIFICATION/TERMINATION
- EQUIPMENT INSTALLATION/TERMINATION
- RECEPTACLE INSTALLATION/TERMINATION
- NEW CONDUIT INSTALLATION
- EXISTING CONDUIT MODIFICATION
- CONDUCTOR INSTALLATION/TERMINATION
- ELECTRICAL EQUIPMENT DEMOLISHING

JOB CONDITIONS

EXISTING CONDITIONS: ALL UTILITIES, EXISTING SYSTEMS, AND CONDITIONS SHOWN ON THE PLANS AS EXISTING ARE APPROXIMATE, AND THE CONTRACTOR SHALL VERIFY BEFORE ANY WORK IS STARTED.

CODES, PERMITS AND INSPECTIONS

THE INSTALLATION SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND ORDINANCES APPLICABLE TO ELECTRICAL INSTALLATION AND WITH THE REGULATIONS OF THE LATEST ACCEPTED PUBLISHED EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C. 2017) WHERE SUCH REGULATIONS DO NOT CONFLICT WITH THOSE LAWS AND ORDINANCES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES, AND AFTER COMPLETION OF THE WORK, SHALL FURNISH THE ARCHITECT A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE APPLICABLE LOCAL INSPECTION AUTHORITIES. ANY CHARGES BY A UTILITY FOR PROVIDING SERVICE AS SHOWN SHALL BE INCLUDED IN THE BID AND PAID BY THE CONTRACTOR.

STANDARDS OF MATERIALS AND WORKMANSHIP

ALL MATERIALS SHALL BE NEW AND SHALL BE LISTED AND APPROVED BY THE UNDERWRITERS' LABORATORIES, INC., IN EVERY CASE WHERE A STANDARD HAS BEEN ESTABLISHED FOR A PARTICULAR TYPE OF MATERIAL IN QUESTION. ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT APPEARANCE.

SHOP DRAWINGS

THE CONTRACTOR SHALL SUBMIT A LIST OF ITEMS PROPOSED FOR USE. HE SHALL ALSO SUBMIT CATALOG DATA AND SHOP DRAWINGS ON PROPOSED SYSTEMS AND THEIR COMPONENTS, PANELBOARDS, SAFETY SWITCHES, LIGHTING FIXTURES, AND WIRING DEVICES. WHERE SUBSTITUTIONS ALTER THE DESIGN OR SPACE REQUIREMENTS, THE CONTRACTOR SHALL DEFRAY ALL ITEMS OF COST FOR THE REVISED DESIGN AND CONSTRUCTION INCLUDING COSTS TO ALL ALLIED TRADES INVOLVED.

TYPE OF PERMANENT ELECTRICAL SERVICE

EXISTING ELECTRICAL SERVICE SHALL BE 277/480 VOLTS,3 PHASE, 4 WIRE SERVED FROM AN EXISTING ALABAMA POWER COMPANY (APCo) UTILITY SERVICE. CONTRACTOR SHALL VERIFY ALL DETAILS OF ELECTRICAL SERVICE WITH THE APCo UTILITY PRIOR TO BID. CONTRACTOR SHALL BE RESPONSIBILITY FOR THE INSTALLATION OF THE PRIMARY (VERIFY) AND SECONDARY CONDUIT AS REQUIRED BY RIVERA ELECTRIC CO-OP UTILITY. INTERFACE WITH OTHER CONTRACTS IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COOPERATE WITH ALL OTHER CRAFTS WORKING ON THIS PROJECT. ALL CUTTING, TRENCHING, BACKFILL, AND STRUCTURAL REMOVALS TO PERMIT ENTRY OF THE ELECTRICAL SYSTEM COMPONENTS SHALL BE DONE BY THIS CONTRACTOR. ALL PATCHING AND FINISHING SHALL BE DONE BY THE GENERAL CONTRACTOR.

EQUIPMENT FURNISHED UNDER OTHER SECTIONS

THE CONTRACTOR SHALL FURNISH AND INSTALL COMPLETE ELECTRICAL ROUGHING-IN AND CONNECTION TO ALL EQUIPMENT FURNISHED UNDER OTHER SECTIONS AS INDICATED ON DRAWINGS. THE CONTRACTOR SHALL VERIFY AND INSTALL PROPER SIZE SERVICE AS REQUIRED FOR ALL ACTUAL EQUIPMENT PURCHASED. ALL SUCH EQUIPMENT SHALL BE SET IN PLACE AS WORK OF OTHER SECTIONS.

GROUNDING

PROVIDE GROUNDING AND BONDING SYSTEMS IN STRICT ACCORDANCE WITH THE LATEST ACCEPTED PUBLISHED EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C. 2017), EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE SPECIFIED HEREIN.
INTER-CONNECTION OF NEUTRAL AND GROUND IS NOT PERMITTED EXCEPT AT SERVICE ENTRANCE EQUIPMENT. INSTALL GROUNDING CONDUCTORS TO PERMIT SHORTEST AND MOST DIRECT PATH TO GROUND. CONCEALED JOINTS SHALL BE MADE BY CADWELD METHOD. WHERE GROUNDING CONDUCTORS ARE IN RACEWAY, BOND CONDUCTOR AND RACEWAY AT BOTH ENDS. GROUNDING AND BONDING FITTINGS USED SHALL BE UL LISTED AND BE COMPATIBLE WITH METALS USED IN SYSTEM. SHEET METAL TYPE STRAP ARE NOT ACCEPTABLE.
A GREEN INSULATED GROUND CONDUCTOR SHALL BE RUN IN ALL BRANCH CIRCUIT AND FEEDER CONDUIT WITH PHASE AND/OR NEUTRAL CONDUCTORS. GROUND CONDUCTOR SHALL BE SIZED PER NEC OR AS NOTED ON DRAWINGS. MINIMUM SIZE #12 AWG. CONDUIT BOX TO DEVICE STRAP OR YOKE SCREW CONNECTION IS NOT SUFFICIENT. PROVIDE AN INSULATED GROUNDING JUMPER FOR RECEPTACLE CIRCUITS.

GUARANTEE AND SERVICE

UPON COMPLETION OF ALL TESTS AND ACCEPTANCE, THE CONTRACTOR SHALL FURNISH THE OWNER OF A WRITTEN GUARANTEE COVERING THE ELECTRICAL WORK DONE FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. GUARANTEE INCLUDES EQUIPMENT CAPACITY AND PERFORMANCE RATINGS SPECIFIED WITHOUT EXCESSIVE NOISE LEVELS. UPON NOTICE FROM THE ARCHITECT OR THE OWNER, THE CONTRACTOR SHALL, DURING THE GUARANTEE PERIOD, RECTIFY AND REPLACE ANY DEFECTIVE MATERIAL OR WORKMANSHIP AND REPAIR ANY DAMAGE CAUSED THEREBY WITHOUT ADDITIONAL COST.

PART 2 – PRODUCTS

GENERAL

ALL EQUIPMENT AND MATERIALS SHALL HAVE RATINGS ESTABLISHED BY THE RECOGNIZED INDEPENDENT AGENCY OR LABORATORY. THE CONTRACTOR SHALL APPLY THE ITEMS USED ON THE PROJECT WITHIN THE RATINGS AND SUBJECT TO ANY STIPULATIONS OR EXCEPTIONS ESTABLISHED BY THE INDEPENDENT AGENCY OR LABORATORY. USE OF EQUIPMENT OR MATERIALS IN APPLICATIONS BEYOND THAT CERTIFIED BY THE AGENCY OR BEYOND THAT RECOMMENDED BY THE MANUFACTURER SHALL BE CAUSE FOR REMOVAL AND REPLACEMENT OF SUCH MISAPPLIED ITEMS.

RACEWAY AND FITTINGS
CONDUIT SYSTEMS: ACCEPTABLE TYPES OF CONDUIT:

HOT DIPPED GALVANIZED RIGID STEEL (GRS)	(1/2" MIN. TRADE SIZE)
ELECTRICAL METALLIC TUBING (EMT)	(1/2" MIN. TRADE SIZE)
POLYVINYL CHLORIDE – SCHEDULE 40 (PVC 40)	(1/2" MIN. TRADE SIZE)
FLEXIBLE METALLIC CONDUIT (FLEX)	(1/2" MIN. TRADE SIZE)
LIQUID TIGHT FLEXIBLE METALLIC CONDUIT (LQFLEX)	(1/2" MIN. TRADE SIZE)
MC METAL CLAD CABLE (MC)	(#12AWG MIN TRADE SIZE)

EMT OR GRS SHALL BE THE MAIN HOME RUN RACEWAY FOR ELECTRICAL CIRCUITS FROM PANELBOARDS TO ELECTRICAL DEVICES AND/OR JUNCTION BOX. MC CABLE CAN BE USED AS A SECONDARY INTERIOR CIRCUIT RACEWAY FROM THE MAIN HOME RUN JUNCTION BOX TO RECEPTACLES AND/OR LIGHT FIXTURE. CONDUITS INSTALLED IN EARTH FILL, IN CONCRETE, OR IN SOLID MASONRY STRUCTURES SHALL BE PVC 40. WHERE PVC 40 IS USED, THE 90° ELBOWS RISING ABOVE GRADE OR EXTENDING THROUGH THE CONCRETE ENVELOPE SHALL BE GRS. CONDUITS INSTALLED IN MOIST AND/OR DAMP LOCATIONS SHALL BE PVC 40. CONDUITS SUBJECT TO MECHANICAL INJURY SHALL BE GRS. CONDUITS RUN CONCEALED IN THE HOLLOW SPACE OF NON-MASONRY WALL OR ABOVE SUSPENDED CEILINGS SHALL BE EMT. IN ALL CASES, CONDUITS/MC SHALL BE RUN AT RIGHT ANGLES TO OR PARALLEL WITH BUILDING LINES AND EXPOSED STRUCTURE. IN ALL CASES, CONDUIT/MC RUNS SHALL BE GROUPED TOGETHER WHERE POSSIBLE AND SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE, NOT FOR ANY SUSPENDED CEILING SUPPORT SYSTEM.

CONDUCTORS: ALL CONDUCTORS SHALL BE INSTALLED IN CONDUIT/MC. CONDUCTORS FOR BUILDING WIRING SHALL HAVE THHN/THWN, 600 VOLT INSULATION AND SHALL BE SOFT-DRAWN COPPER OF STANDARD AMERICAN WIRE GAUGE (AWG) SIZE. MINIMUM SIZE SHALL BE NO. 12. ALL WIRE NO. 8 AND LARGER SHALL BE STRANDED. ALL BRANCH CIRCUITS NO. 10 AND SMALLER SHALL BE WIRED WITH COLOR-CODED WIRE WITH THE SAME COLOR USED FOR A SYSTEM THROUGHOUT THE BUILDING. POWER FEEDERS AND BRANCH CIRCUITS LARGER THAN NO. 10 SHALL EITHER BE FULLY COLOR CODED OR SHALL HAVE BLACK INSULATION AND BE SIMILARLY COLOR CODED WITH TAPE OR PAINT IN ALL JUNCTION BOXES AND PANELS. TAPE OR PAINT SHALL COMPLETELY COVER THE FULL VISIBLE LENGTH OF CONDUCTOR INSULATION WITHIN THE BOX OR PANEL. COLOR CODING OF ALL CONDUCTORS SHALL BE AS FOLLOWS:

GROUNDING:	BARE, GREEN OR GREEN W/YELLOW STRIP
120/208V 3ø CONDUCTORS:	øA-BLACK, øB-RED, øC-BLUE
277/480V 3ø CONDUCTORS:	øA-BROWN, øB-ORANGE, øC-YELLOW
120/208V NEUTRAL:	WHITE
277/480V NEUTRAL:	GRAY

PART 3 – EXECUTION

PAINTING
CONTRACTOR SHALL TOUCH-UP OR REFINISH ALL ITEMS OF ELECTRICAL EQUIPMENT FURNISHED WITH A FACTORY FINISH COAT OF PAINT AND WHICH MAY HAVE BEEN DAMAGED REGARDLESS OF CAUSE.

TESTING AND BALANCING
BALANCE ALL SINGLE PHASE LOADS CONNECTED TO ALL PANELBOARDS TO ENSURE AN APPROXIMATE EQUAL DIVISION ON THESE LOADS ON MAIN POWER SUPPLY SERVING BUILDING. ALL TESTS SHALL BE MADE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE IEEE AND THE NEC. THE INSTALLATION SHALL BE TESTED FOR PERFORMANCE, GROUNDS AND INSULATION RESISTANCE. "MEGGER" TYPE INSTRUMENTS SHALL BE USED. CONTRACTOR SHALL PERFORM CIRCUIT CONTINUITY AND OPERATIONAL TESTS ON ALL EQUIPMENT FURNISHED OR CONNECTED BY CONTRACTOR. THE TESTS SHALL BE MADE PRIOR TO FINAL INSPECTION. THE CONTRACTOR SHALL PROVIDE ALL TESTING EQUIPMENT AND ALL COSTS SHALL BE BORNE BY HIM. WRITTEN REPORTS SHALL BE MADE OF ALL TESTS. THESE REPORTS SHALL BE TURNED OVER TO THE ARCHITECT AT TIME OF FINAL INSPECTION. ALL FAULTS SHALL BE CORRECTED IMMEDIATELY.

