

Travel Stop & Country Stores

FUEL SYSTEM STANDARDS

STORE #724 FUEL CANOPY ADDITION LAKE CITY, FL

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	PROJECT DATA	
	2020 FLORIDA BUILDING CODE 7TH EDITION 2020 FLORIDA PLUMBING CODE 7TH EDITION 2017 NATIONAL ELECTRICAL CODE OF FLORIDA 2020 FLORIDA MECHANICAL CODE 7TH EDITION	ISSUE
	2020 FLORIDA FIRE CODE 7TH EDITION NFPA 30 FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE	
	NFPA 30A CODE FOR MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES NFPA 1 UNIFORM FIRE CODE HANDBOOK	

GENERAL SCOPE

1. ASPHALT, CONCRETE AND PEA GRAVEL REMOVAL

10. ELECTRICAL CONNECTION AT NEW DISPENSERS.

12. RE-GRADING AROUND NEW CONCRETE SLAB AREA.

11. PEA GRAVEL AND CONCRETE WORK.

HANGING HARDWARE.

6. NEW FRP PRODUCT PIPING. 7. FRP FITTING INSTALLATION.

DISPENSERS UDC.

13. ASPHALT WORK.

2. TRENCHING AND CANOPY COLUMN FOOTING INSTALLATION.

8. CANOPY ADDITION TO EXTEND EXISTING AUTO CANOPY 34FT.

STORM DRAINAGE PIPING FROM NEW CANOPY EXPANSION COLUMN.

4. (2) NEW FUEL DISPENSER SUMPS, DISPENSER ISLANDS, 3+1 DISPENSERS AND

5. (1) REUSE EXISTING RV FUEL DISPENSER, NEW DISPENSER ISLANDS AND 3+1

9. CANOPY COLUMNS, FOOTINGS, STRUCTURAL FRAMING, DECKING AND FASCIA.

License #64568

Harrison French &

STORE NO.	603
DOCUMENT DATE:	03.30.22
CHECKED BY:	ВКН
DRAWN BY:	WWB

COVER SHEET AND INDEX

I GENERAL

- THE GENERAL CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, SERVICES AND EQUIPMENT NOT FURNISHED BY OWNER
- 2. FUEL CONTRACTOR TO INCLUDE IN SCOPE OF WORK FOR A SERVICE TECH TO BE ON SITE FOR 12 HOURS ON OPENING DAY. SERVICE TECH TO HAVE TOOLS AND SPARE PARTS ON SITE.
- 3. THE GENERAL ARRANGEMENT PLAN ((SHEET F-2) WILL GOVERN THE EXACT LOCATION, NUMBER, SIZE AND TYPE OF EQUIPMENT TO BE INSTALLED. THESE PLANS AND SPECIFICATIONS REPRESENT MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL FOLLOW THIS SCOPE OF WORK, ALL THE SPECIFICATIONS. REFERENCE DRAWINGS AND INSTALLATION DETAILS FURNISHED TO THE GENERAL CONTRACTOR AND ANY SPECIFIC INSTRUCTION NOTED BY THE OWNER REPRESENTATIVE. THE COMPLETE INSTALLATION SHALL BE DONE IN ACCORDANCE WITH THE LATEST STATE AND LOCAL REGULATIONS AND ORDINANCES GOVERNING THE INSTALLATION OF UNDERGROUND FUELING FACILITIES WHEN SUCH ORDINANCES EXCEED THESE MINIMUMS.
- 4. FUEL CONTRACTOR TO FILL OUT AN OWNER PROVIDED "FUEL SYSTEM CHECKLIST" AND RETURN TO THE OWNER UPON COMPLETION OF THE PROJECT AND SUPPLY LOVES WITH COPIES.
- CONTRACTOR SHALL ARRANGE FOR AND PAY FOR ALL INSPECTIONS, AND TESTS. THE COST OF ALL PERMITS AND FEES SHALL BE INCLUDED IN THE BID. UNLESS INDICATED OTHERWISE BY THE OWNER REPRESENTATIVE. COST SHALL BE INCLUDED IN BID UNLESS OTHERWISE NOTED
- 6. THE WORK SHALL INCLUDE THE COST OF TEMPORARY UTILITY CONNECTIONS IF REQUIRED, TRANSPORTATION AND RELATED ITEMS AS WELL AS ANY OTHER ADDITIONAL WORK PRESCRIBED IN THE CONTRACT OR DRAWINGS DEEMED NECESSARY FOR THE COMPLETION OF THE IMPROVEMENTS.
- THESE INSTALLATION SPECIFICATIONS ARE INTENDED TO COMPLEMENT THE SPECIFICATIONS AND DRAWINGS SUBMITTED FOR BID AND CONSTRUCTION, AND WILL TAKE PRECEDENCE OVER ANY INSTRUCTION WHEN THEY DIFFER THE FORGOING DESCRIPTIONS PERTAIN TO THE INSTALLATION OF DOUBLE WALL FIBERGLASS UNDERGROUND STORAGE TANKS IN CONJUNCTION WITH THE INSTALLATION OF A NEW RETAIL FACILITY AS WELL AS THE REPLACEMENT OF EXISTING UNDERGROUND TANKS AND RELATED EQUIPMENT IN AN EXISTING FACILITY. SOME OF THE INSTRUCTIONS ARE APPLICABLE TO THE TANK REPLACEMENT ONLY AND THE CONTRACTOR WILL STRICTLY ADHERE TO THOSE INSTRUCTIONS WHEN THAT IS THE CASE.
- ITEM NOT USED.
- THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION AND OPERATIONAL TESTING SHALL BE FOLLOWED TO AVOID THE POSSIBILITY OF DAMAGE TO THE

10. ITEM NOT USED.

- 11. UNKNOWN SITUATIONS OR CONDITIONS NOT COVERED IN THESE AND THE MANUFACTURER'S INSTRUCTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR, MANUFACTURER'S SPECIALISTS ARE AVAILABLE FOR CONSULTATION THE PRESENCE OF THE MANUFACTURER OR OBSERVER AT AN INSTALLATION SITE DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR THE PROPER INSTALLATION OF THE TANKS AND/OR EQUIPMENT.
- 12. ITEM NOT USED.

13. ITEM NOT USED.

14. ITEM NOT USED.

- 15. CONDITIONS A. THE CONTRACTOR SHALL BECOME ACQUAINTED AND COMPLY WITH ALL THE PROVISIONS OUTLINED IN THE OWNER GENERAL CONDITIONS,
- CONTRACT CONDITIONS AND THE REQUIREMENTS FOR INSURANCE SAFETY AND WORK PROCEDURES CURRENTLY ADOPTED BY OWNER. THE CONTRACTOR SHALL INSPECT THE SITE, DRAWINGS AND
- SPECIFICATIONS PRIOR TO SUBMITTING HIS BID. SHOULD THE CONTRACTOR FIND DISCREPANCIES OR QUESTIONS, SUBMIT INQUIRIES TO THE OWNER REPRESENTATIVE FOR CLARIFICATION. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT A COMPLETE SCHEDULE FOR THE COMPLETION OF THE PROJECT BEFORE THE CONTRACT IS AWARDED.

16. EXTRA WORK AND CONTRACT SUPPLEMENTS

CHANGES AND EXTRAS SHALL BE AUTHORIZED IN WRITING. THE CONTRACTOR SHALL SUBMIT QUOTATIONS FOR THIS WORK IN A REASONABLE AMOUNT OF TIME AND NO EXTRA WORK SHALL COMMENCE UNTIL THE QUOTATION IS SUBMITTED AND ACCEPTED BY THE OWNER REPRESENTATIVE. ORAL AGREEMENTS WILL NOT BE RECOGNIZED BY OWNER.

17. INSPECTION OF WORK

THE OWNER REPRESENTATIVE WILL INSPECT ALL MATERIAL AND WORKMANSHIP FURNISHED UNDER THE CONTRACT. IF IN HIS OPINION, ANY PART IS UNSATISFACTORY, THE CONTRACTOR SHALL REPLACE OR CORRECT IT AT CONTRACTOR'S EXPENSE.

18. CLEAN-UP

CONTRACTOR SHALL REMOVE FROM THE CONSTRUCTION SITE AND ADJACENT PROPERTIES EXCESS AND WASTE MATERIAL FROM THIS WORK, AND PROPERLY

19. GUARANTEE OF MATERIAL AND WORKMANSHIP

IF WITHIN ONE YEAR AFTER THE DATE OF COMPLETION AND ACCEPTANCE OF THIS WORK, ANY OF THE MATERIAL OR WORKMANSHIP FURNISHED BY THE CONTRACTOR SHALL PROVE DEFECTIVE, CONTRACTOR SHALL UPON RECEIPT OF OWNER WRITTEN REQUEST, REPLACE OR REPAIR IT AT CONTRACTOR'S

20. CODES

PLANS AND SPECIFICATIONS REPRESENT MINIMUM REQUIREMENTS. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE AND THE RULES AND REGULATIONS OF LOCAL JURISDICTIONS HAVING AUTHORITY. WHEN THOSE REQUIREMENTS EXCEED THESE MINIMUMS.

21. COORDINATION

CONTRACTOR SHALL COORDINATE ALL ACTIVITIES SUCH AS DELIVERY OF EQUIPMENT, DISPOSAL, INSPECTIONS, TESTING AND THE WORK TO BE PERFORMED BY OTHERS FOR OWNER. PREPARE IN A TIMELY MANNER. AREAS OF WORK TO BE DONE BY OTHERS AND PROVIDE REASONABLE ASSISTANCE FOR THE PERFORMANCE OF THEIR WORK.

II. WORK DESCRIPTION

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL THE EXCAVATION, TRENCHING. BACKFILLING AND REPAIRS INVOLVED IN THE PROJECT. INCLUDING THE EXCAVATION WORK REQUIRED FOR THE MECHANICAL AND ELECTRICAL INSTALLATIONS. THE WORK INVOLVED IN THE INSTALLATION OF UNDERGROUND TANKS CONSISTS OF THE FOLLOWING ACTIVITIES:
- A. PLANNING AND PREPARATION FOR THE PROJECT
- B. DEMOLITION AND REMOVALS OF EXISTING EQUIPMENT AND RELATED PIPING, ELECTRICAL WHEN APPLICABLE.

2. PLANNING AND PREPARATION FOR THE PROJECT

- A. THE CONTRACTOR SHALL INSURE THAT ALL THE PERMITS TO BE READY FOR POSTING AT THE JOB SITE.
- B. VERIFY THAT ALL THE MATERIAL AND EQUIPMENT TO BE FURNISHED BY OWNER IS IN HIS POSSESSION, INSPECTED AND READY FOR INSTALLATION, IF THAT IS NOT THE CASE, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE OWNER REPRESENTATIVE.
- OWNER REPRESENTATIVE THE WORK SCHEDULE, SEQUENCE OF OPERATION OR THE TIMELY COMPLETION OF THE PROJECT.
- D. LAYOUT THE AREAS FOR SAWCUTTING AND EXCAVATION IN THE CANOPY AREAS. PIPING AND ELECTRICAL TRENCHES AS SHOWN IN THE GENERAL ARRANGEMENT PLAN JETHE DEMARCATION IS NOT SHOWN OR OBSTACLES ARE PRESENT, REVIEW THE LAYOUT WITH THE OWNER REPRESENTATIVE FOR ALTERNATIVES.
- E. SELECT AREAS WHERE THE EXCAVATION MATERIAL SHALL BE PLACED FOR FUTURE USE OR DISPOSAL. INSURE EXCAVATED MATERIAL DOES NOT BECOME A NUISANCE TO THE SITE OR ADJACENT PROPERTIES. BARRICADE AREAS THAT MAY PRESENT SAFETY PROBLEMS OR EXPOSE PROPERTIES TO DAMAGE.

3. DEMOLITION, REMOVAL AND DISPOSAL

- CONTRACTOR'S CERTIFICATION TO PERFORM THIS TYPE OF WORK.
- B. WARNING! ALL GASOLINES, DIESEL, WASTE OIL AND CONTAMINATED SOILS ARE CONSIDERED HAZARDOUS MATERIALS. AND AS SUCH. THEY MUST BE HANDLED AND DISPOSED OF UNDER CURRENT FEDERAL AND STATE LAWS. IF CONTAMINATED SOILS ARE ENCOUNTERED, THE OWNER REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY. THE COST OF ADDITIONAL EXCAVATION, HANDLING, TRANSPORTATION AND DISPOSAL OF CONTAMINATED SOILS WILL BE HANDLED UNDER SEPARATE CONTRACT OR ADDITIONAL COST.

III. PIPING SPECIFICATIONS

- EXACT LOCATION, NUMBER AND SIZE OF ALL UNDERGROUND PIPING AS WELL AS THE TYPE OF EQUIPMENT TO BE INSTALLED. REFER TO DETAIL DRAWINGS FOR INSTALLATION PROCEDURES TO BE FOLLOWED. NOTE: ALL REFERENCES TO VAPOR LINES ARE APPLICABLE ONLY TO COMMON HEADER SYSTEM FOR VAPOR I, VAPOR II AND VENT, AND THOSE AREAS WHERE INDIVIDUAL VAPOR PHASE I, PHASE II AND VENTS LINES ARE REQUIRED. NON STATE II AREAS DO NOT REQUIRE STAGE II PIPING.
- TESTING OF PUMPS. FILTERING SYSTEM, TANK GAUGING AND DISPENSERS SHALL BE FOLLOWED TO AVOID POSSIBILITY OF DAMAGE TO EQUIPMENT
- 4. ALL INSTALLATIONS SHALL INCLUDE THE INSTALLATION OF AMERON DUALOY 3000 LCX, ALL VAPOR RECOVERY AND VENTING SYSTEMS SHALL BE SINGLE WALL FRP PIPE. MANUFACTURED BY AMERON OR EQUAL (EXCEPT CALIFORNIA REQUIRES DOUBLE WALL). ALL PIPING, RISERS, AND FITTINGS (EXCEPT FOR VALVES, BOOTS, AND STAINLESS STEEL FLEX CONNECTORS) ARE PROVIDED BY

TRENCH EXCAVATION

- A. ALL TRENCHES SHALL BE EXCAVATED TO NEAT LINES AND SHALL BE OF SUFFICIENT WIDTH, DEPTH AND ALIGNMENT AS TO PERMIT THE INSTALLATION OF DOUBLE WALL PIPING, FITTINGS, AND LAYING OF PIPES THEREIN OR OF INSTALLATION OF CONDUITS.
- B. THE DITCH SHALL BE EXCAVATED TO SLOPE FROM THE TANK HOLE AREAS UP TO THE DISPENSER OR VENT AREA (SLOPE 1/8" PER FOOT) AND ALLOW A 6" PEA GRAVEL BED BENEATH THE PIPING
- PROVIDE A MINIMUM 24" PEA GRAVEL COVER OVER THE VENT LINES AND CONDUITS. TRENCH DIMENSIONS SHALL ALLOW FOR A 6-INCH PEA GRAVEL ALL AROUND THE PIPES AND CONDUITS. ALL PIPE TRENCHES ARE TO BE LINED WITH FILTER FABRIC - PROPEX 2002 OR EQUIVALENT.