CLEANING UP
THE CONTRACTOR SHALL REMOVE ALL OIL, GREASE, OR OTHER STAINS RESULTING FROM HIS WORK PERFORMED IN THE BUILDING OR THE EXTERIOR THEREOF.

REV.	DESCRIPTION	DATE	BY	CHK'D
A	ISSUED FOR BID	05/31/22	RCC	JJM

Cowles, Murphy, Glover & ASSOCIATES
A Full Service Engineering Firm
PERFORMANCE • RELIABILITY • EXPERIENCE

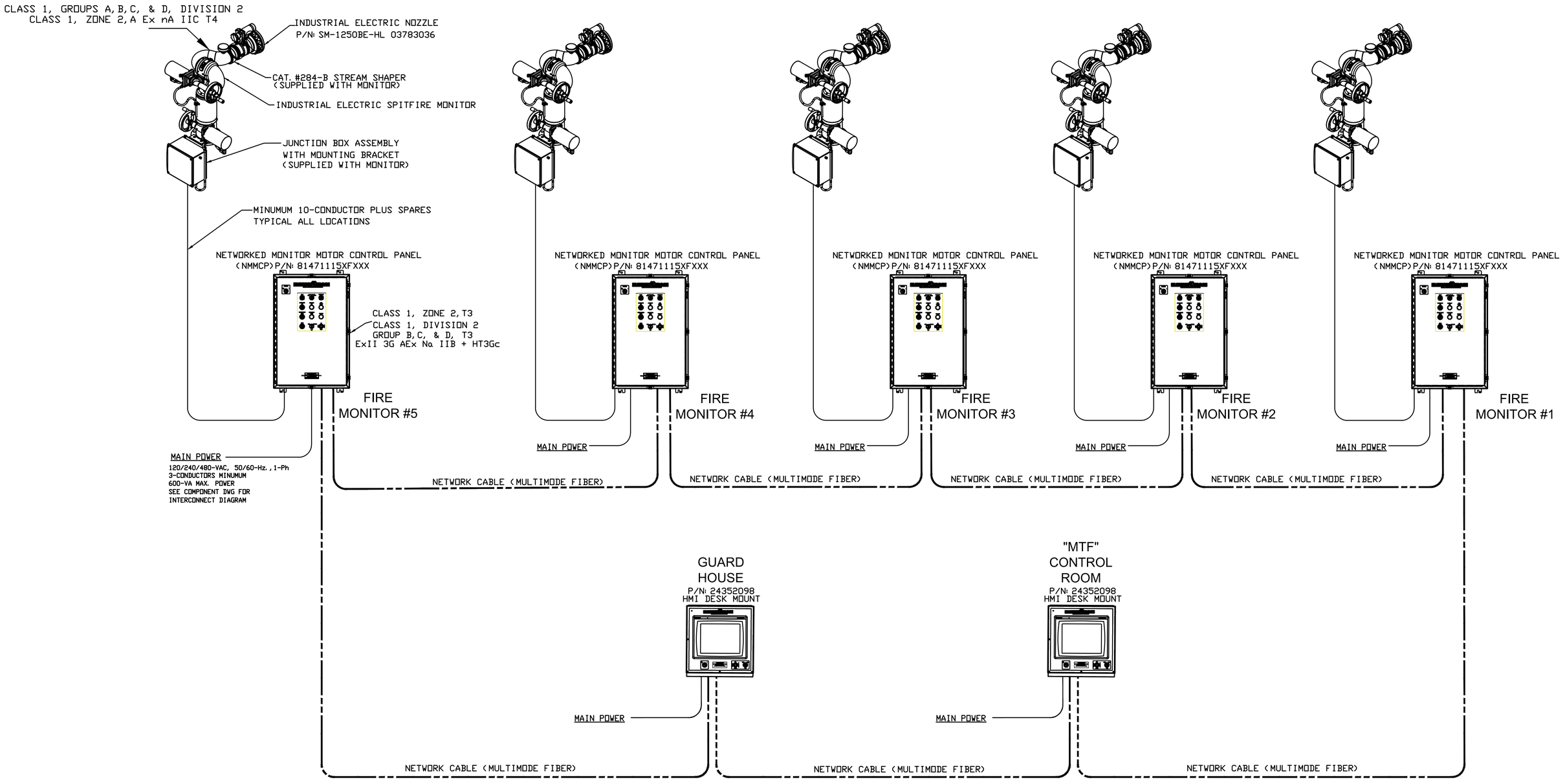
457 St. Michael St., Mobile, AL 36602
13 Thrash Rd., LaGrange, GA 30241
11880 Cranston Dr. Ste 102, Arlington, TN 38002
Alabama (251) 433-1611
Georgia (706) 302-2831 Tennessee (901) 290-5444

PROJECT
ASPA MLBT FIRE SYSTEM UPGRADES
THEODORE, ALABAMA

TITLE
ELECTRICAL SPECIFICATIONS

SCALE: AS NOTED	DRAWN BY: RCC	DATE: 01/05/22	SHEET: 4 OF ____ (24x36) REV: A
JOB NO.: 4017-22	CHECKED BY: JJM	DATE: 01/05/22	DRAWING NUMBER: 4017-E4

REV.	DESCRIPTION (NOTE: ADDITIONAL ECN BLOCKS TO BE COPIED AND FILLED OUT MANUALLY)	BY	E. C. N.
A	UPDATED TO INCLUDE 2ND HMI	MSF	18MAR22



NOTES:

1. SEE ELECTRICAL INTERCONNECT DRAWINGS AND DEVICE INSTRUCTION MANUALS FOR DETAILED CONNECTION INFORMATION.
2. SEE NMMCP INTERCONNECT DWG FOR MINUMUM WIRE SIZE CHARTS FOR NMMCP TO MONITOR
3. ALL INTERCONNECT WIRING, FIBER, AND CONDUIT OPENINGS AND HUBS SUPPLIED BY OTHERS.
4. MONITOR MOTOR OPERATING SPECS:
   NOZZLE - 120 VAC, 0.30 AMPS
   HORIZONTAL AND VERTICAL - 120 VAC, 0.80 AMPS
   (POWER SUPPLIED BY MMCP)

MAXIMUM RUN LENGTH (1 WAY) BETWEEN MMCP AND MONITOR

COPPER	ALUMINUM	MINIMUM WIRE SIZE
600'	370'	14 AWG (2.5 mm2)
950'	600'	12 AWG (4.0 mm2)
1600'	950'	10 AWG (6.0 mm2)

NETWORK CABLE LENGTHS

CABLE TYPE	MAX. CABLE LENGTH
CAT5e ETHERNET CABLE	328 FEET (100m)
MULTI-MODE DUAL FIBER OPTIC CABLE WITH LC CONNECTORS	6200 FEET (2km)

FOR REFERENCE ONLY

4017-R1

DRAWN BY	MSF
DATE	02/21/2022
CHECKED BY	HJM
DATE	2/21/2022
MATERIAL	N/A
WEIGHT (LBS)	N/A
CAT. NO.	INDUSTRIAL SYSTEMS
THIRD ANGLE PROJECTION	

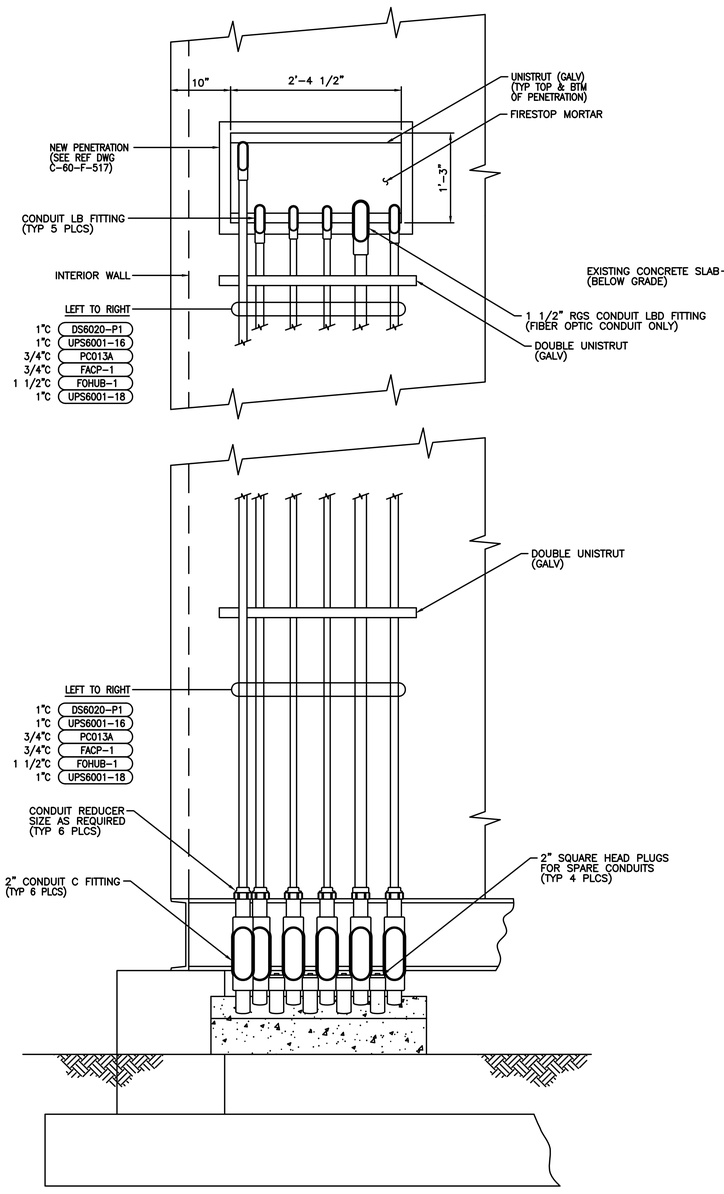
TOLERANCE UNLESS OTHERWISE SPECIFIED:		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ALL FILLETS AND ROUNDS R 0.06 DO NOT SCALE PRINT
2 PLACE DEC.	± .060"	
3 PLACE DEC.	± .030"	INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M-1994
ANGLES	± 1°	CAD MODEL:

ELKHART BRASS
Fire Fighting Equipment

DESCRIPTION: 5-MONITOR NETWORK LAYOUT

SIZE	PART NUMBER	REV.
D	81504205	A

CAD SCALE: NONE | SHEET 1 OF 2

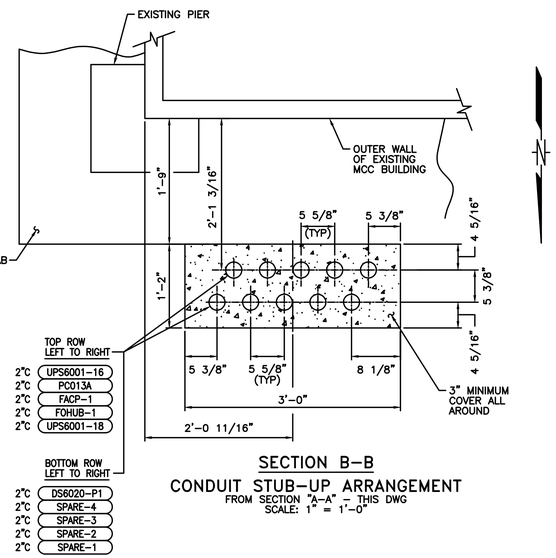


SECTION D–D

CONDUIT STUB–UP ARRANGEMENT

FROM SECTION "A–A" THIS DWG – LOOKING SOUTH

SCALE: 1" = 1'-0"

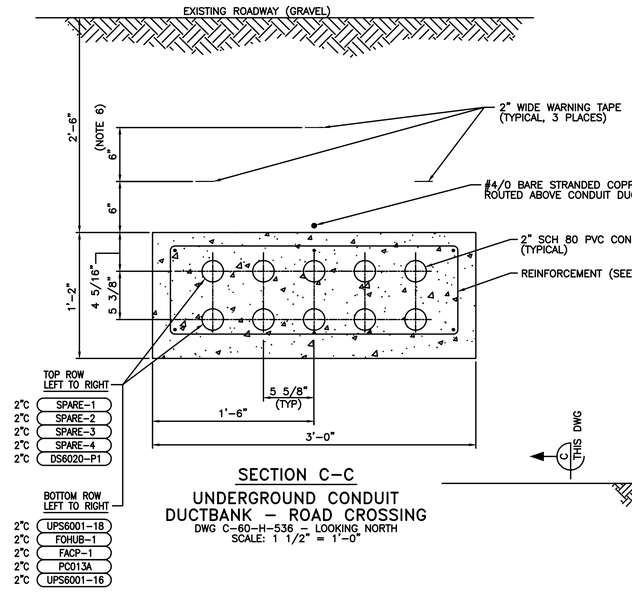


SECTION B–B

CONDUIT STUB–UP ARRANGEMENT

FROM SECTION "A–A" – THIS DWG

SCALE: 1" = 1'-0"



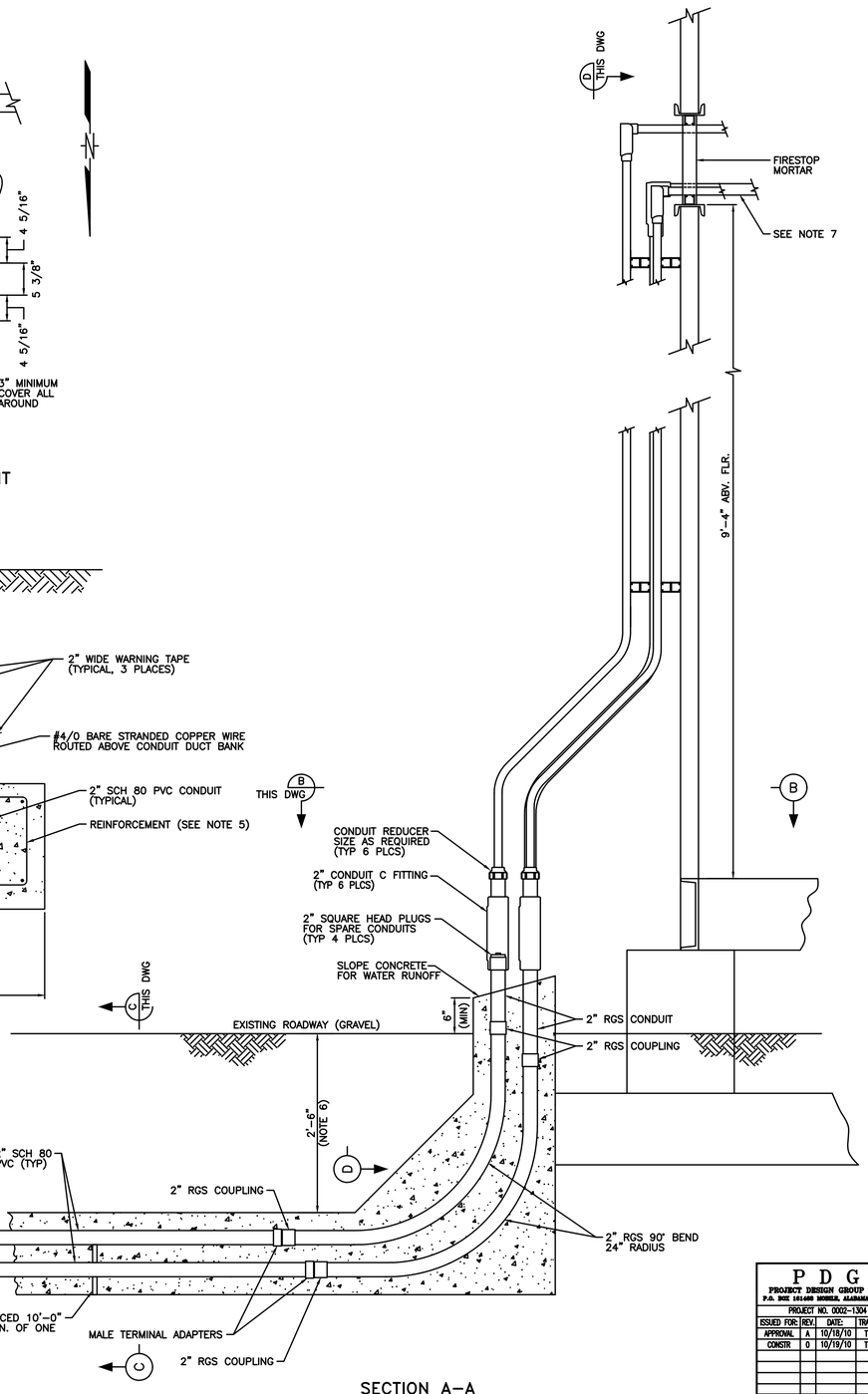
SECTION C–C

UNDERGROUND CONDUIT

DUCTBANK – ROAD CROSSING

DWG C-60-H-536 – LOOKING NORTH

SCALE: 1 1/2" = 1'-0"



SECTION A–A

MCC ROOM CONDUIT STUB–UP

DWG C-60-H-536 – LOOKING EAST

SCALE: 1" = 1'-0"

FOR REFERENCE ONLY

4017-R2

GENERAL NOTES:

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE 2008 EDITION OF THE NATIONAL ELECTRICAL CODE.
2. UNDERGROUND CONDUIT SYSTEMS SHALL BE SCHEDULE 80 PVC, 2 INCH DIAMETER, WITH RIGID GALVANIZED STEEL 90 DEGREE BENDS AT STUB–UP LOCATIONS.
3. RED–PIGMENTED CONCRETE CONTAINING AT LEAST 10 POUNDS PER CUBIC YARD OF RED OXIDE SHALL BE USED FOR THE ENVELOPE. REFERENCE CIVIL DRAWING C–60–F–517.
4. THE CONCRETE ENVELOPE SURROUNDING THE STRUCTURE OF OF CONDUITS SHALL HAVE A MINIMUM THICKNESS OF 3 INCHES ON THE TOP, SIDES, AND BOTTOM.
5. SECTIONS OF CONDUIT BANKS SPANNING UNDER ROADWAYS SHALL BE REINFORCED WITH STEEL BARS. REFER TO CIVIL DRAWING #C–60–F–516 AND #C–60–F–517 FOR LOCATIONS AND INSTALLATION DETAILS.
6. DUCT BANK ROUTED DIRECTLY BELOW ROADWAY AND EXTENDING 5 FEET OUTWARD FROM ROADWAY EDGE SHALL BE 2'–6" DEEP
7. CONDUITS INSIDE MCC ROOM SHALL BE FIELD ROUTED TO ASSOCIATED MCC, PANEL, OR ENCLOSURE AS REQUIRED. REFERENCE DRAWING C–93–H–500 FOR EQUIPMENT LOCATIONS.

LEGEND:

##	CONDUIT / CABLE NUMBER DESIGNATION

REFERENCE DRAWINGS:

C–60–H–535	GROUNDING / LIGHTNING PROTECTION PLAN
C–60–H–536	U/G DUCT BANK PLAN
C–60–F–516	CIVIL CONTROL ROOM SITE PLAN MAIN TANK FARM
C–60–F–517	CONCRETE FOUNDATION PLAN, SECTIONS AND DETAILS MAIN TANK FARM
C–93–H–500	GROUNDING/DUCT BANK PLAN
SKEL–001	CONDUIT AND CABLE SCHEDULE

REV	BY / DATE	DESCRIPTION	CHKD / APPD
0	WJC 10/19/10	ISSUED FOR CONSTRUCTION (MOC 201002–00873–50)	PRN BAL

P D G
PROJECT DESIGN GROUP INC.
P.O. BOX 161466 MOBILE, ALABAMA 36616

BAY
BAYTOUR DESIGN, LLC
1017 INDUSTRIAL PARK CIRCLE
MOBILE, ALABAMA 36693

INEOS Phenol

MAIN TANK FARM CONTROL ROOM PROJECT
THEODORE, ALABAMA

ELECTRICAL
U/G DUCT BANK SECTIONS AND DETAILS
AREA 93 – MTF MCC ROOM

APPD BY:	DRAWING No.: C–60–H–537	REV No.: 0
ENGINEER:	DRAWN BY: WJC	DATE: 8/16/10
SCALE: AS NOTED	CAD FILE No.: C60H537.dwg	PROJECT No.:

P D G
PROJECT DESIGN GROUP INC.
P.O. BOX 161466 MOBILE, ALABAMA 36616

PROJECT NO. 0002–1304

ISSUED FOR:	REV.:	DATE:	TRANS. NO.
APPROVAL	A	10/18/10	T–002
CONSTR	0	10/19/10	T–004

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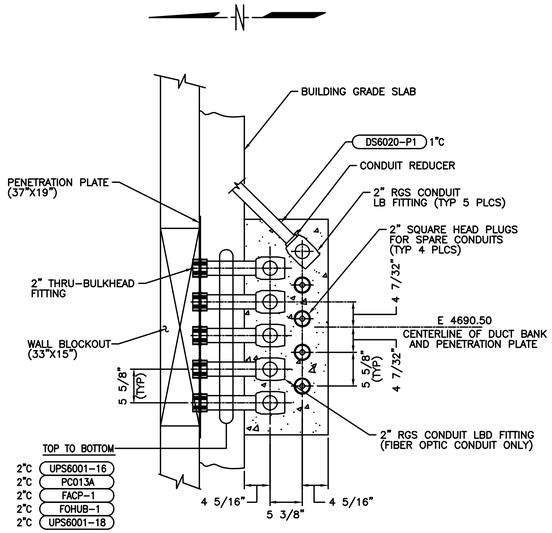
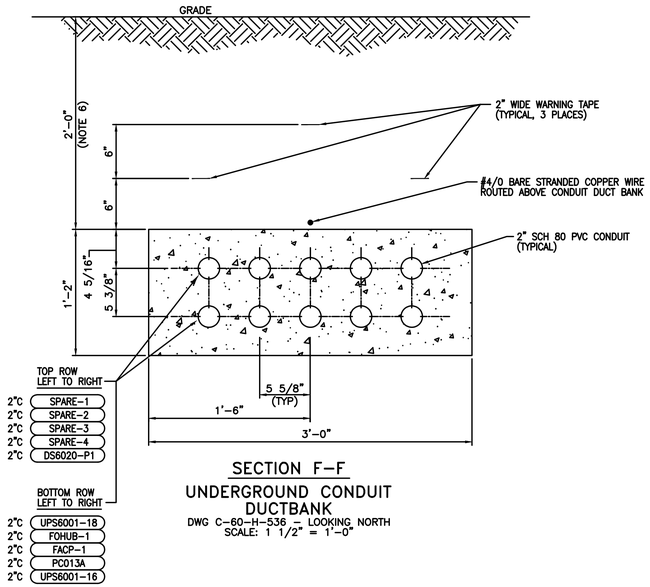
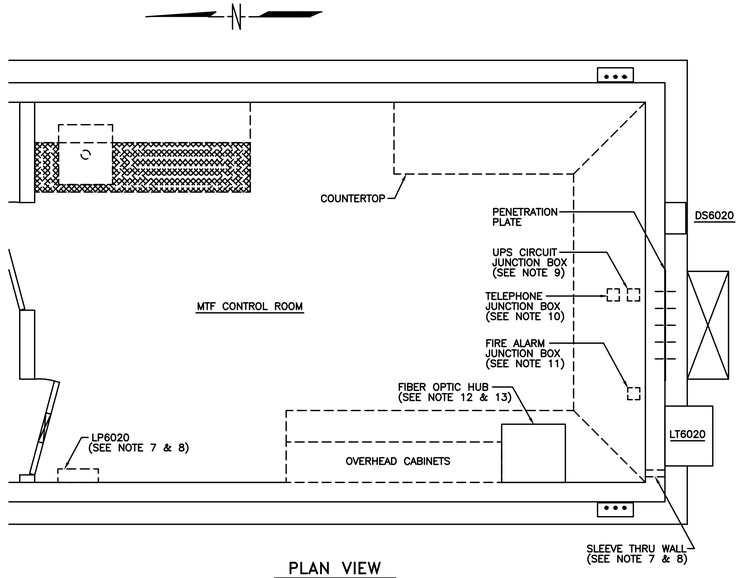


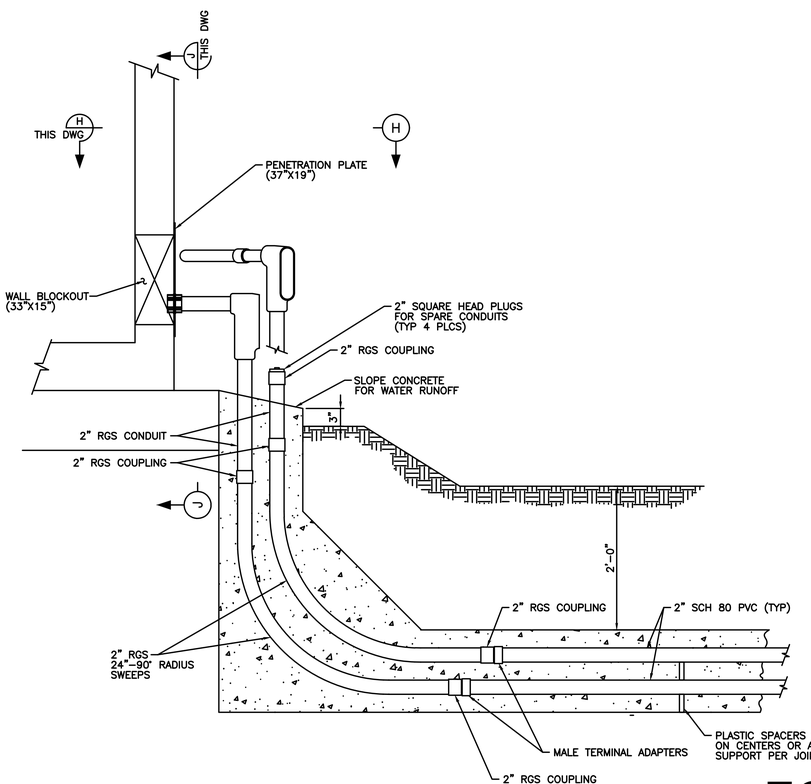
SECTION H-H
CONDUIT STUB-UP ARRANGEMENT
FROM SECTION "G-G" - THIS DWG
SCALE: 1" = 1'-0"