6. IF PIPING WORK IS FOR REPLACEMENT AT EXISTING LOCATION, FOLLOW THESE ADDITIONAL GUIDELINES:

- A. SURVEY THE SITE TO DETERMINE WHERE POSSIBLE, THE LOCATION OF OTHER EXISTING UNDERGROUND FACILITIES SUCH AS SEWER LINES. WATER, CONDUITS ETC., TO MINIMIZE DAMAGE DURING THE EXCAVATION PROCESS. HAND DIG AREAS OF POTENTIAL DAMAGE.
- B. SAWCUT CLEAN AND SQUARE THE AREAS TO BE EXCAVATED. BREAK OUT AND REMOVE CONCRETE AND PAVING WITHIN SAWCUT LINES. DISPOSE OF ALL DEBRIS TO MINIMIZE INTERFERENCE.

TRENCH BACKFILLING

- A. BED AND BACKFILLING MATERIAL SHALL BE PEA GRAVEL OR OTHER EQUIVALENT MATERIAL DESIGNATED BY THE OWNER ENGINEER.
- B. REMOVE ALL FORM LUMBER AND CONSTRUCTION DEBRIS PRIOR TO DEPOSITION OF BACKFILL.
- C. BACKFILL MATERIAL SHALL BE PLACED IN THIN UNIFORM LAYERS AROUND AND OVER PIPING, VENT LINES OR CONDUITS AND THEN COMPACTED. BACKFILL REQUIRED UNDER CONCRETE IN LOCATIONS WHERE HAND TAMPING IS NECESSARY, SHALL BE PLACED IN LAYERS NOT EXCEEDING SIX INCHES OF COMPACTED THICKNESS, MOISTENED AND HAND TAMPED WITH PNEUMATIC OR HAND TAMPERS WEIGHING NO LESS THAN 2-1/2 POUNDS PER SQUARE INCH OF TAMPING AREA. THOROUGHLY TAMP ENTIRE AREA TO A DENSITY OF 90% MAXIMUM DENSITY
- D. ALL BACKFILLING OF ANY EXCAVATION SHALL BE DONE ONLY AFTER TESTING. REQUIRED INSPECTION AND APPROVAL HAVE BEEN OBTAINED FROM PROPER AUTHORITIES AND THE OWNER REPRESENTATIVE.
- E. BACKFILL OR FILL IN PLANTING AND UNIMPROVED AREAS, MAY BE CONSOLIDATED BY PUDDLING WITH WATER.
- F. IN EXISTING OPERATING LOCATIONS, THE CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION THE AREAS DISTURBED BY TRENCHING AND REGRADE NATURAL AREAS AS REQUIRED TO MATCH EXISTING ELEVATIONS IN ORDER TO FACILITATE THE PROPER DRAINAGE OF THE SITE.

ITEM NOT USED.

- - 9 PIPING SYSTEM FRP
- BOOTS AS REQUIRED.

AND ALL APPLICABLE LOCAL CODES

10. PRODUCT PIPING HANDLING AND STORAGE

PERTAINING TO FRP PIPE.

AROUND THE PIPE.

NOT USED

NOT USED

14. PIPING SYSTEM - METALLIC

A. ALL PRODUCT PIPING MUST BE DOUBLE WALL FRP WITH FITTINGS AND

B. ALL UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH NFPA No. 30

REFER TO MANUFACTURER'S CURRENT INSTALLATION MANUALS.

A. IT IS REQUIRED THAT THE FUEL CONTRACTOR BE A CERTIFIED

INSTALLER OF FRP PIPING AND HAVE ON SITE THE CURRENT

B. SPECIAL CARE SHALL BE TAKEN TO PREVENT THE INTERMIXING OF

C. BY REFERRING TO MECHANICAL DRAWINGS, CONTRACTOR SHALL

PERMIT NO STAKES BEING DRIVEN IN THE VICINITY OF ANY FRP

D. ALL PIPE RUNS SHALL HAVE DETECTABLE TRACER TAPE INSTALLED.

A. STEEL PIPE, WHERE SPECIFIED, IF FOR PRODUCT, AND ALL UNIONS

SHALL HAVE BRASS TO METAL GROUND JOINT SEAT (250# UNIONS)

GASOILA E SEAL FOR ALL THREADED CONNECTIONS EXCEPT D.E.F.

UTILIZE GASOILA DEF. ALL BURIED STEEL PIPING SHALL BE COATED 8

CONTRACTOR. ALL TERMINATION FITTINGS SHALL BE BY PRODUCT

POINTED IN THE 4 TO 8 O'CLOCK POSITION (UNLESS LOCAL

B. METALLIC PIPE AND FITTING SPECIFICATIONS

WRAPPED, ALL VENT PIPE RISERS SHALL BE PAINTED BLACK BY FUEL

PIPING MANUFACTURER TERMINATION FITTINGS WITH THE VALVE STEM

JURISDICTION REQUIRES VALVE STEMS TO BE LOCATED AT 6 O'CLOCK.

REMOVE SCHRADER" VALVES FOR PROPER DRAINAGE AFTER TESTING.

ALL PIPING SHALL BE MINIMUM SCHEDULE 40 WELDED

OR SEAMLESS STEEL PIPE PER ASTM A-53 & ASTM-120

ALL SCREWED FITTINGS SHALL BE BLACK IRON 300 LB

MALLEABLE IRON PER SPECIFICATION ASTM A 197

UNDERGROUND DISPENSER CONTAINMENT

SHALL BE STAINLESS STEEL (TEE AND ELBOWS)

STREET ELLS AND "ALL THREAD" NIPPLES SHALL

NOT BE USED. PIPELINES SHALL BE PLACED IN

STRAIGHT RUNS. WHEN USING PIPE FITTINGS,

LUBRICANT (PERMATEX NO. 2 OR EQUAL), THEN

THREADS SHALL BE CLEAN, FULL LENGTH, COATED WITH PETROLEUM RESISTANT THREAD

AND DIMENSIONAL STANDARD ASA B 6-20

METAL PRODUCT PIPE FITTINGS IN

(EXCEPT D.E.F). REMOVE BURRS FROM PIPE ENDS AND REMOVE ALL FOREIGN MATTER FROM THE INSIDE BEFORE ASSEMBLING. UTILIZE

STONES, DIRT CLODS OR OTHER DEBRIS WITH THE CLEAN PEA STONE

MANUFACTURER'S INSTALLATION MANUALS, BULLETINS AND LITERATURE

COMMENDED PROCEDURES FOR INSTALLATION. NO DEVIATION FROM

11. SPECIAL INSTRUCTIONS FOR FRP PIPING: (VERY IMPORTANT)

HESE SPECIFICATIONS WILL BE ALLOWED.

- FURNISHED BY OTHERS AND HIS OWN ARE ON HAND, PAID FOR AND
- C. THE CONTRACTOR SHALL NOTIFY THE OWNER REPRESENTATIVE, AT LEAST 48 HOURS IN ADVANCE, THE EXACT DATE READY TO COMMENCE WORK. IF THE STATION IS TO REMAIN OPEN FOR ANY PERIOD OF TIME DURING CONSTRUCTION, THE CONTRACTOR SHALL REVIEW WITH THE EVENTS AND ANY OTHER FACTOR THAT MAY ADVERSELY IMPACT THE

A. CONTRACTOR SHALL PROVIDE OWNER WITH PROOF OF THE

- THE SITE PLAN, PIPING PLAN AND THESE SPECIFICATIONS WILL GOVERN THE
- 2. REFER TO SECTIONS I. GENERAL, II. CONDITIONS AND III. SCOPE OF WORK OF THESE SPECIFICATIONS FOR INFORMATION AND CONDITIONS ALSO APPLICABLE TO THE INSTALLATION OF PIPING (EXCEPT WHERE APPLICABLE TO TANKS ONLY).
- 3. MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION AND OPERATIONAL

IV. DISPENSER INSTALLATION

1. DEEP SUMPS MUST BE INSTALLED IN THE DISPENSER CORE HOLES FOR COLLECTION OF LIQUIDS AND GRAVITY DRAINAGE INTO THE DOUBLE WALL PRODUCT PIPING. LIQUIDS WILL EVENTUALLY MIGRATE TO THE TURBINE PUMP CONTAINMENT SUMP AND SET OFF THE MONITORING PROBE IN THAT

TIGHTENED TO REFUSAL.

- 2. DISPENSERS SHALL BE INSTALLED LEVEL AND ANCHORED TO CONCRETE PUMP ISLANDS WITH A STEEL ANCHORAGE BOX (FURNISHED WITH DISPENSER SUMP UNLESS OTHERWISE SPECIFIED BY THE OWNER REPRESENTATIVE).
- 3. FURNISH AND INSTALL A 2" SLOTTED PIPE AND A LIQUID DETECTOR TO BE CONNECTED TO THE MONITORING DETECTION SYSTEM.
- 4. DISPENSER CORE HOLES AND SUMPS SHALL BE LEFT EMPTY OF BACKFILL FOR INSPECTION AND MAINTENANCE. FURNISH AND PADLOCK ALL DISPENSER NOZZLES. KEEP DISPENSER SHIPPING CARTONS OVER DISPENSERS FOR PROTECTION.
- 5. INSTALL AND ADJUST ALL SWIVELS, HOSES, NOZZLES, NOZZLE HANFERS AND VI. EQUIPMENT
- 6. UNPLUG MANAGERS KEYPAD TO ALL DISPENSERS
- 7. DISPENSER INSTALLERS SHALL RE-CALIBRATE DISPENSER 60 DAYS AFTER OPENING OF STORE.

V. TESTING

- CONSTRUCTION TESTING
 - A. ITEM NOT USED.

B. PIPING

- GENERAL CONTRACTOR SHALL GIVE REASONABLE ADVANCE NOTICE TO OWNER'S FIELD REPRESENTATIVE AND ANY OTHER REQUIRED LOCAL AUTHORITIES FOR THEIR INSPECTION OF THE UNDERGROUND TANK INSTALLATION AND LINES PRIOR TO BACKFILLING AND ALSO FOR THEIR PRESENCE DURING THE PRESSURE TESTING OF THE SYSTEM.
- 2. THE OWNER REPRESENTATIVE SHALL BE NOTIFIED TWENTY-FOUR HOURS IN ADVANCE OF TESTS.
- 3. EACH PIPE SYSTEM SHALL BE FLUSHED CLEAN. TEST THE PRODUCT AND IF APPLICABLE TEST THE VAPOR PIPING BY ISOLATING THE LINES FROM PUMPS, DISPENSERS AND TANKS, THEN APPLY AN AIR PRESSURE OF 75 PSI TO EACH PRIMARY LINE AND TEST ALL JOINTS FOR LEAKS THEN APPLY NO MORE THAN 10 PSI TO EACH SECONDARY LINE AND TEST ALL
- 4. ALL PRIMARY AND SECONDARY PIPING SHALL BE TESTED BEFORE BACKFILLING AND CONTINUOUSLY THEREAFTER UNTIL BACKFILL AND PAVING IS COMPLETED AND TEST IS ACCEPTED BY LOVE'S REPRESENTATIVE.
- 5. IF NO PERCEPTIBLE CHANGE IN PRESSURE HAS OCCURRED AT THE END OF THE TEST PERIOD, TIHE SYSTEM SHALL BE CONSIDERED ACCEPTABLE
- 6. NO PRODUCT SHALL BE INTRODUCED INTO THE LINES UNTIL AFTER PAVEMENT IS INSTALLED OVER ALL FUEL LINES. LOCAL ORDINANCES AND REQUIREMENTS SHALL TAKE PRECEDENCE IF MORE SEVERE.

2. PRIOR TO POST CONSTRUCTION TESTING

BEFORE BACKFILLING,

- A. THE SYSTEM MUST BE BLED OF AIR AND PRESSURE TESTED USING GAUGES SUITABLE FOR GASOLINE/DIESEL/DEF SERVICE WITH A MAXIMUM READING OF 60 P.S.I. INSTALLED AT PLUGGED OPENING PROVIDED IN EACH DISPENSER.
- B. THE SYSYTEM SHALL BE COMPLETELY PURGED BY DISCHARGING PRODUCT THROUGH ALL DISPENSERS ON EACH PUMP STARTING WITH THE MOST REMOTE DISPENSER LISING A SUITABLE HOSE CONNECTED TO THE NOZZLE AND RETURN PURGED FUEL INTO THE APPROPRIATE TANK PURGE A MINIMUM OF 500 GALLONS, THROUGH EACH DISPENSER HOSE. OBSERVE THE GAUGE AND CONTINUOUSLY FLOW PRODUCT UNTIL ALL EVIDENCE OF AIR DISAPPEARS PUEGED DEF CANNOT BE RETURNED TO THE TANK OR DISPOSED OF IN THE OIL WATER SEPARATOR
- ONCE THE SYSTEM HAS BEEN PURGED THEN ALL FUEL METERS MUST BE CALIBRATED, DOCUMENTED, AND WIRE CALIBRATION SEAL INSTALLED.