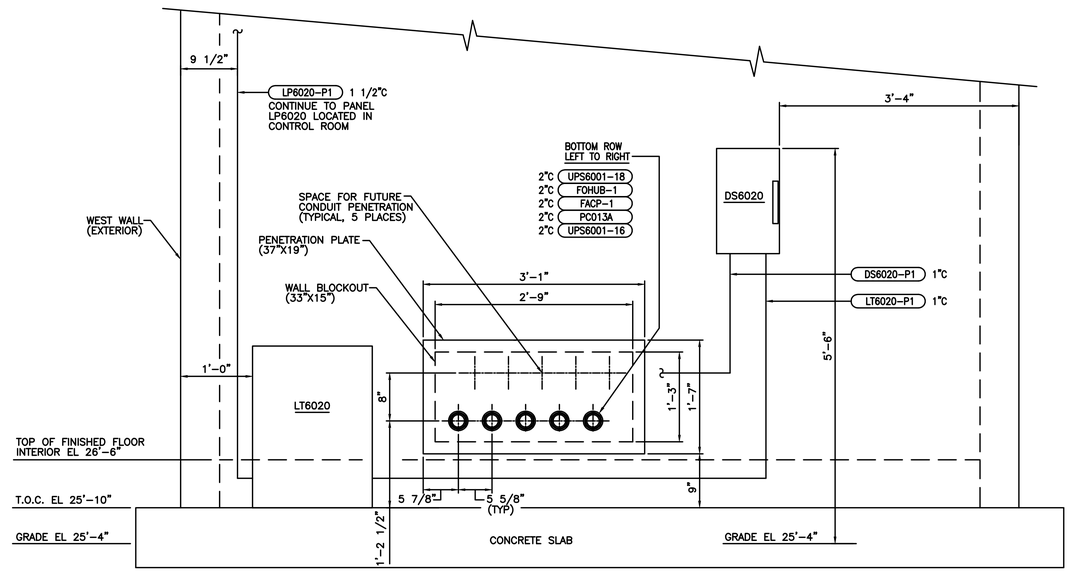
SECTION F-F
UNDERGROUND CONDUIT DUCTBANK
DWG C-60-H-536 - LOOKING NORTH
SCALE: 1 1/2" = 1'-0"



PLAN VIEW
INTERIOR EQUIPMENT LOCATIONS
SCALE: 1/2" = 1'-0"



SECTION G-G
CONTROL ROOM CONDUIT STUB-UP
DWG C-60-H-536 - LOOKING EAST
SCALE: 1" = 1'-0"



SECTION J-J
PENETRATION PLATE ELEVATION
LOOKING NORTH
SCALE: 1" = 1'-0"

FOR REFERENCE ONLY
4017-R3

REVISION '0' OF THIS DOCUMENT ORIGINAL SEALED BY BRUCE A. LIPHAM, P.E. AL #018793 ON 10-19-10. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

GENERAL NOTES:

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE 2008 EDITION OF THE NATIONAL ELECTRICAL CODE.
2. UNDERGROUND CONDUIT SYSTEMS SHALL BE SCHEDULE 80 PVC, 2 INCH DIAMETER, WITH RIGID GALVANIZED STEEL 90 DEGREE BENDS AT STUB-UP LOCATIONS.
3. RED-PIGMENTED CONCRETE CONTAINING AT LEAST 10 POUNDS PER CUBIC YARD OF RED OXIDE SHALL BE USED FOR THE ENVELOPE.
4. THE CONCRETE ENVELOPE SURROUNDING THE STRUCTURE OF OF CONDUITS SHALL HAVE A MINIMUM THICKNESS OF 3 INCHES ON THE TOP, SIDES, AND BOTTOM.
5. SECTIONS OF CONDUIT BANKS SPANNING UNDER ROADWAYS SHALL BE REINFORCED WITH STEEL BARS. REFER TO CIVIL DRAWING #C-60-F-516 AND #C-60-F-517 FOR LOCATIONS AND INSTALLATION DETAILS.
6. THE TOP OF THE CONCRETE ENVELOPE SHALL BE LOCATED A MINIMUM OF 24 INCHES BELOW GRADE UNLESS NOTED OTHERWISE.
7. CONTRACTOR SHALL ROUTE CONDUIT FROM TRANSFORMER TO CONDUIT SLEEVE LOCATION PROVIDED BY BUILDING SUPPLIER AND CONNECT TO INTERIOR CONDUIT PROVIDED BY BUILDING SUPPLIER.
8. CONTRACTOR SHALL ROUTE CABLE FROM TRANSFORMER TO PANEL LP6020 AT LOCATIONS SHOWN.
9. CONTRACTOR SHALL EXTEND UPS CIRCUITS FROM PENETRATION PLATE IN 3/4" CONDUIT TO UPS CIRCUIT JUNCTION BOX PROVIDED BY BUILDING SUPPLIER.
10. CONTRACTOR SHALL EXTEND TELEPHONE CONDUIT AND PULL STRING FROM PENETRATION PLATE IN 3/4" CONDUIT TO TELEPHONE JUNCTION BOX PROVIDED BY BUILDING SUPPLIER.
11. CONTRACTOR SHALL EXTEND FIRE ALARM CONDUIT AND PULL STRING FROM PENETRATION PLATE IN 3/4" CONDUIT TO FIRE ALARM JUNCTION BOX PROVIDED BY BUILDING SUPPLIER.
12. CONTRACTOR SHALL EXTEND FIBER OPTIC CONDUIT AND PULL STRING FROM PENETRATION PLATE IN 1 1/2" CONDUIT TO FIBER OPTIC HUB PROVIDED BY OTHERS.
13. TYPE LBD CONDUIT FITTINGS SHALL BE USED FOR ALL FIBER OPTIC 90 DEGREE BENDS.

LEGEND:

DS6020	SAFETY SWITCH, 600VAC, 3-POLE, 60 AMP, NON-FUSED, NEMA 3R SQUARE-D #HU362RB
LT6020	TRANSFORMER, 30 kVA, 3 PHASE, 480V-208Y/120V, 60 HERTZ SQUARE-D #30T3H (TRANSFORMER) #WS364 (WEATHERSHIELD) #WMB363-364 (WALL MT BRACKET)
##	CONDUIT / CABLE NUMBER DESIGNATION

REFERENCE DRAWINGS:

C-60-H-535	GROUNDING / LIGHTNING PROTECTION PLAN
C-60-H-536	U/G DUCT BANK PLAN
C-60-F-516	CIVIL CONTROL ROOM SITE PLAN MAIN TANK FARM
C-60-F-517	CONCRETE FOUNDATION PLAN, SECTIONS AND DETAILS MAIN TANK FARM
SKEL-001	CONDUIT AND CABLE SCHEDULE

REV	BY	DATE	DESCRIPTION	CHKD	APPD
0	WJC	10/19/10	ISSUED FOR CONSTRUCTION (MOC-201002-00873-60)	PRI	BAL

PDG
PROJECT DESIGN GROUP INC.
P.O. BOX 161468 MOBILE, ALABAMA 36616

BAY
BAY-FOUR DESIGN, LLC
167 INDUSTRIAL PARK CIRCLE
MOBILE, ALABAMA 36693

INEOS Phenol

MAIN TANK FARM CONTROL ROOM PROJECT
THEODORE, ALABAMA

ELECTRICAL
U/G DUCT BANK SECTIONS AND DETAILS
AREA 93 - MTF CONTROL ROOM

APPD BY:	DRAWING No.: C-60-H-538		REV No.: 0
ENGINEER:	DRAWN BY: WJC	DATE: 8/16/10	PROJECT No.:
SCALED: AS NOTED	CAD FILE No.: C60H538.dwg		

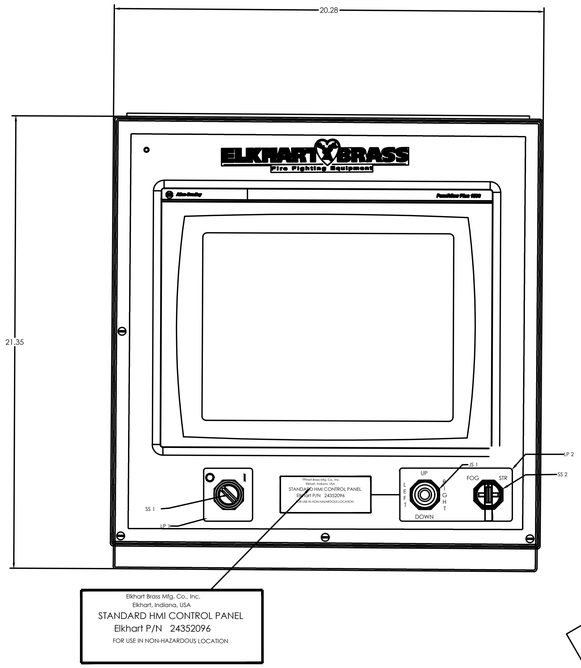
PDG
PROJECT DESIGN GROUP INC.
P.O. BOX 161468 MOBILE, ALABAMA 36616
PROJECT NO. 0002-1304

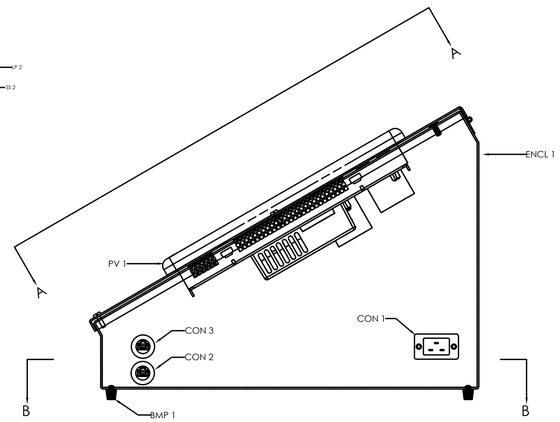
ISSUED FOR:	REV.:	DATE:	TRANS. NO.
APPROVAL	A	10/18/10	T-002
CONSTR	0	10/19/10	T-004

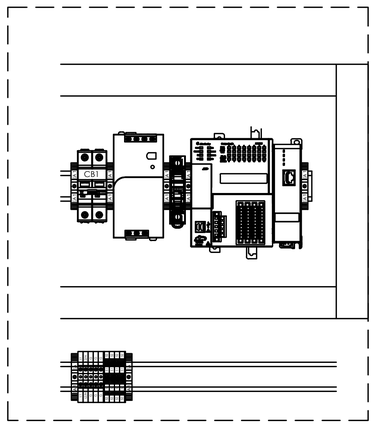
REV.	DESCRIPTION (NOTE: ADDITIONAL ECN BLOCKS TO BE COPIED AND FILLED OUT MANUALLY)	BY	E. C. N.
B	SEE REVISION TABLE	MSF	SAPR19

BILL OF MATERIAL

REF	QTY	ELKHART BRASS PART NUMBER	DESCRIPTION
PV 1	1	IN000025	15" Color Panel View Plus 6 with extended features
ENCL 1	1	IN000092	Mild Steel Consollete Enclosure
ETAP	1	IN000152	ETHERNET/IP ETAP
PLC 1	1	IN000147	CompactLogix 5370 L1 Controller
PS 1	1	IN000098	Power Supply, 24-28V DC, 100 W, 120/240V AC Input Voltage
SS 1	1	IN000099	Power Switch
SS 2	1	IN000101	3 Position, White, Knob Lever, Spring Rtn fr/ Both
LP 1	1		Legend Plate | OFF - ON (or equivelant)
JS1	1	IN000089	30.5mm Four Way Toggle Switch-Spring Rtn from all, 1 NO-1 NC & 1 NO-1 NC
GTB 1	3	IN000008	1492-J IEC Terminal Block, One-Circuit Feed-Through Ground Block
TB	2	IN000007	IEC Terminal Block, One-Circuit Feed-Through Block
TB2	4	IN000046	DUAL LAYER TERMINAL BLOCK, NON-JUMPERED
TBEB	1	IN000009	TERMINAL - END BARRIER
JMP	2		4 POLE TERMINAL BLOCK JUMPER
DR 1	1	IN000017	Din Rail - 3" long
CB 1	1	IN000052	2 Pole, 5 Amp Circuit Breaker
EA 1	7	IN000066	End Anchor
LP 2	1		UP, DOWN, LEFT, RIGHT / FOG, STR
LP 3	1		Name Plate
WW 1	1	IN000103	Type F Narrow Slot Wiring Duct 1.5" W x 2" H, 6' Length
WWC 1	1	IN000104	Wiring Duct Cover for Panduit P/N: F1.5X2LG6
LBL 1	1	44647000	Elkhart Brass Logo Label
FH24V	1	IN000105	1-POLE FUSE HOLDER
F24	1	IN000106	7 AMP FAST ACTING SUPPLEMENTAL FUSE
CON1	1		250VAC 3 WIRE GROUNDING INLET
CON2, CON3	2		HAR-PORT RJ45 COUPLER/CABLE 0.5M LONG
PCON1	1		6FT IEC-320-C13 TO NEMA 5-15 POWER CORD, LOCKING
ETH	AS NEEDED		SHIELDED ETHERNET CABLE, CAT-5E STP
SD	1		MEMORY CARD, SECURE DIGITAL, 1GB







SECTION B-B

NOTES:

(1) APPROX. WEIGHT = 50 LBS.

(2) WIRING:
+24VDC CONTROL WIRING TO BE 18 AWG 600V MTW, COLOR: BLUE.
-24VDC CONTROL WIRING TO BE 18 AWG 600V MTW, COLOR: BLUE WITH WHITE STRIPE.
GROUND WIRE TO BE 14 AWG 600V MTW, COLOR: GREEN OR GREEN WITH YELLOW STRIPE.

(3) TERMINATE ALL WIRES THAT CONNECT TO SCREW TERMINALS OF CONTACT BLOCKS AND OTHER DEVICES BY TINNING OR WITH FERRULES TO PREVENT WHISKERS AND UNRAVELING.

(4) TERMINALS SUPPLIED ARE RATED FOR 60°C CONDUCTORS.

(5) PANEL TO BE LABELED PER UL508 FOR USE IN NON-HAZARDOUS LOCATIONS.

FOR REFERENCE ONLY

4017-R4

DRAWN BY	MSF
DATE	10/25/2018
CHECKED BY	MSF
DATE	11/7/2018
MATERIAL	N/A
WEIGHT (LBS)	
CAT. NO.	INDUSTRIAL SYSTEMS
TOLERANCE UNLESS OTHERWISE SPECIFIED	
2 PLACE DEC.	± .060"
3 PLACE DEC.	± .030"
ANGLES	± 1°
CAD MODEL:	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ALL FILLETS AND ROUNDS R 0.06 DO NOT SCALE PRINT	
ASSEMBLY DIMENSIONS AND TOLERANCES PER ASME Y14.5M 1994	
THIRD ANGLE PROJECTION	

ELKHART BRASS
Fire Fighting Equipment

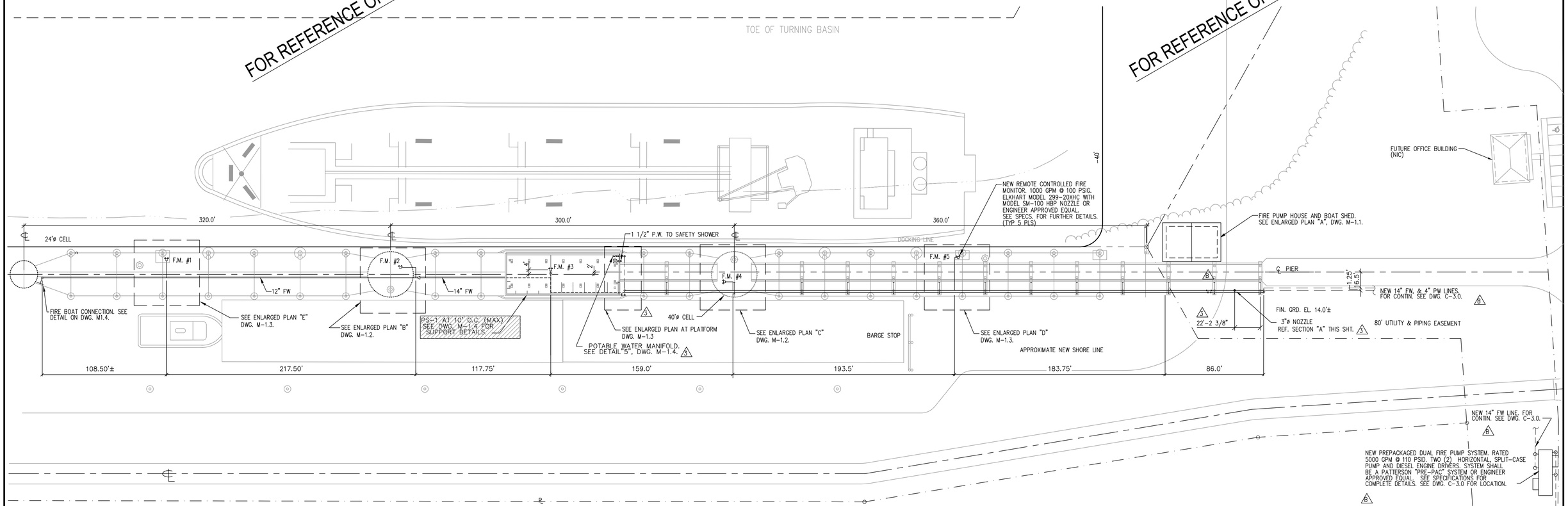
DESCRIPTION
HMI DESKMOUNT CONTROL PANEL
PANEL LAYOUT

SIZE	PART NUMBER	REV.
D	24352096	B

CAD SCALE: SHEET 1 OF 2

FOR REFERENCE ONLY

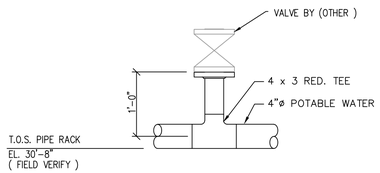
FOR REFERENCE ONLY



OVERALL MECHANICAL PLAN
SCALE: 1"=40'

FOR REFERENCE ONLY

FOR REFERENCE ONLY



SECTION "A" 3
SCALE: N.T.S.

REV NO.	DATE:	BY	REVISION
4	6/17/99	WFC	REVISED SAFETY SHOWER LOCATION @ PLATFORM
3	5/12/99	WFC	FIRE WATER AND POTABLE WATER - GENERAL REVISON
2	4-12-99	WFC	REVISED POTABLE WATER MAINFOLD LOCATION AT PLATFORM
1	3-8-99	WFC	REVISED FIREWATER PIPE SIZE CALLOUT
B	10/1/98	TLS	REV. FW LINE TO 20", REV. PUMP SYSTEM
A	07/20/98	RWM	RELEASED FOR BID

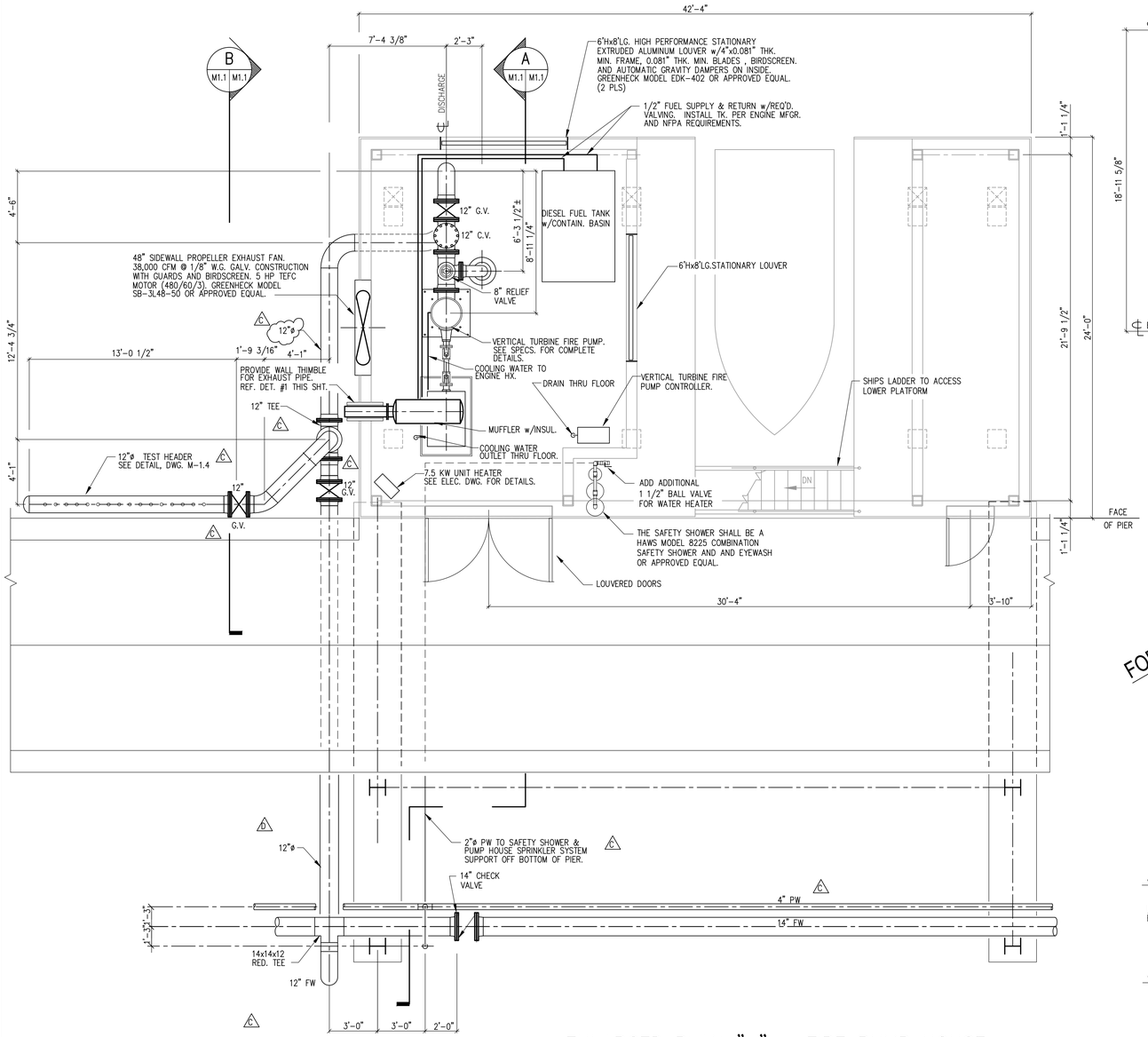
ALABAMA STATE DOCKS
MOBILE, ALABAMA

THEODORE SHIP TURNING BASIN LIQUID BULK TERMINAL

OVERALL MECHANICAL PLAN

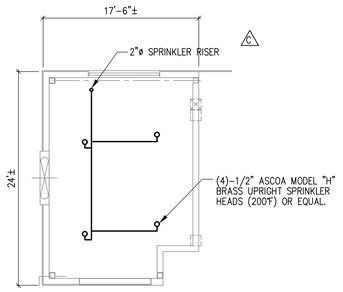
CLARK, GEER, LATHAM
& Associates, Inc.
ENGINEER PLANNER ARCHITECT
762 Downtowner Loop West, Mobile, Alabama 36609
Ph. No. (334) 344-7073, FAX No. (334) 343-9179
CGL PROJECT NO. 9828

DWG BY:	DATE:	REVISIONS						SCALE:
WFC	6-8-98	BY:	DATE:	BY:	DATE:	BY:	DATE:	1" = 40'
CHKD. BY:	DATE:	·	__/__/__	·	__/__/__	·	__/__/__	DRAWING NO.:
RWM		·	__/__/__	·	__/__/__	·	__/__/__	M-1.0



ENLARGED PLAN "A" – FIRE PUMP HOUSE

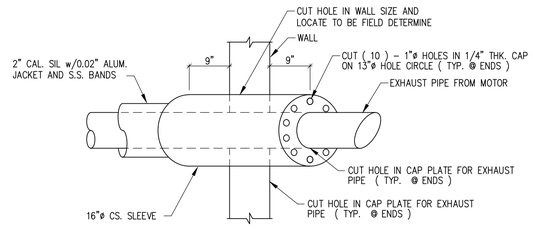
SCALE: 1/4"=1'-0"



REDUCED PUMP HOUSE SPRINKLER PLAN

SCALE: 1/8"=1'-0"

FOR REFERENCE ONLY

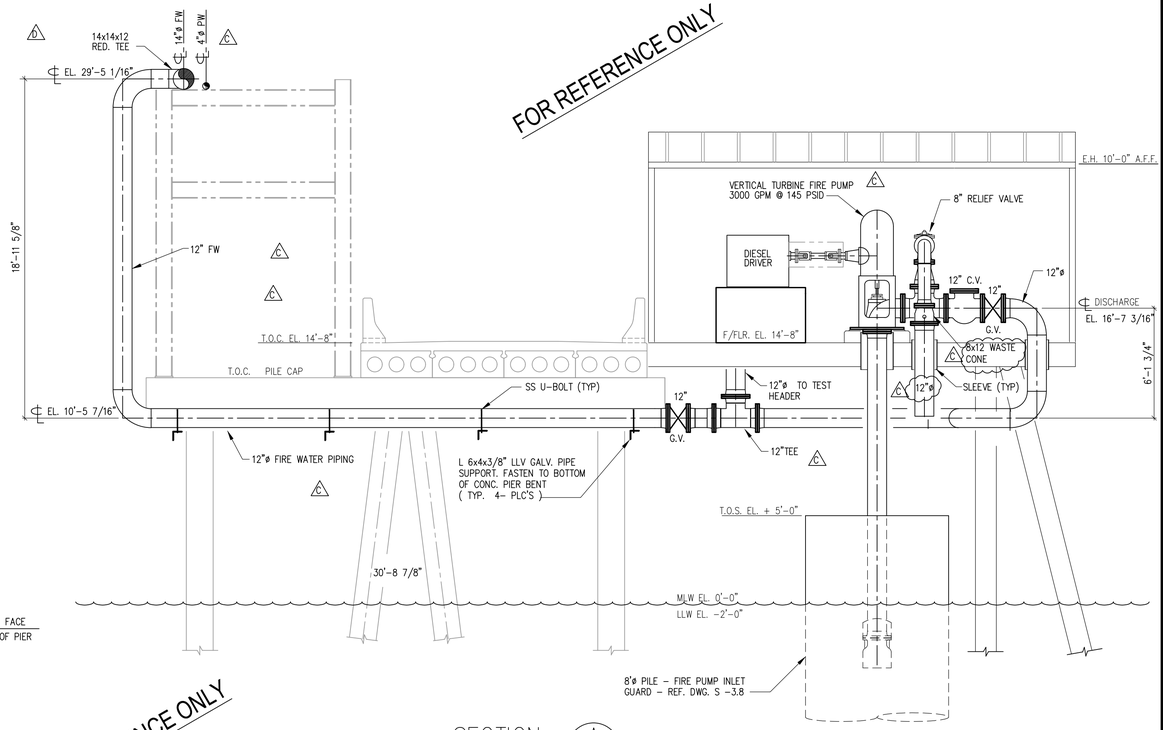


DETAIL 1 — M1.1 M1.1

SCALE: 3/4"=1'-0"