3. POST CONSTRUCTION TESTING AND TEST PROCEDURES

- A. ALL THE POST CONSTRUCTION TESTING MUST BE COMPLETED BY A THIRD PARTY
- B. LINE TIGHTNESS TEST PEI, RP100, 11.1.4.
- C. HYDROSTATIC UDC AND SUMP TEST PEI, RP1200, 6.5.6 OR 6.6.
- D. PIPING ANNULAR TEST (ALL SECONDARY PIPING IS REQUIRED TO BE TESTED INCLUDING SYPHON LINES AND VENT PIPING IF APPLICABLE)
- E. LINE LEAK DETECTOR FUNCTIONALITY TEST PEI, RPI 200, 9.2.6.
- F. SENSOR FUNCTIONALITY TEST (ATG PRINT OUTS MUST ACCOMPANY TEST FORM) - PEI, RP1200, 8.3.6.
- G. SHEAR VALVE FUNCTIONALITY TEST PEI, RP1200, 10.2.5.
- H. TESTING IS NOT LIMITED TO TESTS AND PROCEDURES NOTED ABOVE -VERIFY LOCAL TESTING REQUIREMENTS.

4. AFTER POST CONSTRUCTION TESTING

ADVANCE OF THIS DATE.

PEI. RP1200. 5.7.

- A. THE IMPACT VALVE PLUG UNDER EACH DISPENSER SHALL BE SEALED WITH A WIRE SEAL THROUGH TIHE HOLE IN THE PLUG AND AROUND THE VALVE. QUICK CONNECT TEST FITTINGS CANNOT BE LEFT IN THE SHEAR VALVES.
- B. ALL HYDROSTATIC TEST WATER MUST BE DISPOSED OF PROPERLY. CONTACT LOVE'S ENVIRONMENTAL DEPT WITH ANY DISPOSAL
- QUESTIONS. C. ALL SUMPS, UDCS, AND SPILL BUCKETS MUST BE CLEAN, DRY AND FREE
- OF DEBRIS. D. ALL TESTING DOCUMENTS MUST BE SUBMITTED TO THE LOVE'S ENVIRONMENTAL DEPARTMENT BY THE MONDAY PRIOR TO OPENING UNLESS STATE OR LOCAL AUTHORITIES REQUIRE IT TO BE SUBMITTED IN
- E. ALL TESTING OUTLINED IN 7.2 AND INSTALLATION CHECKLIST (NOTED BELOW) MUST BE SUBMITTED TO LOVE'S ENVIRONMENTAL DEPARTMENT
- BEFORE FINAL PAYMENT IS RELEASED. 1. LOVE'S NOV INSTALLATION CHECKLIST
- 2. METER CALIBRATION 3. BRAVO CERTIFICATION AND CHECKLIST (IF APPLICABLE) 4. ISO FUEL PANEL CHECKLIST

1. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIALS NOT FURNISHED BY OWNER BUT NECESSARY FOR THE COMPLETION OF THE

- 2. REFER TO CHART TITLED "MATERIAL FURNISHED BY OWNER" FOR THE LIST OF EQUIPMENT SCHEDULED TO BE FURNISHED BY OWNER. THE CHART ONLY DESCRIBES AND IDENTIFIES THE ITEMS PER MANUFACTURER. CORRELATE THE SYMBOL NOMENCLATURE TO SYMBOLS SHOWN IN THE REFERENCE DRAWINGS. SEE THE SITE PLAN AND REFERENCE DRAWINGS FOR
- 3. OWNER MAY ELECT TO REQUEST THE CONTRACTOR TO FURNISH ALL OR PART OF THE EQUIPMENT TO BE FURNISHED BY OWNER. SUCH ITEMS WILL BE LISTED IN THE CONTRACT DOCUMENT OR SITE PLAN. NO SUBSTITUTIONS WILL BE ALLOWED UNLESS APPROVED BY THE OWNER REPRESENTATIVE.

VII. SITE EARTHWORK

QUANTITIES REQUIRED.

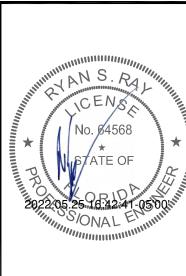
- 1. CONTRACTOR SHALL STOCKPILE ANY CONTAMINATED SOIL ON BACK OF SERVICE STATION LOT AND COVER WITH MEMBRANE AS DIRECTED BY
- 2. BACKFILL WITH THE STOCKPILED EXCAVATION MATERIAL AND/OR OTHER APPROVED NATIVE OR IMPORT SOILS. ALL BACKFILL SHOULD BE SPREAD, WATERED, MIXED AND COMPACTED BY MECHANICAL MEANS IN APPROXIMATE 6-INCH THICK LIFTS. THE DEGREE OF COMPACTION OBTAINED SHOULD BE AT
- 3. IMPORTED FILL MATERIALS SHOULD CONSIST OF CLEAN GRANULAR SOILS FREE FROM VEGETATION, DEBRIS, OR ROCKS LARGER THAN 3 INCHES. THE EXPANSION INDEX VALUE SHOULD NOT EXCEED A MAXIMUM OF 20 (NON-EXPANSIVE).

LEAST 90 PERCENT OF THE ASTM-D-1557-78 LABORATORY TEST STANDARD.

- 4. ALL EARTHWORK OPERATIONS SHOULD BE SUBJECT TO COMPACTION MONITORING OBSERVATION AND TESTING BY A SOILS ENGINEER.
- 5. CONTRACTOR SHALL HAUL AWAY AND LEGALLY DISPOSE OF ALL EXCESS EXCAVATED MATERIALS, ASPHALT, AND CONCRETE AFTER OWNER CLEARS

HARRISON FRENCE & ASSOCIATES, t 479.273.7780

> 1705 S. Walton Blvd., Suite 3 Bentonville, Arkansas 72712 www.hfa-ae.com



ISSUE BLOCK

Ryan S. Ray, P.E.

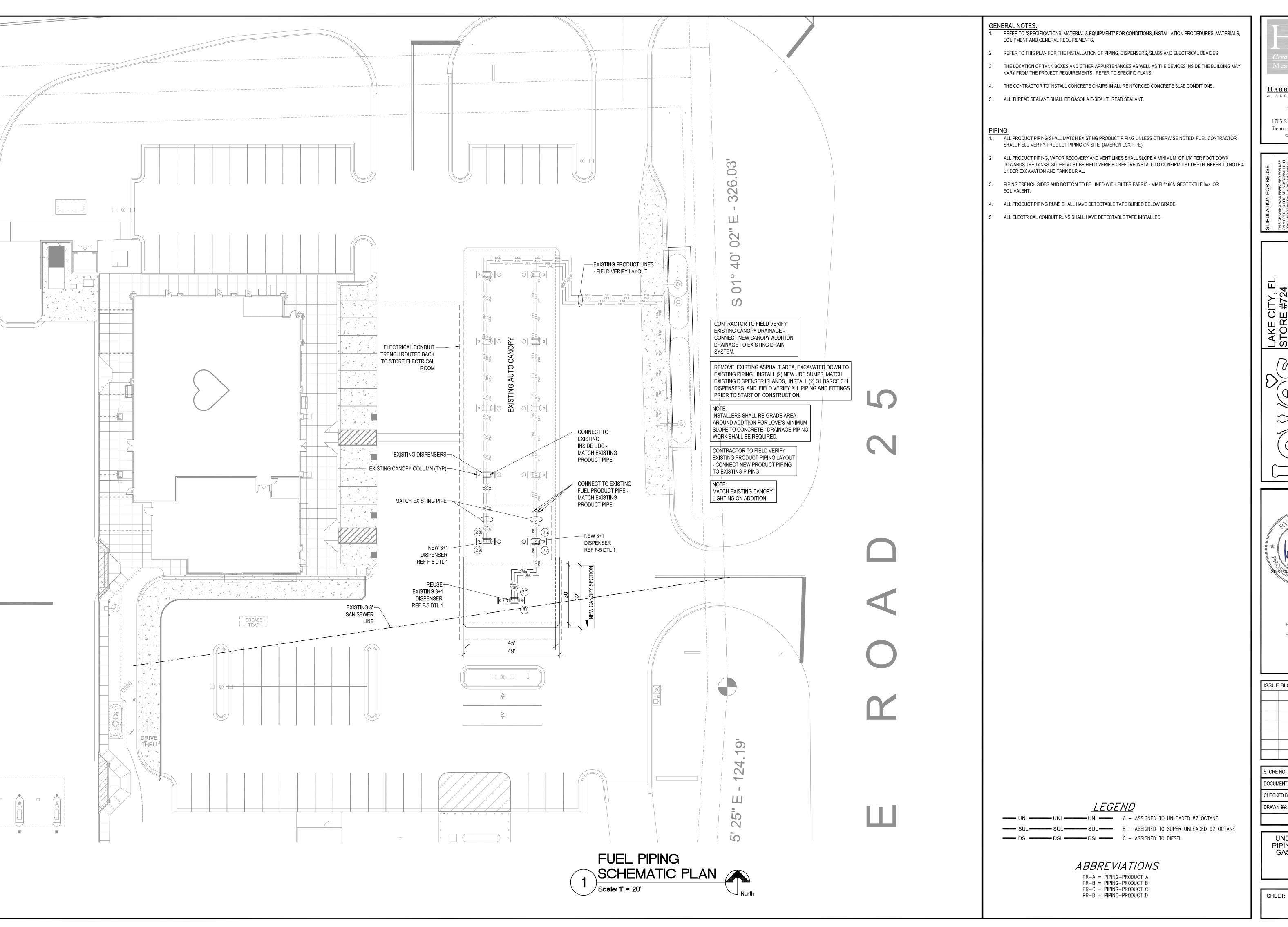
License #64568

Harrison French &

Associates, LTD

STORE NO.	600
DOCUMENT DATE:	03.30.22
CHECKED BY:	BKH
DRAWN BY:	WWE
	-

SPECIFICATIONS. MATERIAL. **EQUIPMENT**



Creative Solutions
Meaningful Places

HARRISON FRENCH

t 479.273.7780

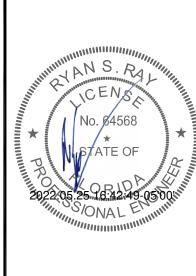
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Travel Stop & Country Stores

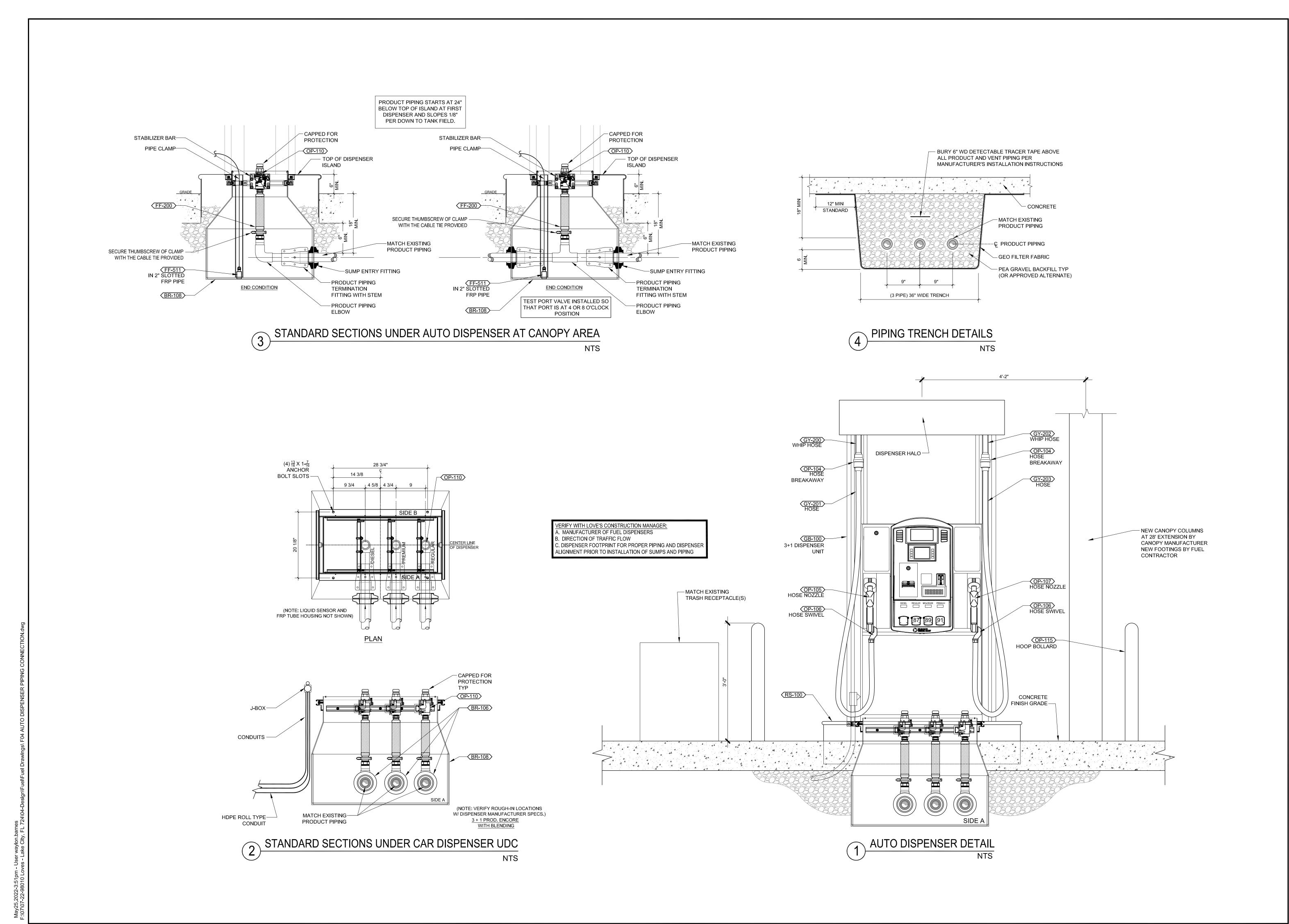


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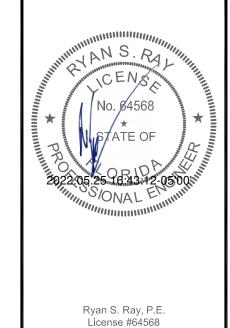
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UNDERGROUND PIPING PLAN FOR GASOLINE, AND DIESEL