NOTE:

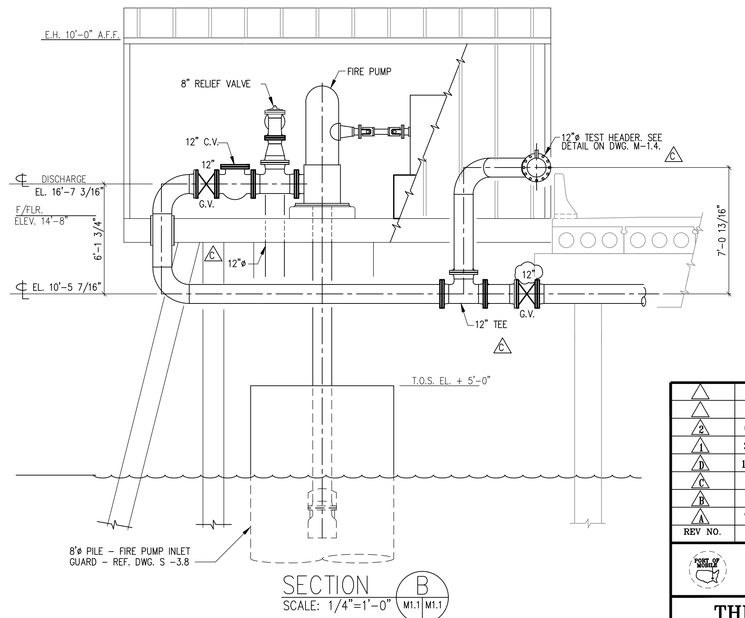
1. THIS DETAIL BASED ON PRELIMINARY EXHAUST SIZE INFORMATION. DO NOT FABRICATES UNIT CERTIFIED DRAWINGS HAVE BEEN REVIEWED BY ENGINEER.
2. CONTRACTOR TO PROVIDE MOUNTING BRACKETS FOR WALL THIMBLE FOR EXHAUST PIPE.



SECTION A

SCALE: 1/4"=1'-0" — M1.1 M1.1

FOR REFERENCE ONLY



SECTION B

SCALE: 1/4"=1'-0" — M1.1 M1.1

FOR REFERENCE ONLY

NOTES:

1. FIRE PUMP SYSTEM LAYOUT BASED ON REFERENCE AND NON-CERTIFIED DATA. CONTRACTOR SHALL VERIFY ACTUAL EQUIPMENT AND ACCESSORY DIMENSIONS PRIOR TO PLACING CONCRETE PADS AND SLEEVES IN FLOOR.
2. PROVIDE PIPE SLEEVES FOR ALL FLOOR PENETRATIONS. SLEEVES SHALL BE STAINLESS STEEL PIPE AND SHALL BE TWO (2) SIZES LARGER THAN PIPING (UNO) WITH A MINIMUM SLEEVE SIZE OF 2". SLEEVES SHALL PROJECT 3" ABOVE FIN. FLOOR.

REV NO.	DATE:	BY	REVISION
2	6/17/99	WFC	ADDED 1 1/2" BALL VALVE FOR WATER HEATER
1	3-29-99	WFC	REVISED FIRE WATER PUMP ELEVATION
D	11-19-98	WFC	REMOVED 12" FIRE WATER TO TANK FARM
C	10/1/98	RWMc	REV. PIPE SIZES, ADDED 12" FW
B	8-3-98	WFC	REV'D FIRE PUMP INLET GUARD & ADDED EXHAUST WALL THIMBLE
A	7/20/98	RWM	RELEASED FOR BID

ALABAMA STATE DOCKS

MOBILE, ALABAMA

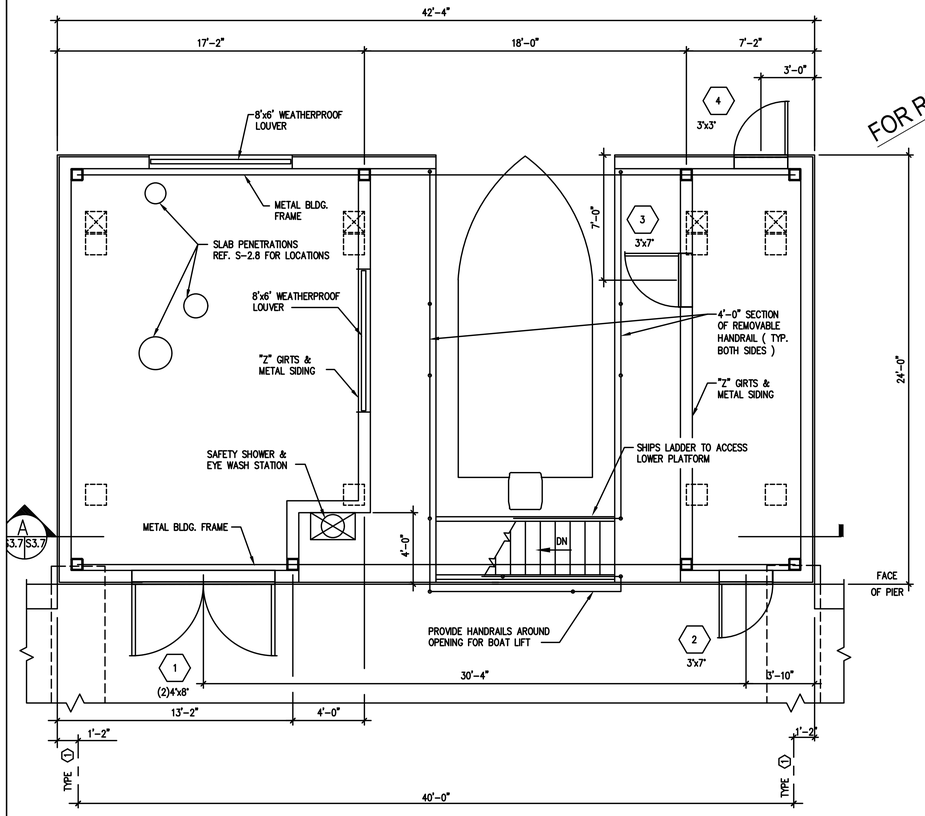
THEODORE SHIP TURNING BASIN LIQUID BULK TERMINAL

FIRE PUMP / BOAT HOUSE – PLANS & SECTIONS

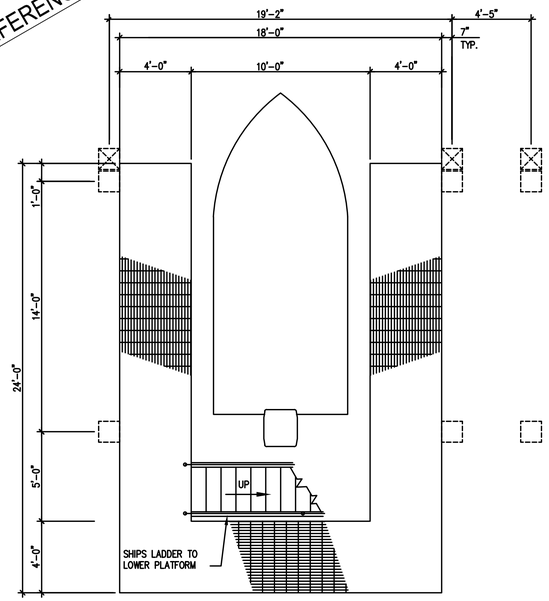
CLARK, GEER, LATHAM & Associates, Inc.
ENGINEER PLANNER ARCHITECT
762 Downtowner Loop West, Mobile, Alabama 36609
Ph. No. (334) 344-7073 FAX No. (334) 343-9179

CGL PROJECT NO. 9828

DWG BY:	DATE:	REVISIONS						SCALE:
WFC	7/9/98	BY:	DATE:	BY:	DATE:	BY:	DATE:	1/4"=1'-0"
CHKD. BY:	DATE:	·	_/_/_	·	_/_/_	·	_/_/_	DRAWING NO.:
		·	_/_/_	·	_/_/_	·	_/_/_	M-1.1

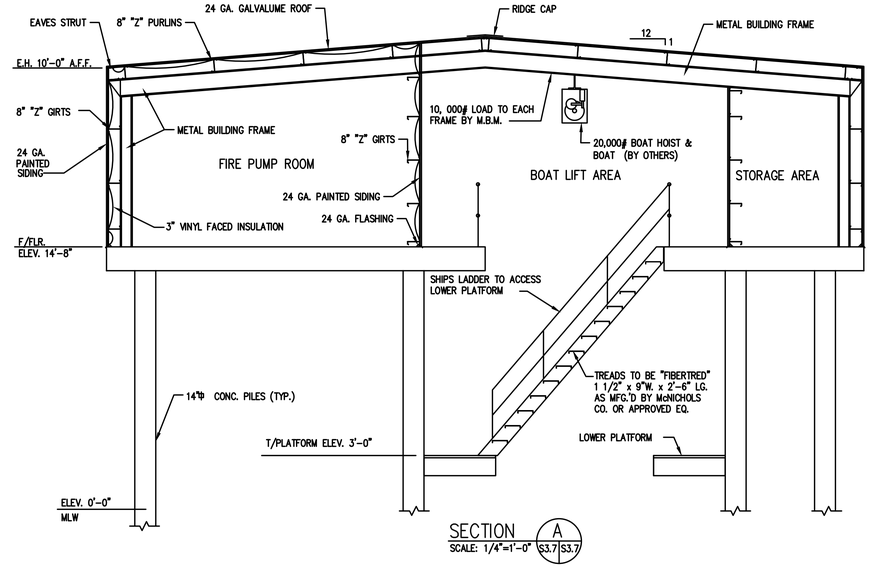


FOR REFERENCE ONLY



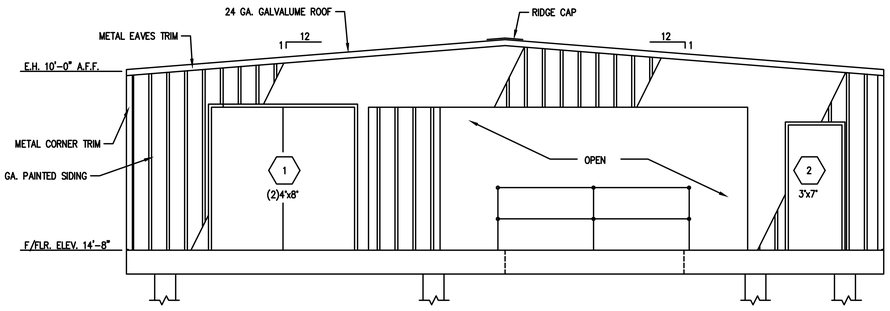
PLAN @ LOWER PLATFORM
SCALE: 1/4"=1'-0"
(LOWER PLATFORM @ + 3'-0")

REF. DWG. S-3.8 FOR STRUCTURE OF LOWER PLATFORM



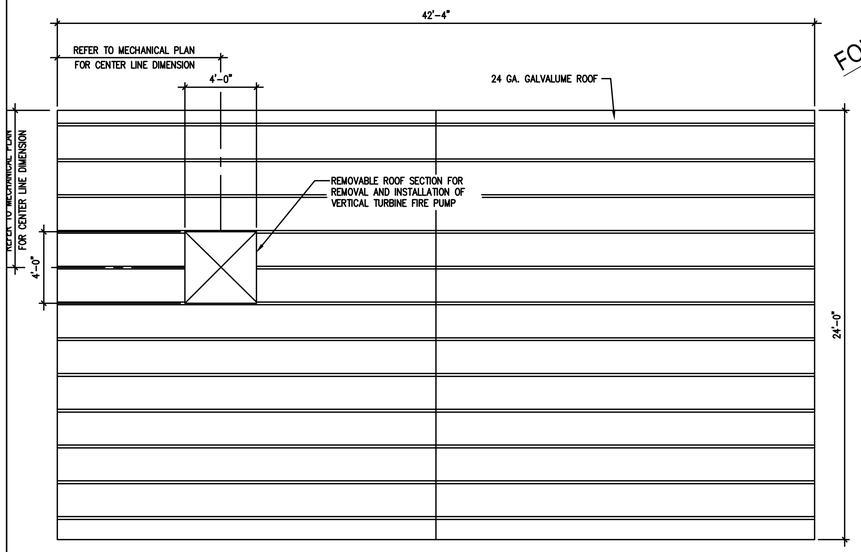
SECTION A
SCALE: 1/4"=1'-0"
S3.7 S3.7

FLOOR PLAN
SCALE: 1/4"=1'-0"