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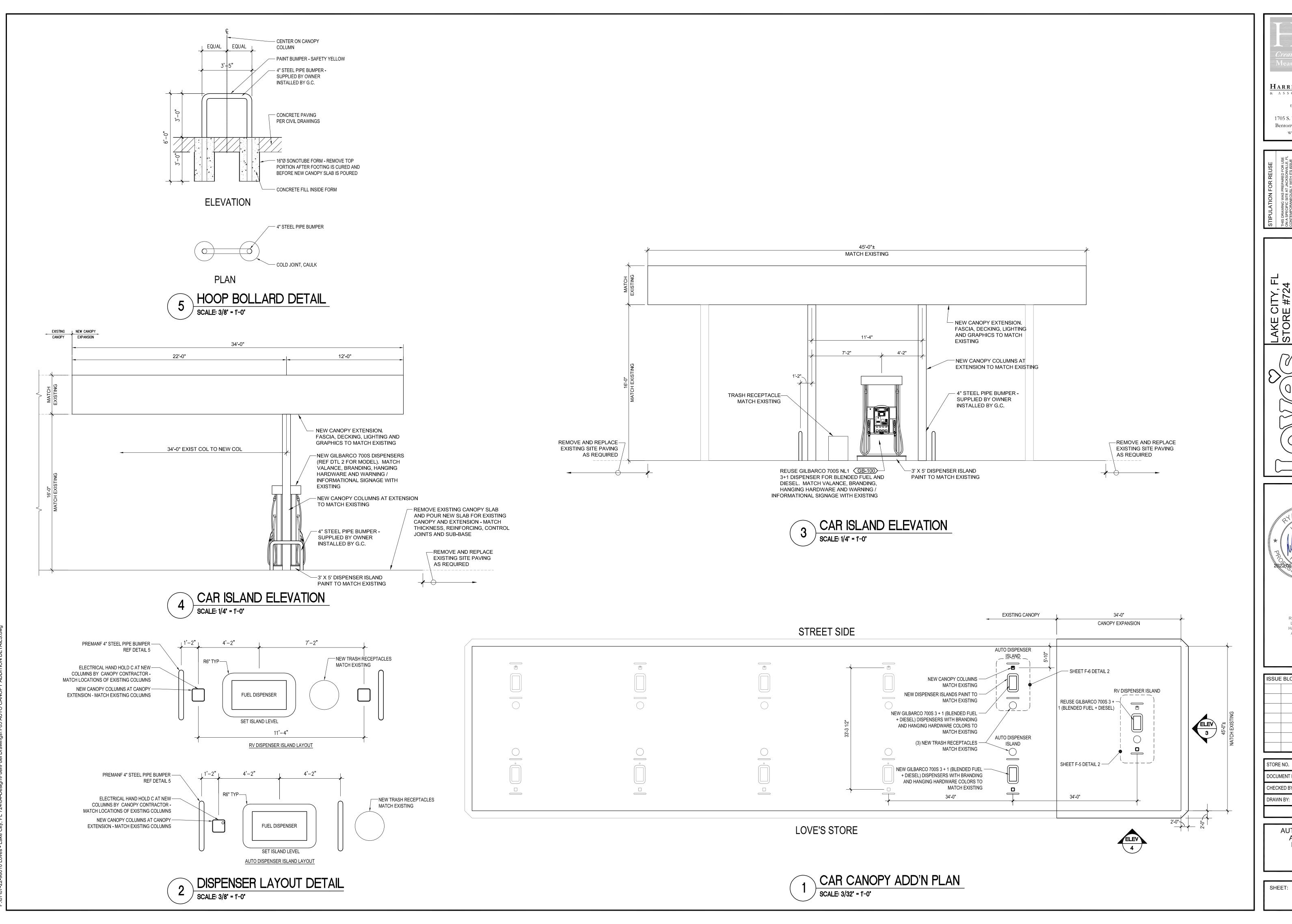
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AUTO PIPING CONNECTIONS AT DISPENSERS

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Creative Solutions
Meaningful Places

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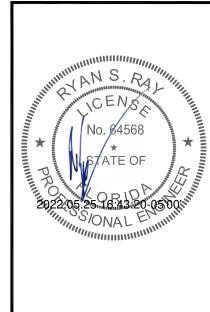
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AUTO CANOPY ADDITION DETAILS

ITEM NO.	PART NO.	DESCRIPTION	SUPPLIE
AM-100	AM-00002728	JUMPER TUBE	CONTRAC
AM-101	SP-GLUE	ADHESIVE 6.5 OZ 8014 SMITH/FIBERGLS	CONTRAC
AM-102	SP-FILLER	FILLER FOR SECONDARY FITTINGS	CONTRAC
AM-103	AM-PSX-20-1	ADHESIVE 8 OZ SINGLE	CONTRAC
AM-200	AM-LCX-P-2-34	2" LCX PIPE 34' LENGTH	CONTRAC
AM-201	AM-LCX-P-2-32	2" LCX PIPE 32' LENGTH	CONTRAC
AM-202	AM-P-2-33	2" PRIMARY SW PIPE 33' LENGTH	CONTRAC
AM-203	AM-22469206	2" LCX TEST REDUCER W/ AIR STEM	CONTRAC
AM-204	AM-SC-2	2" COUPLING	CONTRAC
AM-205	AM-LCXSC-2	2" COUPLING-LCX 2 PIECE	CONTRAC
AM-206	AM-T-2	2" TEE	CONTRAC
AM-207	AM-LCX2PCT-2	2" TEE LCX - 2 PIECE	CONTRAC
AM-208	AM-EL90-2	2" 90 DEGREE ELBOW	CONTRAC
AM-209	AM-LCX-EL90-2	2" 90 DEGREE ELBOW - LCX - 2 PIECE	CONTRAC
AM-210	AM-SXM-2	2" SPIGOT X MALE ADAPTER	CONTRAC
AM-211	AM-BXM-2	2" BELL X MALE ADAPTER	CONTRAC
AM-213	AM-EL45-2	2" 45 DEGREE ELBOW	CONTRAC
AM-214	AM-LCX2PCEL45-2	2" 45 DEGREE ELBOW LCX - 2 PIECE	CONTRAC

BRAVO SYSTEM					
ITEM NO.	PART NO.	DESCRIPTION	SUPPLIED BY		
BR-105	F-30-SS-D	3" PASS-THROUGH FITTING (IF NEEDED)	CONTRACTOR		
BR-106	F-20-SS-D	2" PASS-THROUGH FITTING	CONTRACTOR		
BR-107	BR-EP-100	BRAVO ENTRY FITTING ADHESIVE KIT - 7 OZ	CONTRACTOR		
BR-108	B1380-S30	DISPENSER UDC - SW	CONTRACTOR		

FRANKLING FUELING					
ITEM NO. PART NO. DESCRIPTION SUPPLIED BY					
FF-200	FFUL15X18X20EZF	SS FLEX CONNECTOR 1.5"M X 18" X 2" EZF (OR EQUAL)	CONTRACTOR		
FF-511	TSP-ULS	LIQUID ONLY SENSOR	CONTRACTOR		

GILBARCO SCHEDULE				
ITEM NO.	PART NO.	DESCRIPTION	SUPPLIED BY	
GB-100	700S NL1	ENCORE 700S NL1 BENDER 3+1	OWNER	

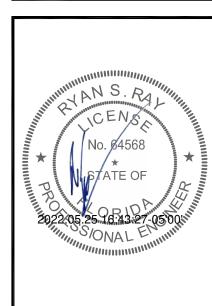
HANGING HARDWARE			
ITEM NO.	PART NO.	DESCRIPTION	SUPPLIED BY
GY-200	GY-34WHP-G	3/4" X 8" FLEX WHIP, AUTO DIESEL - GREEN	CONTRACTOR
GY-201	GY-3408-G	3/4" X 8' FLEXSTEEL HOSE - GREEN DIESEL	CONTRACTOR
GY-202	GY-34WHP	3/4" X 8" FLEX WHIP - BLACK	CONTRACTOR
GY-203	GY-3408	3/4" X 8' FLEXSTEEL HOSE - BLACK	CONTRACTOR

MISCELLANEOUS PARTS SCHEDULE			
ITEM NO.	PART NO.	DESCRIPTION	SUPPLIED BY
RS-100	3X5X13-GALV	3'W X 5'L X 13"H. ISLAND FORM W/ 6" RADIUS ENDS	CONTRACTOR
RS-102	PIPESLEEVE-8X36-GAL	U-GUARD PIPE SLEEVE 8" DIA. X 36" TALL	CONTRACTOR

ITEM NO.	PART NO.	DESCRIPTION	SUPPLIED BY
OP-104	OPW-68EZR-7575	3/4" BREAKAWAY - RECONNECTABLE	CONTRACTOR
OP-105	OPW-11B-8100-UL	AUTO DIESEL NOZZLE - GREEN, UL2586	CONTRACTOR
OP-106	OPW-45-5060	3/4" SWIVEL	CONTRACTOR
OP-107	OPW-11BP-8400-UL	NEW UNLEADED NOZZLE - BLACK, UL 2586	CONTRACTOR
OP-110	OPW-10BHMP-5830	DOUBLE POPPETED EMERGENCY VALVES	CONTRACTOR
OP-111	OPW-60VSP-1001	POPPETED VAPOR LINE SHEAR VALVE (IF NEEDED)	CONTRACTOR
OP-115	6PGR4-4174	U-SHAPED PIPE GUARD 41"X 74" - SCH. 40	CONTRACTOR

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EQUIPMENT SCHEDULES

XX-XXX MATCHES ITEMS IN PLANS

EQUIPMENT:

FUEL CONTRACTOR TO FIELD VERIFY TYPE AND QUANTITIES OF EQUIPMENT NEEDED TO COMPLETE THE PROJECT.

I. <u>GENERAL</u>

THIS SECTION COVERS THE REQUIREMENTS FOR THE COMPLETE INSTALLATION AND TESTING OF THE ELECTRICAL DISTRIBUTION OF POWER, CONTROLS AND DEVICES SHOWN IN THESE CONSTRUCTION DOCUMENTS NECESSARY TO INSTALL NEW OR REPLACE THE EXISTING UNDERGROUND STORAGE TANKS AND RELATED EQUIPMENT AT THE SITE REFERRED TO IN THE CONTRACT DOCUMENTS AND THE DRAWINGS FURNISHED BY OWNER.

1 <u>CODES:</u>

ALL WORK DONE UNDER THIS SPECIFICATION SHALL COMPLY WITH THE MOST RIGID REQUIREMENTS OF THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE STATE, COUNTY, AND CITY CODES, LAWS AND REGULATIONS.

NOTHING IN THESE SPECIFICATIONS SHALL RELIEVE THE CONTRACTOR FROM FULL COMPLIANCE WITH THE APPLICABLE PORTIONS OF THE ABOVE REGULATIONS, NOR ANY OTHER PROVISIONS, CODES, OR REGULATIONS HAVING JURISDICTION PERTAINING TO WORK BEING INSTALLED UNDER THIS SECTION.

2. <u>DRAWINGS:</u>

THE DRAWINGS MAY OR MAY NOT BE COMPLETE AS TO DETAILS, AND SHALL BE USED IN CONJUNCTION WITH THESE SPECIFICATIONS, AS INDICATIVE OF THE SCOPE OF WORK SHOWING THE LOCATION AND GENERAL INSTALLATION DETAILS OF ALL ELECTRICAL SYSTEMS.

3. <u>DESIGN:</u>

ALL SCALED AND FIGURED DIMENSIONS ARE APPROXIMATE AND ARE GIVEN FOR ESTIMATION PURPOSES ONLY. BEFORE PROCEEDING WITH ANY WORK, THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL LOCATIONS, DIMENSIONS, SIZES, ETC., AND SHALL BE RESPONSIBLE FOR THE FITTINGS OF HIS MATERIALS AND EQUIPMENT TO THE EQUIPMENT OF OTHER CRAFTS AND THE STRUCTURES.

SHOP DRAWINGS:

SHOP DRAWINGS BY AN OUTSIDE VENDOR, SHALL BE CHECKED AND APPROVED BY THE CONTRACTOR TO COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.

5. GENERAL REQUIREMENTS

A. ELECTRICAL SYSTEM LAYOUTS INDICATED ON THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND THE LOCATIONS OF OUTLETS AND EQUIPMENT ARE APPROXIMATE. EXACT ROUTING OF CONDUITS, WIRING, AND THE PLACEMENT OR EQUIPMENT SHALL BE GOVERNED BY THE LOCATION OF OBSTRUCTIONS AND THE STRUCTURAL CONDITIONS. WIRING FOR EQUIPMENT REQUIRING MAINTENANCE OR INSPECTION SHALL BE READILY ACCESSIBLE.

B. THE CONTRACTOR SHALL FABRICATE, ERECT, INSTALL, CONNECT, AND TEST ALL ELECTRICAL INSTALLATIONS, SYSTEMS, AND EQUIPMENT AS SHOWN ON THE DRAWINGS.

C. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL RACKS, BRACKETS, SUPPORTS, PUSHBUTTON SUPPORTS, HANGERS, AND BRACING INCLUDING CONCRETE PEDESTALS, FOUNDATIONS, STRUCTURES, AND ANCHOR BOLTS, NEEDED TO SUPPORT ALL ELECTRICAL EQUIPMENT, MATERIAL, FIXTURES AND INSTRUMENTS TO ASSURE A STABLE AND WORKMANLIKE JOB WHETHER OR NOT SHOWN IN DETAIL ON THE DRAWINGS, AND SHALL MOUNT ALL ELECTRICAL EQUIPMENT, FIXTURES AND INSTRUMENTS AS SPECIFIED OR SHOWN ON THE DRAWINGS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS, ADDENDA, DRAWINGS AND SPECIFICATIONS. HE SHALL CHECK THE DRAWINGS OF THE OTHER TRADES AND SHALL CAREFULLY READ THE ENTIRE SPECIFICATIONS AND DETERMINE HIS RESPONSIBILITIES. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM DOING THE WORK IN COMPLETE ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

II. WORK DESCRIPTION

THE ELECTRICAL INSTALLATIONS CONSIST OF THE FOLLOWING AREAS OF WORK. VERIFY ADDITIONAL SPECIFIC REQUIREMENTS WITH THE OWNER\ REPRESENTATIVE.

POWER DISTRIBUTION PANEL

CONTRACTOR(S) SHALL VERIFY EXISTING POWER PANELS AND NEW EQUIPMENT REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL CONNECTIONS AND INSTALLATIONS OF NEW EQUIPMENT PER CODE(S).

ITEM NOT USED

ITEM NOT USED.

4. SUMP SENSORS

SENSORS MAY BE PART OF THE MONITOR SENSOR SYSTEM. WIRING FOR SENSORS IS INTRINSICALLY SAFE. DEDICATE ONE CONDUIT TO THIS CIRCUIT AND LOOP TO ALL UNDERGROUND TANKS.

5. TANK GAUGING SYSTEM

INSTALLATION OF THE TANK GAUGING CONTROL PANEL AS SHOWN IN THE DRAWINGS OR AS INDICATED BY THE OWNER REPRESENTATIVE. PROVIDE POWER AND REQUIRED GROUNDING CIRCUITS TO NEW PANEL AND CONNECT PANEL TO ALL PROBES INSTALLED IN THE TANKS. CONTRACTOR SHALL STRICTLY FOLLOW THE MANUFACTURER'S INSTRUCTIONS FOR NUMBER OF WIRES, WIRE SIZE, WIRE INSULATION, DEDICATION OF CONDUIT (INTRINSICALLY SAFE PROBES CIRCUITRY) AND CONDUIT DIAMETERS. THE MANUFACTURER WILL REFUSE TO START UP THE SYSTEM AND WILL NOT PROVIDE WARRANTIES IF THE INSTALLATION DOES NOT FULLY COMPLY WITH MANUFACTURER'S INSTRUCTIONS.

ALL TANK GAUGING WIRING SHALL BE CONTINUOUS RUNS (NO SPLICING) WITHOUT APPROVAL FROM LOVE'S PROJECT MANAGER.

DISPENSERS

RUN CONDUITS AND WIRES WITH GROUND FOR A.C. CIRCUITS (A.C. AND D.C. AS REQUIRED) TO FUELING ISLANDS AND CONNECT DISPENSERS IF NEW OR REPLACE EXISTING CIRCUITS TO EXISTING DISPENSERS AS SHOWN IN THE G.A. PLAN OR AS INDICATED BY THE OWNER REPRESENTATIVE. VERIFY REQUIREMENTS PRIOR TO SUBMITTING THE BID QUOTATION.

III. <u>MATERIALS</u>

1 <u>GENERAL</u>

UNLESS NOTED OTHERWISE ON THE DRAWINGS, AND LISTED BY UNDERWRITERS' LABORATORIES, INC., WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL SERVICE IS REGULARLY FURNISHED BY THAT AGENCY. NO SUBSTITUTIONS SHALL BE MADE FOR MATERIALS SHOWN OR SPECIFIED BY MANUFACTURERS' NAMES OR CATALOG NUMBERS WITHOUT PRIOR WRITTEN APPROVALS OF OWNER.

WHERE THE WORDS "OF EQUAL", "APPROVED", OR WORDS OF SIMILAR MEANING ARE USED, THEY SHALL BE INTERPRETED AS MEANING EQUAL IN THE OWNER'S OPINION. APPROVAL SHALL BE OBTAINED IN WRITING BEFORE A SUBSTITUTION IS MADE.

2. CONDUITS:

CONDUITS SHALL BE DELIVERED TO THE JOB SITE LABELED AND IN ORIGINAL BUNDLES. ALL CONDUIT SHALL BE HDPE ROLL CONDUIT EXCEPT @ CLASSIFIED AREAS. PROVIDE METAL CONDUITS AT CLASSIFIED AREAS, 10'-0" MINIMUM, IN EARTH TRENCH EACH ENDS OF RUNS WITH HDPE ROLL CONDUITS IN BETWEEN. PROVIDE GROUNDING CONDUITS PER CODE. PROVIDE METAL COATED CONDUITS AT CORROSIVE SOIL LOCATIONS. CONTRACTOR TO REFER TO GEO TECHNICAL REPORT IN OWNER'S SPECIFICATION BOOK FOR SOILS RESISTIVELY.

3. CONDUCTORS, WIRE SIZE AND CABLES:

ALL WIRE AND CABLE FURNISHED BY CONTRACTORS SHALL BE NEW, BEAR THE LABEL OF THE UNDERWRITERS' LABORATORIES, INC., AND BROUGHT TO THE BUILDING SITE IN UNBROKEN PACKAGES OR REELS.

POWER, AND CONTROL CONDUCTORS FURNISHED BY THE CONTRACTOR SHALL BE COPPER 600 VOLT, CLASS THWN INSULATED, UNLESS OTHERWISE SPECIFIED.

NO WIRE SMALLER THAN NO. 12 AWG WILL BE USED FOR POWER CIRCUITS 600 VOLT AND BELOW, UNLESS SPECIFIED. CONTROL WIRES SHALL BE NO. 14 AWG AND SIGNAL/DATA/INTRINSICALLY SPECIFIED BY THE EQUIPMENT SUPPLIER. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID AND ALL

4. CONDUIT FITTINGS, AND OUTLETS:

ALL FITTINGS IN CLASS I, DIVISION I, SHALL BE EXPLOSION-PROOF TYPE, U/L APPROVED FOR CLASS I, GROUP D, DIVISION I SERVICE.

CONDUCTORS #8 AND LARGER SHALL BE STRANDED.

MISCELLANEOUS

CONTRACTOR SHALL FURNISH STRUCTURAL STEEL SECTIONS AND ANGLE BARS. UNISTRUT SECTIONS, CONDUIT, CONDUIT BENDS, CONDUIT FITTINGS, ELECTRIC WIRE, SWITCHES, RECEPTACLES, BOXES, AND ALL OTHER MATERIALS NECESSARY FOR SYSTEM OPERATION.

CONTRACTOR SHALL FURNISH ALL OTHER MATERIALS INCIDENTAL TO THE WORK WHETHER OR NOT SHOWN ON THE DRAWINGS, INCLUDING BUT NOT LIMITED TO: ELECTRICAL TAPE AND TAPING MATERIALS, SOLDER, FLUX, RED LEAD, GLYPTOL OR OTHER INSULATING ENAMELS, WIRE IDENTIFICATION TAGS, SEALING MATERIALS FOR FITTINGS, ALL FASTENING DEVICES SUCH AS CLIPS, BOLTS, NUTS, WASHERS, SCREWS, CONDUIT STRAPS, HANGERS CONDUIT PLUGS CAPS AND GASKETS.

IV. CONDUIT INSTALLATION

1. CONDUIT RUNS:

ALL EXPOSED CONDUIT SHALL BE INSTALLED STRAIGHT AND TRUE WITH REFERENCE TO THE ADJACENT WORK. WHEN A NUMBER OF ADJACENT CONDUITS RUN IN THE SAME DIRECTION, THEY SHALL RUN PARALLEL.

ALL CONDUIT RUNS SHALL BE INSTALLED SO AS TO AVOID PIPING. CONDUITS SHALL BE INSTALLED SO THAT THERE SHALL NOT BE LESS THAN 12" CLEARANCE TO PIPING EXCEPT AT CROSSING WHERE THE SPACE WILL BE AS GREAT AS THE CONSTRUCTION WILL PERMIT. CONDUITS MUST BE WRAPPED WHEN WITHIN 12"

REFER TO CONSTRUCTION DRAWINGS FOR MINIMUM SIZE OF CONDUITS. OTHERWISE MINIMUM SIZE SHALL BE 3/4" DIA.

ISOLATE FEP VSP/STP's IN SEPARATE CONDUITS.

2. BENDS, DIAMETER, AND RADIUS:

STANDARD BENDS MAY BE USED ABOVE GROUND AND ALL BENDS AND OFFSETS SHALL BE OF AS LARGE A RADIUS AS THE CONSTRUCTION WILL PERMIT BUT IN NO CASE SHALL THE INSIDE RADIUS BE LESS THAN 5-INCH OR SIX TIMES THE NOMINAL DIAMETER OF THE CONDUIT, WHICHEVER IS GREATER.

CHANGES IN DIRECTION LATERALLY CONDUIT RUNS BELOW GRADE OR SLAB SHALL BE MADE WITH LONG RADIUS CONDUIT BENDS. LONG RADIUS BENDS AND OFFSETS SHALL BE NOT LESS THAN TEN TIMES THE NOMINAL DIAMETER OF THE CONDUIT. CONDUIT BENDS 1" OR LARGER OF NOT MORE THAN 45-DEGREE DEFLECTION MAY BE MADE WITH A BENDING MACHINE (NOT A HICKEY) ON THE JOB; 90-DEGREE BENDS SHALL BE LONG RADIUS FACTORY BENT. STANDARD RADIUS ELBOWS MAY BE USED TO BRING UNDERGROUND CONDUITS ABOVE GROUND.

HAZARDOUS AREA:

CONSTRUCTION SHALL BE OF THE EXPLOSION-PROOF TYPE. THIS SHALL INCLUDE THE INSTALLATION OF UNDERWRITERS' LABORATORIES, INC. APPROVED HOT DIPPED RIGID STEEL CONDUITS, CAST METAL BODY (FERROUS METAL) FITTINGS, GASKETED COVERS AND SEAL-OFFS WITH SEALING COMPOUND. CONDUIT SEALS SHALL BE ACCESSIBLE.

THREADED COVERS AND GROUND JOINTS OF ALL EXPLOSION—PROOF FITTINGS SHALL BE GREASED WITH U/L APPROVED COMPOUND BEFORE FINAL ASSEMBLY.

SEALING FITTINGS SHALL BE INSTALLED AND SEALED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

4. CONDUIT SUPPORTS:

APPROPRIATE CLAMPS, HANGERS, U-BOLTS, STRAPS AND SPACERS SHALL BE USED ON STEEL STRUCTURES. ALL CONDUITS SHALL RIGIDLY SECURED IN POSITION WITH MINIMUM CODE SPACING OR SUPPORTS.

STORAGE AREA CONDUITS;

UNDERGROUND RUNS SHALL BE SUFFICIENTLY BELOW GRADE (24" MINIMUM) TO GUARD AGAINST INJURY DURING BACKFILL, ETC. . . , AND BE SO ARRANGED AS TO AVOID INTERFERENCE WITH OTHER UNDERGROUND LINES OR

6. PULL AND JUNCTION BOXES:

IN LONG RUNS OF CONDUIT, SUFFICIENT PULL BOXES SHALL BE USED TO FACILITATE PULLING WIRES AND CABLES. ALL PULL BOXES SHALL BE OF AMPLE DIMENSIONS AND SHALL BE ACCESSIBLE WHEN THE WORK IS COMPLETED. WHERE PULL BOXES ARE INSTALLED IN EXPOSED LOCATIONS, LOCATION SHALL BE APPROVED BY THE OWNER REPRESENTATIVE.

7. MOISTURE AND CONDENSATION:

AT LOCATIONS WHERE EXCESSIVE MOISTURE IS PRESENT OR CONDENSATION IS LIKELY TO TAKE PLACE, I.E., PLANTER AREAS, PROVISIONS SHALL BE MADE FOR THE DRAINAGE OF THE CONDUIT SYSTEM BY THE INSTALLATION OF DRAIN TYPE FITTINGS AND BREATHERS IN CONDUITS, JUNCTION BOXES, OR OTHER LOW POINTS.

8. MISCELLANEOUS:

CONDUIT SHALL BE CUT SQUARE AND ALL ENDS SHALL BE REAMED. ALL CONDUIT ENDS SHALL BE THREADED WITH A MINIMUM OF FIVE FULL THREADS. NO RUNNING THREADS SHALL BE PERMITTED. JOINTS SHALL BE MAKE UP WITH RED OR WHITE LEAD.

ALL TEMPORARY ENDS OF CONDUIT SHALL BE PLUGGED DURING CONSTRUCTION. ALL UNUSED TAPS IN CONDUITS, FITTINGS, ETC. . .. SHALL BE EQUIPPED WITH RECESSED HEAD GALVANIZED CONDUIT PLUGS.

ANY SPARE CONDUITS SHALL BE TERMINATED WITH A COUPLING AND A GALVANIZED CONDUIT PLUG WITH A NYLON PULL WIRE.

THE ENTIRE CONDUIT WORK SHALL BE FISHED, SNAKED, AND CLEANED BEFORE PULLING IN WIRES OR CABLES.

V. CONDUCTOR INSTALLATION

1. WIRE CARE DURING INSTALLATION

NO WIRE SHALL BE DRAWN INTO ANY CONDUIT OR DUCT UNTIL ALL WORK OF ANY NATURE THAT MAY CAUSE INJURY TO WIRE OR ITS INSULATION IS COMPLETED.

CARE SHALL BE TAKEN IN PULLING IN WIRES TO PREVENT DAMAGE TO THE INSULATION OR WIRES DURING THE PULLING OPERATION.

2. TAGGING AND IDENTIFICATION

ALL FEEDERS, MAINS, AND SPECIAL CIRCUITS SHALL BE TAGGED IN PULL BOXES OR PANEL IN WHICH THEY CONNECT.

ALL TERMINAL BLOCKS REQUIRING NUMBERS SHALL BE NUMBERED BY CONTRACTOR WITH PERMANENT TYPE PAINT, NOT PENCIL OR INK.

ALL CONDUCTORS IN PANELS, STARTERS, PUSH BUTTONS, MOTORS, JUNCTION BOXES, LIGHTING, BRANCH CIRCUITS, CONTROL MAIN FEEDERS, INSTRUMENTATION, AND SPECIAL CIRCUITS SHALL BE IDENTIFIED BY TAGGING WITH SELF-ADHESIVE BRAND OR T & B VINYL LABELS, OR EQUAL.

CONTRACTOR SHALL INSTALL ALL TAGGING IN SUCH A MANNER AS TO BE CLEARLY VISIBLE.

IN CONNECTING WIRES TO SWITCHES OR CONTROLLERS, THE PHASES SHALL BE IDENTIFIED BY THE LOCATION OF THE TERMINAL, WHICH SHALL BE THE SAME FOR ALL EQUIPMENT OF THIS TYPE.

3. JOINTS, TAPS, AND SPLICES:

JOINTS AND TAPS ON LARGE CABLES, #4 AWG OR LARGER, SHALL BE MADE WITH T & B, OR BURNDY SOLDER LESS LUGS AND CONDUCTORS OR EQUAL. JOINTS IN BRANCH CIRCUIT WIRING SHALL BE MADE MECHANICALLY AND ELECTRICALLY SECURE.

UNLESS PROPERLY INSULATED BY THE CONNECTOR, ALL JOINTS SHALL BE TAPED WITH SCOTCH ELECTRICAL TAPE #33 AND COVERED BY ONE LAYER OF FRICTION TAPE IN A MANNER WHICH SHALL MAKE THE INSULATION OF THE JOINT EQUAL TO THAT OF THE CONDUCTOR.

CARE SHALL BE EXERCISED WHEN MAKING JOINTS AT CONDOLE TYPE FITTINGS SO THAT JOINTS WILL NOT BE FORCED INTO THE CONDUITS IN A MANNER WHICH MIGHT INJURE THE JOINT OR BREAK THE INSULATION OF THE WIRES.

NO SPLICES OF ANY KIND WILL BE PERMITTED IN SEALING FITTINGS.

CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICES OR JOINTS WILL BE PERMITTED IN EITHER FEEDERS OR BRANCHES EXCEPT AT OUTLETS OR ACCESSIBLE JUNCTION BOXES.

ALL JOINTS AND SPLICES IN CABLE SHALL BE MADE IN ACCORDANCE WITH THE CABLE MANUFACTURER'S SPECIFICATION.

4. WIRE SIZES AND TYPES:

ALL WIRE AND CABLE SIZES AND TYPES SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE. REFER TO THE CONSTRUCTION DRAWINGS AND FOLLOW THE BEST TRADE PRACTICE.

VI. <u>GROUNDING</u>

1. GROUNDING WILL BE PROVIDE IN ACCORDANCE WITH ALL APPLICABLE REGULATORY CODES.

2. THE FOLLOWING SHALL BE GROUNDED: NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL APPARATUS AND INSTRUMENTS, METALLIC CONDUIT, MACHINERY, MECHANICAL EQUIPMENT, MOTORS, STRUCTURAL STEEL, AND ENCLOSURE FENCES.

3. CONNECTIONS:

GROUNDING CONDUCTORS SHALL TERMINATE ON APPROVED GROUND LUGS. GROUND CONNECTIONS SHALL BE MADE WITH EVERDUR BOLTS, NUTS, AND LOCK WASHERS. UNDERGROUND SPLICES AND INACCESSIBLE CONNECTIONS TO GROUND SHALL BE MADE ONLY BY THE CADWELD PROCESS.

4. CONDUCTORS:

ALL UNDERGROUND GROUNDING CONDUCTORS SHALL BE INSULATED COPPER. ALL CONDUCTOR SHALL BE PROTECTED FROM MECHANICAL INJURY AND BE RIGIDLY SUPPORTED ON STRUCTURES.

5. CONDUIT:

ALL CONDUITS SHALL BE PERMANENTLY BONDED TO THE SYSTEM GROUND BY LOCKNUTS & ALREADY HAVE GROUND WIRE. 10' RIGID MIN. EA. END WITH HDPE ROLL CONDUIT TYPE AT CENTER.

VII. <u>TESTS</u>

1. ALL LABOR, MATERIALS, INSTRUMENTS, AND TOOLS FOR THE VARIOUS TESTS SHALL BE FURNISHED BY CONTRACTOR.

2. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND IMPROPER GROUNDS. ALL CIRCUITS SHALL BE MEGGERED BEFORE BEING ENERGIZED AND CHECKED FOR PROPER OPERATION BEFORE BEING CONNECTED TO THEIR RESPECTIVE LOADS.

3. THE CONTROL SYSTEM SHALL BE TESTED AND PUT INTO OPERATING CONDITION AND SHALL BE SET AND ADJUSTED AS TO GIVE PROPER CONTROL AND INDICATION OF MECHANICAL EQUIPMENT IN OPERATING SERVICE, TO THE SATISFACTION OF THE OWNER REPRESENTATIVE.

VIII. ACCEPTANCE AND CLEAN-UP

THE CONTRACTOR SHALL MAINTAIN ALL ELECTRICAL SYSTEMS AND EQUIPMENT INSTALLED BY HIM UNTIL FINAL ACCEPTANCE OF THE WORK. IN ADDITION TO THE GUARANTEES INCLUDED IN THE GENERAL CONDITIONS HEREOF. THE CONTRACTOR SHALL ALSO REPAIR OR REPLACE, TO THE SATISFACTION OF THE OWNER REPRESENTATIVE, ALL DEFECTIVE WORKMANSHIP OR MATERIALS FURNISHED BY HIM THAT MAY BECOME APPARENT DURING TESTING, RUN-IN, AND ACCEPTANCE TESTS OF THE CONTRACTOR'S WORK BY OWNER.

THE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES CLEAN AND FREE FROM ACCUMULATION OF WASTE MATERIALS AND DEBRIS. ALL EXPOSED WORK SHALL BE THOROUGHLY CLEANED. THE CONTRACTOR SHALL CLEAN ALL CONDUIT AND ELECTRICAL EQUIPMENT DURING THE PROGRESS OF THE WORK AND UPON COMPLETION, THE CONTRACTOR SHALL REMOVE ALL DEBRIS AND LEAVE THE EQUIPMENT AND PREMISES IN A CLEAN CONDITION.

GENERAL NOTES:

- THE INSTALLATION MUST CONFORM TO THE REQUIREMENTS OF ARTICLE 501, NATIONAL ELECTRICAL CODE (ANSI/NPFA 70) AND ALL OTHER LOCAL OR APPLICABLE CODES. FURNISH AND INSTALL CONDUIT SEALS PER LATEST N.E.C ARTICLES 510 & 514.
- 2. THE ELECTRICAL DEVICES SHALL BE LOCATED WHERE SHOWN IN THE SITE ELECTRICAL PLAN OR WHERE DESIGNATED BY SITE ENGINEER. THE GENERAL CONTRACTOR SHALL RUN POWER, CONTROLS AND COMMUNICATIONS CONDUITS TO THE SELECTED LOCATION.
- 3. EACH TYPE OF WIRING SYSTEM MUST BE RUN IN ITS OWN DEDICATED CONDUIT. AC, DC, DATA AND COMMUNICATIONS CIRCUITS MAY NOT BE COMBINED IN ONE CONDUIT UNLESS SPECIFICALLY NOTED IN THE PLANS.
- 4. ALL WIRING MUST BE RESISTANT TO OIL AND GASOLINE. TYPE THWN OR THHN.
- 5. ALL CONDUITS RELATED TO THE FUELING SYSTEM SHALL BE A COMBINATION OF RIGID, COATED RIGID, AND HDPE ROLL TYPE CONDUIT. UNDERGROUND CONDUITS SHALL BE PER SCHEDULES ON SHEET FE-2, FE-3, FE-4. STP SHALL BE ALL PVC COATED RIGID CONDUIT.
- 6. ALL POWER WIRING SHALL BE A MINIMUM AWG #12. ALL CONTROL WIRING SHALL BE AWG #14, UNLESS OTHERWISE SPECIFIED. DATA SHIELDED CABLES OR OTHER SPECIALTY WIRING SHALL CONFORM TO THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS OR OWNERS INSTRUCTIONS.
- 7. THIS IS A STANDARD DRAWING FOR GENERAL REQUIREMENTS ONLY. REFER TO THE GENERAL ARRANGEMENT PLAN OR ELECTRICAL SITE PLAN FOR CONDUIT RUNS, NUMBER OF DEVICES REQUIRED AND THE EXACT ORIGIN & TERMINATION OF CONDUITS.
- 8. ALL CONDUIT AND WIRES SHALL BE LABEL-IDENTIFIED AS SHOWN HEREIN.
- 9. THE TANK MONITORING SYSTEM SHALL BE LOCATED WHERE SHOWN IN THE SITE ELECTRICAL PLAN OR WHERE DESIGNATED BY THE SITE ENGINEER. THE GENERAL CONTRACTOR SHALL RUN POWER AND PROBE CONDUITS TO THE SELECTED LOCATION.
- 10. ALL INTRINSIC WIRING MUST BE RUN IN ITS OWN DEDICATED CONDUIT, SEPARATE FROM ALL OTHER A.C. OR D.C. WIRING.
- 11. ALL CONDUITS RELATED TO THE MONITORING SYSTEM SHALL BE RIGID, METALLIC, METALLIC PVC COATED OR PVC. UNDERGROUND CONDUITS SHALL BE METALLIC PVC COATED.
- 12. ALL INTRINSIC WIRING MUST BE AWG#18 UNLESS OTHERWISE SPECIFIED.
- 13. ALL POWER & CONTROL WIRING, EVEN WHEN CONNECTED THROUGH ANY ISOLATING RELAY, MUST BE AWG #12, AND RUN IN THEIR CONDUIT OR OTHER SHARED A.C.
- 14. FUEL CONTRACTOR SHALL UTILIZE ONLY MANUFACTURER'S AUTHORIZED TECHNICIANS FOR THE INSTALLATION OF THE EQUIPMENT AND THE FINAL TERMINAL CONNECTIONS, POWER UP, CALIBRATION AND TEST OF THE MONITORING EQUIPMENT. THE GENERAL CONTRACTOR SHALL SUBMIT TO OWNER A COMPLETE REPORT OF THE TESTING, SETTINGS AND CALIBRATION. THE FUEL CONTRACTOR SHALL INCLUDE IN HIS QUOTATION THE COST OF START UP.



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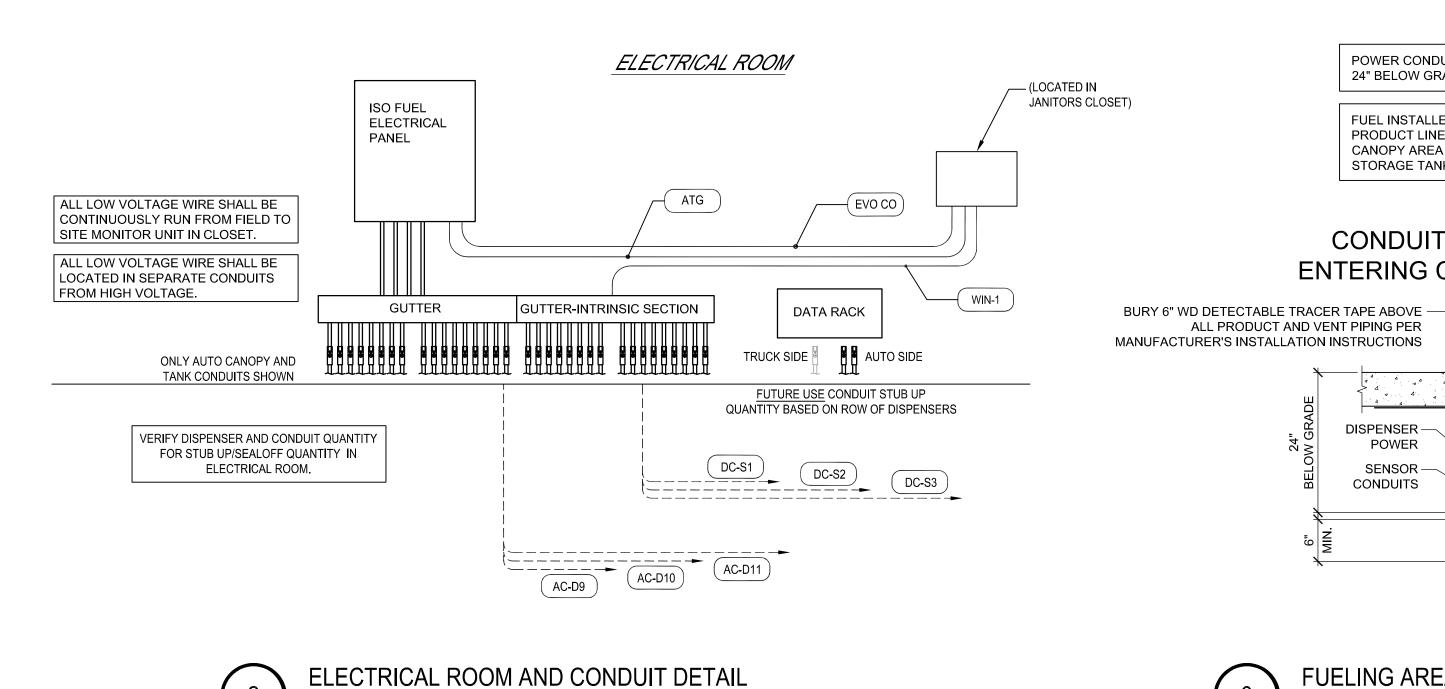
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> ELECTRICAL SPECIFICATIONS

SHEET: FE-1



CONDUIT HOME-RUNS SHALL BE FROM THE DISPENSERS FOR MORE DIRECT ROUTE FROM THE CANOPY AREA TO THE BUILDING TERMINATION POINT. REARRANGE THE CONDUITS I.D. TO MATCH SPECIFIC CONDITIONS BUT MAINTAIN THE SEQUENCE SHOWN HEREON.