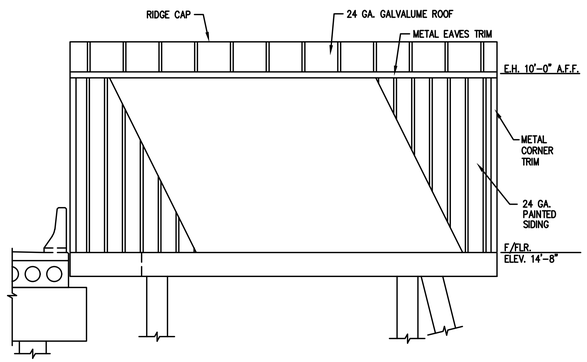
WEST ELEVATION
SCALE: 1/4"=1'-0"

FOR REFERENCE ONLY



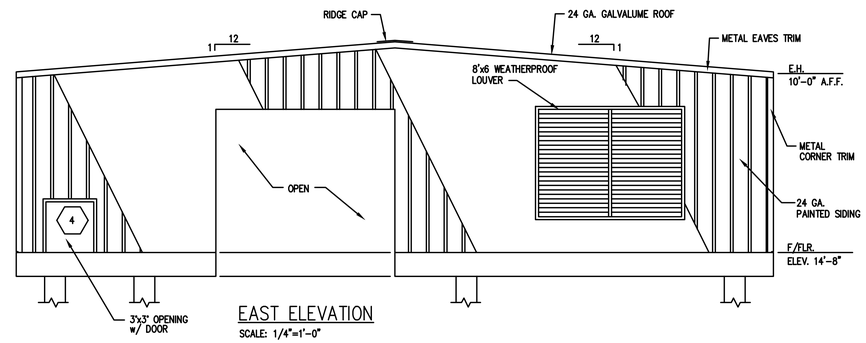
ROOF PLAN
SCALE: 1/4"=1'-0"

FOR REFERENCE ONLY



SOUTH ELEVATION (AS SHOWN)

NORTH ELEVATION (OPP. HAND)
SCALE: 1/4"=1'-0"



EAST ELEVATION
SCALE: 1/4"=1'-0"

FOR REFERENCE ONLY

REV NO.	DATE:	BY	REVISION
B	8-3-98	WFC	ADDED AND CHANGE LOUVER SIZE IN FIRE PUMP ROOM
A	7-20-98	JMC	RELEASED FOR BID

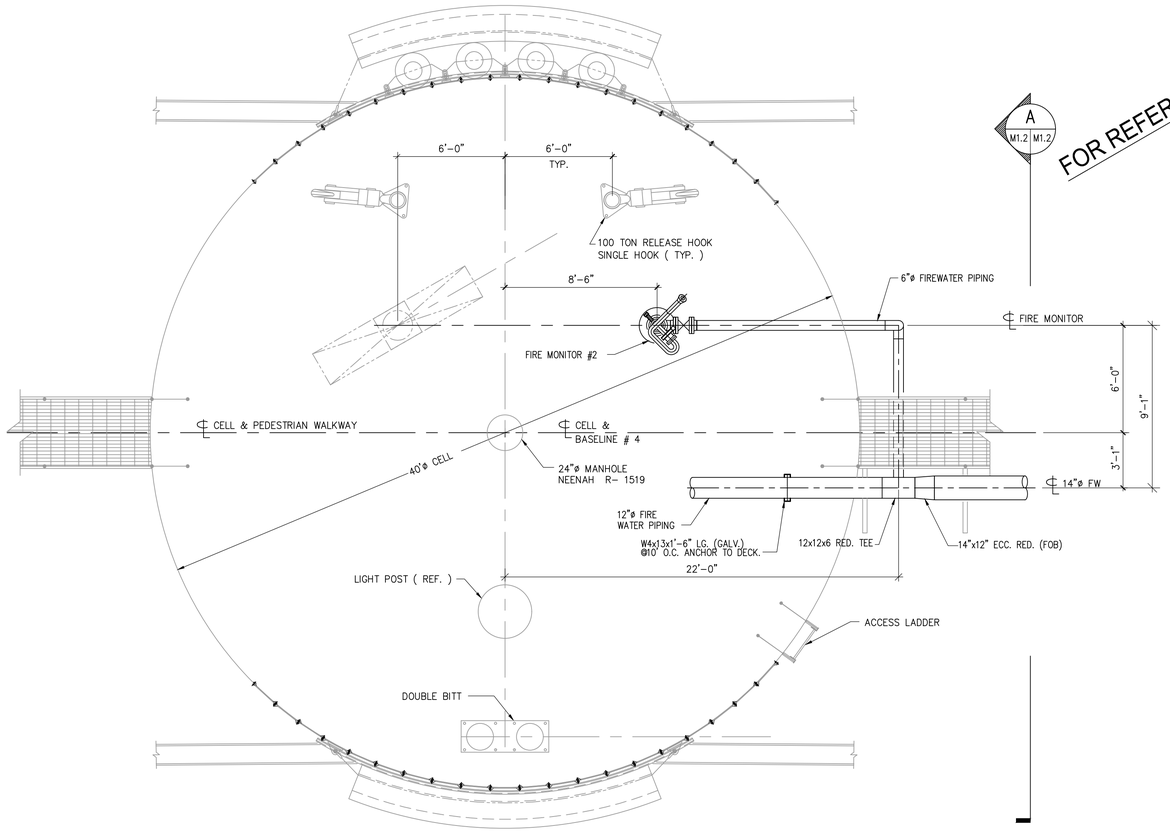
ALABAMA STATE DOCKS
MOBILE, ALABAMA

THEODORE SHIP TURNING BASIN LIQUID BULK TERMINAL

FIRE PUMP/BOATHOUSE-PLANS, SECTIONS AND ELEVATIONS

CLARK, GEER, LATHAM & Associates, Inc.
ENGINEER PLANNER ARCHITECT
762 Downtowner Loop West, Mobile, Alabama 36609
Ph. No. (334) 344-7073 FAX No. (334) 343-9179
CGL PROJ. NO. 9828

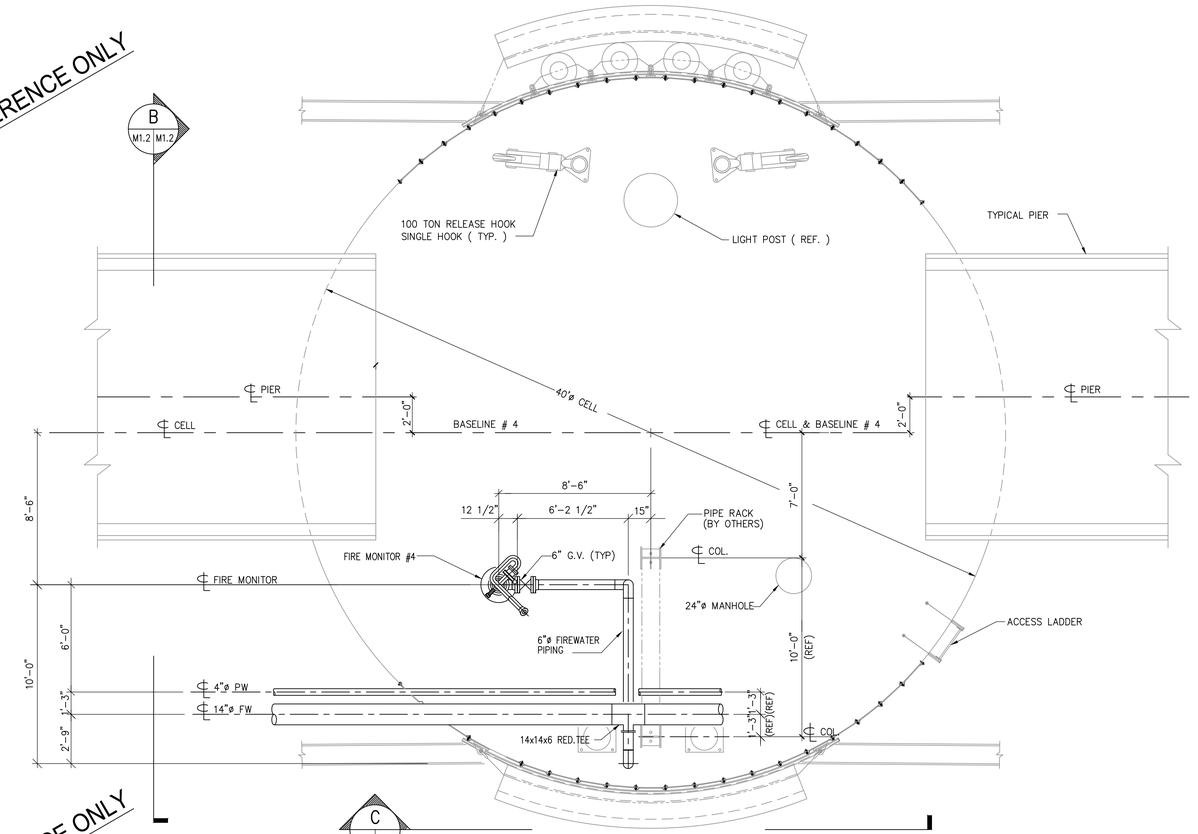
DWG BY:	DATE:	REVISIONS						SCALE:
RAD	7-9-98	BY:	DATE:	BY:	DATE:	BY:	DATE:	AS NOTED
CHKD. BY:	DATE:							DRAWING NO.: S3.7



A M1.2 M1.2

FOR REFERENCE ONLY

B M1.2 M1.2

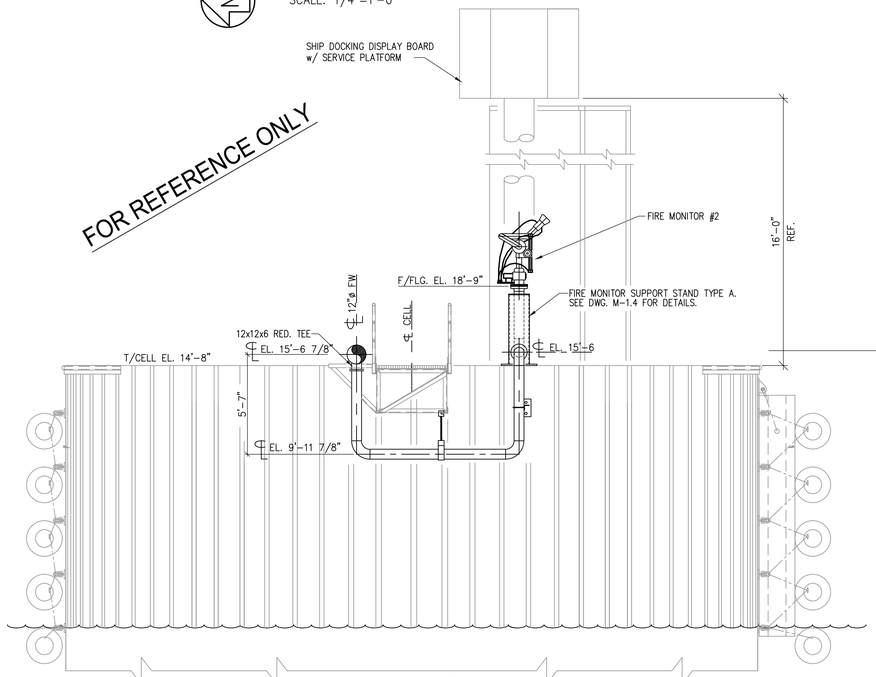


C M1.2 M1.2

FOR REFERENCE ONLY

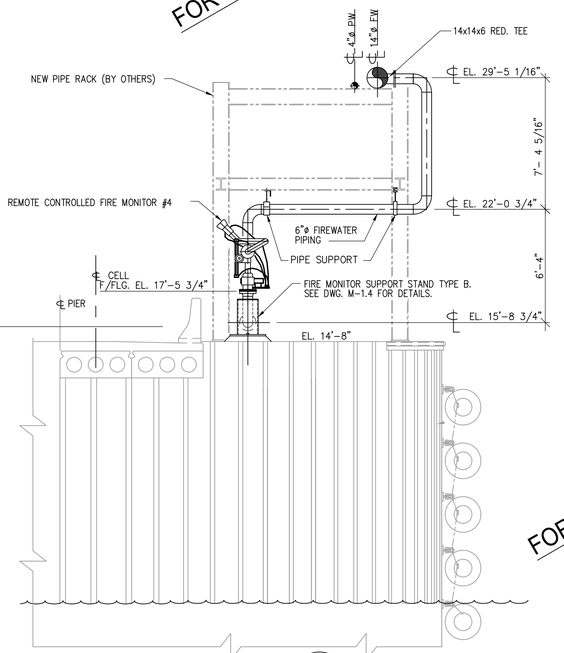
ENLARGED PLAN "B" – FIRE MONITOR #2

SCALE: 1/4"=1'-0"