THE FUEL ELECTRICAL CONTRACTOR SHALL VERIFY AND ACCOUNT FOR VOLTAGE DROP BASED ON LENGTH OF WIRE FROM ELECTRICAL ROOM TO TANK FIELD AND DISPENSERS CONNECTIONS. THE FUEL ELECTRICAL CONTRACTOR SHALL ADJUST WIRE SIZES IF STANDARD WIRE SIZED WILL NOT BE SUFFICIENT ENOUGH TO HANDLE THE LOAD BASED ON THE LENGTH OF WIRE.

		4		
UDC SENSOR WIRES				
CONDUIT RUN	CONTENTS OF CONDUIT	PAIRS PER CONDUIT		
DC-S1	2- COND BELDEN 88760 OR EQUAL	1		
DC-S2	2- COND BELDEN 88760 OR EQUAL	1		
DC-S3	2- COND BELDEN 88760 OR EQUAL	1		

NTS

FUEL CONTRACTOR TO VERIFY CONDUIT SIZE, QUANTITY AND REQUIREMENTS FOR CANOPY LIGHTING, BRANDING, DISPENSER POWER, COMMUNICATIONS, DATA, ETC. WITH THE CONSTRUCTION MANAGER.

ALL PRODUCT AND VENT PIPING PER

POWER CONDUITS TO BE INSTALL AT A MINIMUM OF

FUEL INSTALLER SHALL SEPARATE CONDUITS AND

CANOPY AREA AND BUILDING TO UNDERGROUND

PRODUCT LINE IN ALL TRENCHES FROM BUILDING TO

CONDUIT AND PRODUCT PIPING

ENTERING CANOPY AREAS (TYPICAL)

FUELING AREA CONDUIT TRENCH DETAIL

CONCRETE

24" BELOW GRADE.

STORAGE TANK AREA.

DISPENSER -

POWER

SENSOR -CONDUITS

> REMOVE AND REPLACE EXISTING CANOPY SLAB, DISPENSERS, DISPENSER ISLANDS, DISPENSER SUMPS, PIPING AND FITTINGS. REPLACE EXISTING CONDUIT AND WIRING AS REQUIRED.

- GEO FILTER FABRIC

PEA GRAVEL BACKFILL TYP (OR APPROVED ALTERNATE)

NTS

			AC-D10 AC-D11
	EXISTING FU	IELING AREA	DC-S3
			DC-S1 AC-D9

FUELING AREA CONDUIT ROUTING SCHEMATIC ONLY-VERIFY ACTUAL NUMBER OF FUELING BAYS WITH FUEL CANOPY LAYOUT

	S		T AND WIRE SCHEDULE - POWER SUPPLY, QUID SENSORS AND LEVEL PROBES (INTRI	
IDENTIFICATION OF CONDUIT	SIZE OF CONDUIT	ORIGIN	DESTINATION	QUANTITY & SIZE OF WIRES
AC-D9	1"	JUNCTION BOX - A.C. DISPENSER D-9	SEE PANEL MANUFACTURER DRAWINGS FOR CIRCUIT IDENTIFICATION	,
AC-D10	1"	JUNCTION BOX - A.C. DISPENSER D-10	SEE PANEL MANUFACTURER DRAWINGS FOR CIRCUIT IDENTIFICATION	2 SETS TWISTED PAIR (14 GAUGE) DISPENSER COMMUNICATION & CREDIT CARD READERS TO D-BOX.
AC-D11	1"	JUNCTION BOX - A.C. DISPENSER D-11	SEE PANEL MANUFACTURER DRAWINGS FOR CIRCUIT IDENTIFICATION	4-#14 GA. SWITCH-HOOK (U/L, PREMIUM,
				DIESEL, & SPARE)
				2 - #14 GA. SPARE
		LPOY		(1) 2- COND BELDEN 88760 OR EQUAL PER
DC-S1	1"	J-BOX DISPENSER #1 SUMP	GUTTER-INTRINSIC SECTION	(1) 2- COND BELDEN 88780 OK EQUAL PER SENSOR EA. SENSOR LOOPED THRU CONDUITS BACK TO ELECTRICAL ROOM
DC-S2	1"	J-BOX DISPENSER #2 SUMP	GUTTER-INTRINSIC SECTION	(1) 2- COND BELDEN 88760 OR EQUAL PER SENSOR EA. SENSOR LOOPED THRU CONDUITS BACK TO ELECTRICAL ROOM
DC-S3	1"	J-BOX DISPENSER #3 SUMP	GUTTER-INTRINSIC SECTION	(1) 2- COND BELDEN 88760 OR EQUAL PER SENSOR EA. SENSOR LOOPED THRU CONDUITS BACK TO ELECTRICAL ROOM
WIN-1	1-1/2"	GUTTER-INTRINSIC SECTION	EVO DISPLAY PANEL MOTOR CONTRL. CENTER	(47) BELDEN 88760 OR EQUAL
EVO CO	CABLE	COMM. ENTRANCE AT EVO PANEL	TPI AT ISO FUEL PANEL	
ATG	1"	A.C. POWER CKTS#	A.C. CKTS. ENTRANCE AT THE EVO PANEL	3-#12
WDT-1	3/4"	A.C. POWER CKTS#	GILBARCO D-BOX	3-#12
DATA	1"	GUTTER-INTRINSIC SECTION	GILBARCO D-BOX	CAT 5 CABLE

LEGEND

AC-D(X) ----- (AC) AUTO CANOPY - DISPENSER (#)

—————— (AC) AUTO CANOPY - DISPENSER SENSOR CONDUIT (#) DC-S(X) CONDUIT (#) ASSOCIATED WITH DISPENSER (#) — — — — — (AC) AUTO CANOPY - FUTURE DISPENSER CONDUIT (#)

CONDUIT (#) ASSOCIATED WITH DISPENSER (#)

EVO ENTRANCE CONDUIT (INTRINSIC) EVO COMMUNICATIONS CONDUIT-D.C. **EVOCO** (MODEM WIRING) ATG WDT-1

EVO A.C. POWER CONDUIT D-BOX A.C. POWER CONDUIT D-BOX DATA CONDUIT DATA

LEGEND

GENERAL NOTES:

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- THE ELECTRICAL DEVICES SHALL BE LOCATED WHERE SHOWN IN THE SITE ELECTRICAL PLAN OR WHERE DESIGNATED BY SITE ENGINEER. THE GENERAL CONTRACTOR SHALL RUN POWER, CONTROLS AND COMMUNICATIONS CONDUITS TO THE SELECTED LOCATION.
- EACH TYPE OF WIRING SYSTEM MUST BE RUN IN ITS OWN DEDICATED CONDUIT. A.C., D.C., DATA AND COMMUNICATIONS CIRCUITS MAY NOT BE COMBINED IN ONE CONDUIT UNLESS SPECIFICALLY NOTED IN THE PLANS.
- ALL WIRING MUST BE RESISTANT TO OIL AND GASOLINE. TYPE THWN OR THHN.
- ALL CONDUITS RELATED TO THE FUELING SYSTEM SHALL BE A COMBINATION OF RIGID, COATED RIGID, AND HDPE ROLL TYPE CONDUIT. UNDERGROUND CONDUITS SHALL BE PER SCHEDULES ON SHEET FE-2. STP SHALL BE ALL PVC COATED
- ALL POWER WIRING SHALL BE A MINIMUM AWG #12. ALL CONTROL WIRING SHALL BE AWG #14, UNLESS OTHERWISE SPECIFIED. DATA SHIELDED CABLES OR OTHER SPECIALTY WIRING SHALL CONFORM TO THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS OR OWNERS INSTRUCTIONS.
- THIS IS A STANDARD DRAWING FOR GENERAL REQUIREMENTS ONLY. REFER TO THE GENERAL ARRANGEMENT PLAN OR ELECTRICAL SITE PLAN FOR CONDUIT RUNS, NUMBER OF DEVICES REQUIRED AND THE EXACT ORIGIN & TERMINATION OF CONDUITS.
- ALL CONDUIT AND WIRES SHALL BE LABEL-IDENTIFIED AS SHOWN HEREIN.
- THE TANK MONITORING SYSTEM SHALL BE LOCATED WHERE SHOWN IN THE SITE ELECTRICAL PLAN OR WHERE DESIGNATED BY THE SITE ENGINEER. THE GENERAL CONTRACTOR SHALL RUN POWER AND PROBE CONDUITS TO THE SELECTED LOCATION.
- ALL INTRINSIC WIRING MUST (VEDDER ROOT) BE RUN IN ITS OWN DEDICATED CONDUIT, SEPARATE FROM ALL OTHER A.C. OR D.C. WIRING.
- ALL CONDUITS RELATED TO THE MONITORING SYSTEM AND POWER SHALL BE RIGID PVC EXCEPT @ CLASSIFIED AREAS 10'-0" MINIMUM FROM SUMPS. CONDUITS IN CLASSIFIED AREAS SHALL BE RIGID METALLIC PVC COATED CONDUITS.
- 12. ALL INTRINSIC WIRING MUST BE AWG#18 UNLESS OTHERWISE SPECIFIED.

INCLUDE IN HIS QUOTATION THE COST OF START UP.

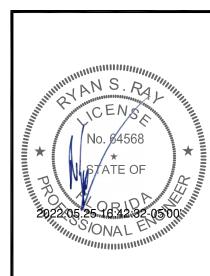
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FUEL CONTRACTOR SHALL INSTALL EMERGENCY PUMP SHUT-OFF SWITCH PER UNIFORM FIRE CODE DIV IX AND NATIONAL ELECTRICAL CODE ART. 514. ALSO TO INSTALL ACKNOWLEDGMENT SWITCH & OVERFILL ALARM WITH FLASHING RED LIGHT & AUDIBLE HORN. LOCATION SHALL BE INSTALLED OUTSIDE CLASSIFIED AREA OF CLASS I DIV. 2, GROUP D, & WITHIN SIGHT OF U.G TANK STORAGE FILL BY THE LOCAL AUTHORITY OR THE STATE.

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STANDARD CAR DISPENSER WIRING A.C. , D.C.

FE-2

PROVIDE - TO FURNISH AND INSTALL MATERIAL AND LABOR TO COMPLETE THE TASK.

1.1 E.C. TO PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT (U.N.O.) REQUIRED TO EXECUTE WORK PER NEC AND ALL APPLICABLE ELECTRICAL CODES IN FORCE AT THE TIME OF PROJECT COMPLETION. 1.2 THIS WORK INCLUDES, BUT IS NOT LIMITED TO: ELECTRICAL SERVICE AND DISTRIBUTION SYSTEMS, PANELBOARDS, DISCONNECT SWITCHES, LIGHTING FIXTURES, POWER AND CONTROL WIRING WITH FINAL CONNECTIONS TO ALL

EQUIPMENT REQUIRED FOR A COMPLETE SYSTEM. 1.3 E.C. TO VERIFY TYPE OF POWER SERVICE AVAILABLE (UNDERGROUND OR OVERHEAD)

1.4 E.C. TO PROVIDE PANELBOARD NAMEPLATES. PROVIDE LAMINATED PLASTIC NAMEPLATES WITH 3/4 INCH MINIMUM CONTRASTING-COLOR ENGRAVED LETTERS IDENTIFYING EACH PANELBOARD.

2. INSTALLATION

2.1 THE INSTALLATION SHALL COMPLY WITH ALL LAWS IN EFFECT AT THE TIME OF CONSTRUCTION APPLYING TO ELECTRICAL INSTALLATION, AND WITH THE REGULATIONS OF THE NEC, WHERE SUCH REGULATIONS DO NOT CONFLICT WITH THE LAWS IN EFFECT, AND WITH THE PUBLIC UTILITY COMPANY FURNISHING THE SERVICE.

THE E.C. SHALL UPGRADE THESE SPECIFICATIONS AS REQUIRED TO MEET COMPLIANCE WITH ALL APPLICABLE CODES IN EFFECT; HOWEVER, WHERE THESE SPECIFICATIONS MAKE STIPULATIONS OVER AND ABOVE THE MINIMUM REQUIREMENTS OF APPLICABLE CODES, THE CONTRACTOR SHALL NOT DOWN-GRADE THESE SPECIFICATIONS TO MINIMUM CODE REQUIREMENTS WITHOUT PRIOR WRITTEN APPROVAL FROM

2.2 E.C. SHALL PROVIDE ALL REQUIRED ELECTRICAL CONDUIT AND WIRING FOR ALL MOTORS, MOTOR STARTERS AND ELECTRICAL CONTROLS, U.N.O. E.C. SHALL MAKE ALL LINE VOLTAGE ELECTRICAL CONNECTIONS AS REQUIRED FOR HVAC SYSTEMS.

2.5.1 ALL WORK SHALL BE COMPLETED IN A NEAT AND WORKMAN-LIKE MANNER. THE E.C. SHALL CONTACT THE EOR SHOULD THIS PLAN REQUIRE MODIFICATION TO

2.5.2 ALL CONDUCTORS SHALL BE RUN IN APPROVED METALLIC RACEWAY OR CONDUIT AND SHALL BE UNIFORMLY COLOR CODED THROUGHOUT THE ENTIRE SYSTEM. SPLICES, TAPS, AND TERMINALS SHALL BE MADE ONLY IN BOXES, OUTLET BOXES AND PANELBOARDS.