SECTION A M1.2 M1.2
SCALE: 1/4"=1'-0"

FOR REFERENCE ONLY

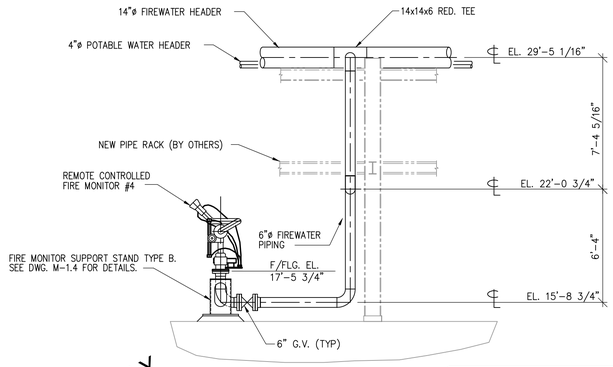


SECTION B M1.2 M1.2
SCALE: 1/4"=1'-0"

FOR REFERENCE ONLY

ENLARGED PLAN "C" – FIRE MONITOR #4

SCALE: 1/4"=1'-0"



SECTION C M1.2 M1.2
SCALE: 1/4"=1'-0"

NOTES:

1. FOR OVERALL PLAN SEE DWG. M-1.1.
2. FOR MATERIALS OF CONSTRUCTION SEE SPECIFICATIONS.

REV NO.	DATE:	BY	REVISION
2	4/29/99	WFC	REVISED FIRE WATER MONITOR ELEVATION SECT. "B" & "C"
1	3-8-99	RWM	REVISIED MONITOR # 2 LOCATION
0	9-14-98	WFC	ISSUED FOR CONSTRUCTION
Δ	7/20/98	RWM	RELEASED FOR BID

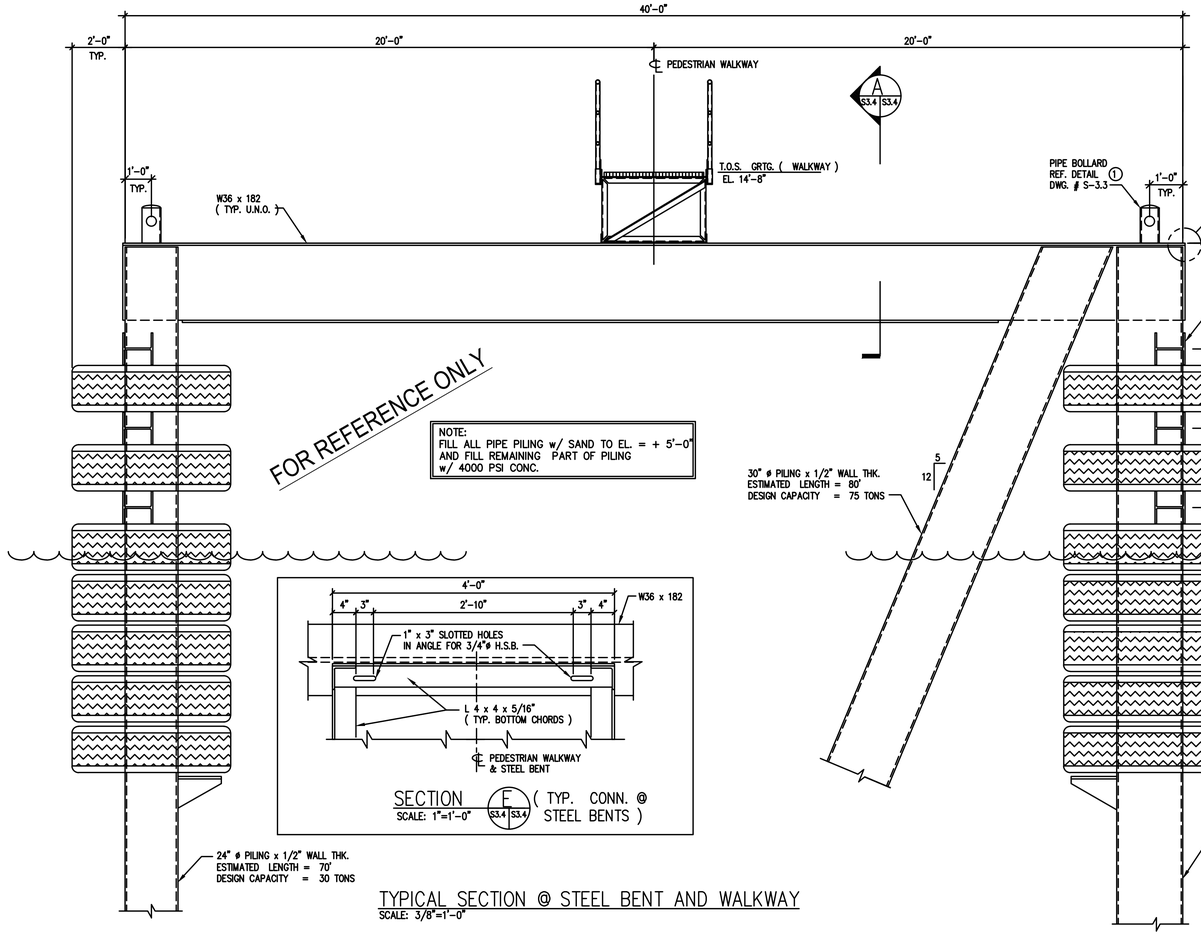
ALABAMA STATE DOCKS
MOBILE, ALABAMA

THEODORE SHIP TURNING BASIN LIQUID BULK TERMINAL

ENLARGED PLANS & SECTIONS

CLARK, GEER, LATHAM & Associates, Inc.
ENGINEER PLANNER ARCHITECT
762 Downtowner Loop West, Mobile, Alabama 36609
Ph. No. (334) 344-7073, FAX No. (334) 343-9179
CGL PROJECT NO. 9828

DWG BY:	DATE:	REVISIONS						SCALE:
WFC	7/9/98	BY:	DATE:	BY:	DATE:	BY:	DATE:	1/4"=1'-0"
CHKD. BY:	DATE:	·	_/_/_	·	_/_/_	·	_/_/_	DRAWING NO.: M-1.2

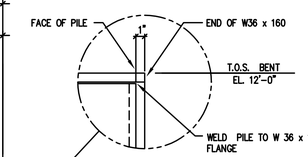


FOR REFERENCE ONLY

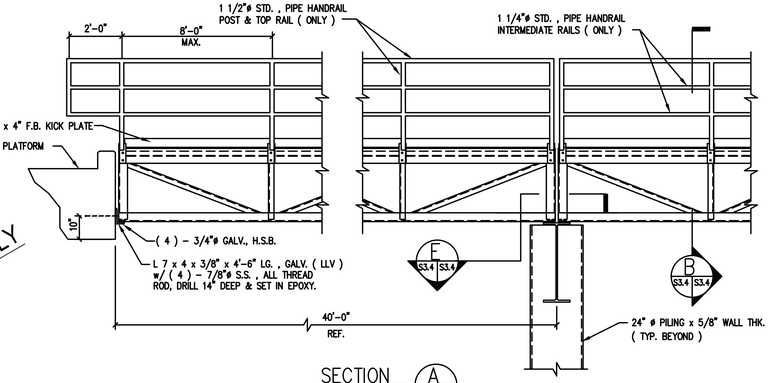
NOTE:
FILL ALL PIPE PILING w/ SAND TO EL. = + 5'-0" AND FILL REMAINING PART OF PILING w/ 4000 PSI CONC.

SECTION F S3.4 S3.6 (TYP. CONN. @ STEEL BENTS)
SCALE: 1"=1'-0"

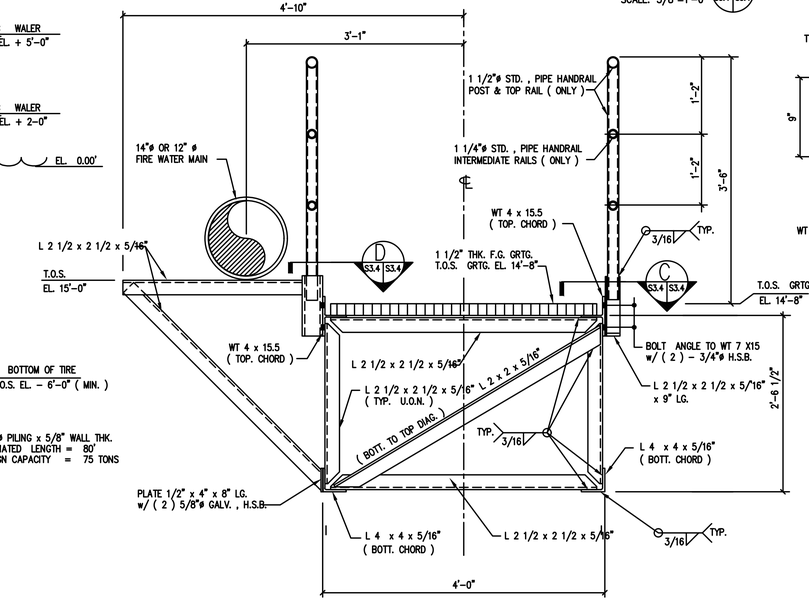
TYPICAL SECTION @ STEEL BENT AND WALKWAY
SCALE: 3/8"=1'-0"

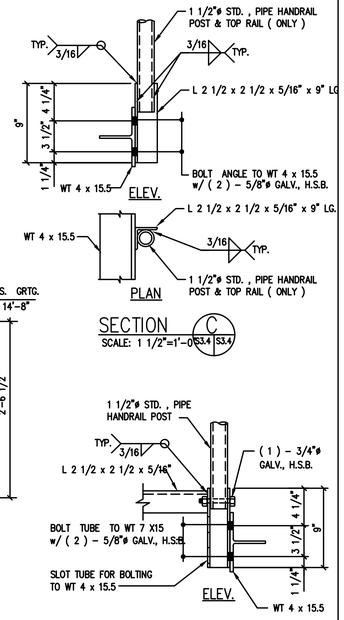


FOR REFERENCE ONLY

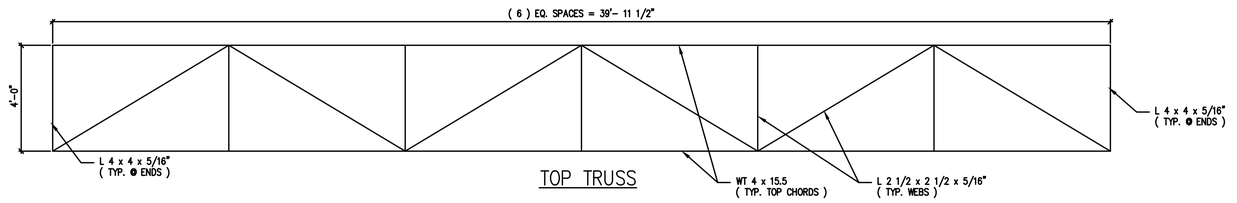


SECTION A S3.4 S3.4
SCALE: 3/8"=1'-0"



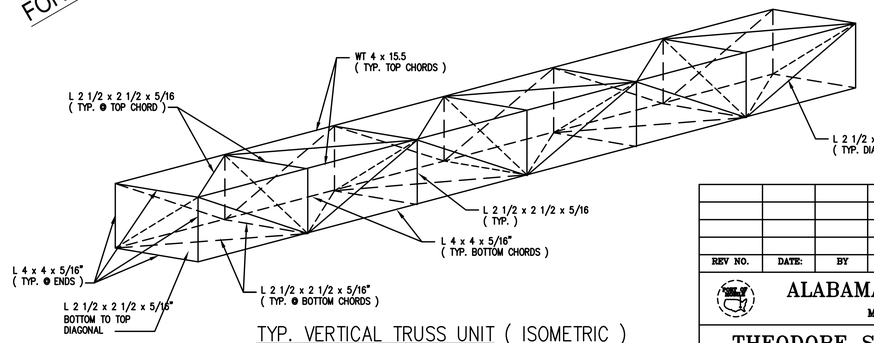


TYPICAL SECTION @ WALKWAY B S3.4 S3.4
SCALE: 1"=1'-0"



TYP. VERTICAL TRUSS UNIT
SCALE: 3/8"=1'-0"

FOR REFERENCE ONLY



TYP. VERTICAL TRUSS UNIT (ISOMETRIC)

SECTION D S3.4 S3.4
SCALE: 1 1/2"=1'-0"

REV NO.	DATE:	BY	REVISION

ALABAMA STATE DOCKS
MOBILE, ALABAMA

THEODORE SHIP TURNING BASIN LIQUID BULK TERMINAL

PEDESTRIAN WALKWAY PLAN, ELEV. AND DETAILS

CLARK, GEER, LATHAM & Associates, Inc.
ENGINEER PLANNER ARCHITECT
762 Downtowner Loop West Mobile, Alabama 36609
Ph. No. (334) 344-7073 FAX No. (334) 343-9179

CGL PROJ. NO. 9828

DWG BY:	DATE:	REVISIONS						SCALE:
WFC	6-6-98	BY:	DATE:	BY:	DATE:	BY:	DATE:	AS NOTED
CHKD. BY:	DATE:							DRAWING NO.: S3.4