2.5.3 THE E.C. SHALL ENSURE THE CONDUCTORS UTILIZED ARE IN KEEPING WITH GOOD PRACTICE FOR THE CIRCUIT/PROTECTIVE DEVICES EMPLOYED. THE NEUTRAL CONDUCTOR (WHERE USED) SHALL HAVE THE SAME AMPACITY AS THE ASSOCIATED PHASE.

2.5.4 THE E.C. SHALL ENSURE THAT CIRCUIT AMPACITY AND SHORT CIRCUIT/OVERLOAD PROTECTION IS APPROPRIATE FOR THE EQUIPMENT BEING INSTALLED. UL LISTING CONDITIONS SHALL BE OBSERVED.

2.5.5 TO COMPLY WITH NEC/UL LISTING CONDITIONS, ROOFTOP UNITS MAY BE SHOWN WITH FUSED

2.5.5.1 ALL FUSES SERVING MOTOR LOADS WILL BE OF THE DUAL ELEMENT TYPE.

2.5.5.2 DUE TO DIFFERENT INTERRUPTING CHARACTERISTICS, PANELBOARD CIRCUIT BREAKERS MAY BE RATED HIGHER THAN THE DUAL ELEMENT FUSES THEY SUPPLY TO ENSURE SUFFICIENT STARTING

3. TESTING AND INSPECTION

3.1 TESTING:

3.1.1 THE E.C. SHALL TEST, PRIOR TO ENERGIZING FOR THE FIRST TIME ALL PIECES OF ELECTRICAL EQUIPMENT TO ASSURE THEY HAVE THE PROPER PHASE TO PHASE AND PHASE TO GROUND INSULATION AND TO BE FREE OF SHORTS. AFTER ENERGIZING, EACH LUMINAIRE SHALL BE LIT

3.1.2 MEASURE STEADY STATE LOAD CURRENTS AT EACH PANELBOARD FEEDER; REARRANGE CIRCUITS IN THE PANELBAORD TO BALANCE THE PHASE LOADS WITHIN 20% OF EACH OTHER. MAINTAIN PROPER PHASING FOR MULTI-WIRE BRANCH CIRCUITS

PART 1 - GENERAL

A. SECTION INCLUDES:

3. CONDUIT SLEEVES

1. ELECTRICAL IDENTIFICATION

2. HANGERS AND SUPPORTS

GROUNDING AND BONDING

1.2 ELECTRICAL IDENTIFICATION

HANGERS AND SUPPORTS

1.4 CONDUIT SLEEVES

1.5 GROUNDING AND BONDING

B. DO NOT USE FASTENERS WHICH PENETRATE THE ROOF DECK.

A. SLEEVES: GALVANIZED, BLACK STEEL OR SCHEDULE 40 PVC PIPE.

A. INSULATED GROUNDING BUSHING: STEEL WITH FEED-THRU LUGS.

. INSULATED EQUIPMENT GROUND WIRE: COPPER.

SUMMARY

PRODUCTS

THE FOLLOWING IS A LIST OF ABBREVIATIONS USED IN THE ELECTRICAL NOTES AND SPECIFICATIONS.

.NATIONAL ELECTRIC CODE, REF. COVERSHEET FOR APPLICABLE VERSION NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION UNDERWRITERS LABORATORIES. INC HEATING VENTILATING AND AIR CONDITIONING INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS GROUND FAULT CIRCUIT INTERRUPTER AMPERES INTERRUPTING CAPACITY UNLESS NOTED OTHERWISE

A. NAMEPLATES: PROVIDE LAMINATED PLASTIC NAMEPLATES WITH 3/4 INCH MINIMUM CONTRASTING_COLOR ENGRAVED

A. CONDUIT AND EQUIPMENT SUPPORTS: HANGERS SHALL BE SERIES P3000 (175 LBS MAX) OR P3300 (80 LBS MAX) CHANNELS BY UNISTRUT DEPENDING ON THE LOAD, ATTACHED AT BOTH ENDS. USE PIPE HANGERS BY MINERALLAC OR CADDY CLIPS BY ERICO ONLY WHERE IMPRACTICAL TO INSTALL UNISTRUT HANGERS.

ELECTRICAL CONTRACTOR ISOLATED GROUND .WEATHER PROOF COVERPLATE .WEATHER RESISTANT RECEPTACLE

GENERAL CONTRACTOR

.. EXISTING TO REMAIN

..RELOCATED

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES: WIRE AND CABLE

CONDUIT.

OUTLET BOXES AND CONDUIT FITTINGS. 4. WIRING DEVICES.

THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION TO THE EXTEN REFERENCED. PUBLICATIONS ARE REFERENCED WITHIN THE TEXT BY THE BASIC DESIGNATION ONLY.

WIRING METHODS

2.4 WIRING DEVICES

PART 3 - EXECUTION

3.2 CONDUIT

A. INSTALLATION:

3.1 INSTALLATION - GENERAL

A.1. SINGLE POLE - HUBBEL #HBL1221GY OR EQUAL

A.2. 3-WAY - HUBBEL #HBL1223GY OR EQUAL.

A.3. 4-WAY - HUBBEL #HBL1224GY OR EQUAL

SPECIFICATION GRADE AS FOLLOWS:

HUBBELL#GFTR15GY OR EQUAL.

BRANCH CIRCUIT SWITCHES: HEAVY DUTY, SPECIFICATION GRADE RATED 20A 120/277V AS

B. RECEPTACLES: STRAIGHT BLADE NYLON GROUNDING, BACK OR SIDE WIRED, HEAVY DUTY,

B.2. DUPLEX RECEPTACLE, 20A 125V (5-20R) ISOLATED GROUND - HUBBELL #IG5262GY OR

C.2. GALVANIZED STEEL PLATES WHERE DEVICES ARE INSTALLED ON EXPOSED FITTINGS OR

A.4. SINGLE POLE OCCUPANCY SENSOR - LEVITON #OSSMT-MD-G OR EQUAL

B.1. DUPLEX RECEPTACLE, 20A 125V (5-20R) - HUBBELL #HBL5262GY OR EQUAL

B.4. DUPLEX RECEPTACLE, 20A, 125V (5-20R) GFCI AND WEATHER RESISTANT -

RECEPTACLES SHALL BE HUBBELL #WP26E OR EQUAL.

D.1. UNLESS OTHERWISE NOTED, WIRING DEVICES SHALL BE GRAY.

D.2. UNLESS OTHERWISE NOTED, COVER PLATES SHOULD BE SILVER.

B.3. DUPLEX RECEPTACLE, 20A 125V (5-20R) GFCI - HUBBELL #GF15GYLA OR EQUAL

C.1. 302/304 STAINLESS STEEL COVER PLATES FOR FLUSH MOUNTED EQUIPMENT.

C.3. BLANK 302/304 STAINLESS STEEL COVER PLATES ON ALL BOXES WITHOUT DEVICE.

C.4. WEATHER-PROOF, WHILE-IN USE COVER FOR ALL WEATHER RESISTANT, 20A, DUPLEX

D.3 LINI ESS OTHERWISE NOTED ISOLATED GROUND RECEPTACLES AND COVER PLATES.

SHALL MATCH THE TYPE AND COLOR AS OTHER DEVICES INSTALLED IN THAT ROOM OR

A. INSTALL SPECIFIED MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

1. INSTALL CONDUIT CONCEALED, EXCEPT IN UNFINISHED AREAS AND WHERE INDICATED ON

2. CLEAN PVC CONDUIT PER MANUFACTURER'S RECOMMENDATIONS BEFORE APPLICATION OF SOLVENT CEMENT.

4. PAINT METALLIC CONDUIT UNDER CONCRETE SLAB OR WHERE INSTALLED IN CONTACT WITH

5. INSTALL FLEXIBLE METAL CONDUIT OR LIQUID TIGHT FLEXIBLE METAL CONDUIT FOR FINAL CONNECTIONS TO AIR COMPRESSORS, HVAC EQUIPMENT, MOTORS AND OTHER VIBRATING

7. DO NOT INSTALL CONDUIT UNDER SLAB UNLESS INDICATED ON DRAWINGS. CONDUIT INSTALLED BELOW SLAB SHALL BE GALVANIZED RIGID METAL (GRC), INTERMEDIATE METAL CONDUIT (IMC), OR SCHEDULE 40 PVC.

8. ROUTE ABOVE GRADE CONDUIT PARALLEL OR PERPENDICULAR TO BUILDING LINES.

10. INSTALL DOUBLE LOCKNUT AND BUSHINGS WHEN TERMINATING GRC OR IMC CONDUIT, EXCEPT WHERE CONDUIT TERMINATES IN THREADED HUB.

1. GALVANIZED RIGID METAL CONDUIT (GRC): PERMITTED FOR GENERAL EXPOSED OR

2. INTERMEDIATE METAL CONDUIT (IMC): PERMITTED FOR GENERAL EXPOSED OR CONCEALED

3. ELECTRICAL METALLIC TUBING (EMT): PERMITTED FOR GENERAL EXPOSED OR CONCEALED

4. POLYVINYL CHLORIDE RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE ON DRAWINGS: PERMITTED FOR BELOW_GRADE USE WHEN PERMITTED BY LOCAL GOVERNING CODES.

TO FOLIPMENT IN DRY AREAS, NOT PERMITTED FOR GENERAL EXPOSED OR CONCEALED

7. MC CABLE: PERMITTED ONLY WHERE CONCEALED INSIDE PARTITIONS AND ABOVE FINISHED CEILINGS. CABLE EXPOSED ON WALLS OR IN OPEN BAR JOIST AREAS WILL NOT BE PERMITTED. CUT CABLE WITH MANUFACTURE S RECOMMENDED ARMOR STRIPPING TOOL.

WORK. FOR CONNECTION OF RECESSED LIGHT FIXTURES IN SUSPENDED CEILINGS AND

6. LIQUID TIGHT FLEXIBLE METAL CONDUIT: PERMITTED EXPOSED IN LENGTHS OF 6 FEET OR LESS FOR VIBRATING EQUIPMENT IN DAMP LOCATIONS WHERE RIGID CONNECTIONS ARE

A. REPLACE OUTLETS OR DEVICES IMPROPERLY LOCATED OR INSTALLED. SET OUTLETS AND DEVICES PLUMB OR HORIZONTAL AND EXTEND TO, BUT NOT PROJECT ABOVE, FINISHED

B. UNLESS OTHERWISE NOTED, RECEPTACLES, SWITCHES, AND OTHER WIRING DEVICES SHALL NOT BE MOUNTED BACK-TO-BACK.

C. INSTALL RECEPTACLES SO THAT THE GROUND PRONG IS IN THE DOWN POSITION.

A. PROTECT INSTALLED PRODUCTS FROM DAMAGE UNTIL COMPLETION OF CONSTRUCTION OPERATIONS.

5. FLEXIBLE METAL CONDUIT: PERMITTED IN LENGTHS OF 6 FEET OR LESS FOR CONNE

9. MAINTAIN MINIMUM OF 6 INCHES CLEARANCE AT FLUES AND HEAT SOURCES.

11. INSTALL INSULATED THROAT BUSHINGS ON ALL PVC CONDUIT RUNS.

CONNECTION OF OTHER EQUIPMENT SUBJECT TO VIBRATION.

NOT SUITABLE UNLESS OTHERWISE INDICATED ON DRAWINGS.

PROVIDE MANUFACTURERS APPROVED CONNECTORS.

CONCEALED WORK ABOVE OR BELOW GRADE.

WORK ABOVE OR BELOW GRADE.

WORK ABOVE GRADE.

3.3 WIRING DEVICES

3.4 PROTECTION

EARTH. APPLY TWO 6 MIL COATS OF PVC OR ASPHALT PAINT CONTINUOUSLY ALONG ENTIRE LENGTH OF CONDUIT PRIOR TO INSTALLATION BELOW GRADE. DO NOT RUN CONDUIT IN

BETWEEN SWITCHES OR PROVIDE SEPARATE BOXES AND SEPARATE COVERPLATES FOR EACH

B. WHERE SWITCHES ARE GANGED, PROVIDE PERMANENTLY INSTALLED STEEL BARRIERS

3. COORDINATE FLASHINGS WHERE CONDUIT PENETRATES ROOF MEMBRANE.

6. COORDINATE INSTALLATION OF CONDUIT IN MASONRY WORK.

B. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA):

1. NFPA 70 - NATIONAL ELECTRICAL CODE (NEC). . NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA):

D. UNDERWRITERS LABORATORIES (UL): 1. UL 1569 - METAL CLAD CABLES.

PART 2 - PRODUCTS

2.1 WIRE AND CABLE

A. ELECTRICAL COMPONENTS AND DEVICES: LISTED AND LABELED AS DEFINED IN NFPA 70 ARTICLE 100, BY A NATIONALLY RECOGNIZED TESTING AGENCY AND MARKED FOR USE.

WIRE AND CABLE SHALL BEAR THE LABEL OF A NATIONALLY RECOGNIZED TESTING LABORATORY AND SHALL CONFORM TO STANDARDS ESTABLISHED FOR SUCH MATERIALS BY NATIONALLY RECOGNIZED AGENCIES.

PROVIDE CODE GAUGE, SOFT ANNEALED COPPER WIRE, NOT LESS THAN 98 PERCENT CONDUCTIVITY AND OF 600 VOLT CLASS. CONDUCTORS

1. INSULATION TYPE SHALL BE ONE OF THE FOLLOWING: a. THHN.

b. THWN. c. XHHW

d. XHHW-2.

TYPE: a. #10 AND SMALLER - STRANDED OR SOLID.

b. #8 AND LARGER - STRANDED INTERLOCKED ARMOR METAL CLAD (MC) CABLE: CONTRACTOR'S OPTION AS ALLOWED BY

AUTHORITIES HAVING JURISDICTION. MC CABLE SHALL HAVE THE FOLLOWING CHARACTERISTICS: ALUMINUM MC-LITE OR STANDARD MC.

2. MINIMUM SIZE CONDUCTOR, #12 AWG COPPER, INCLUDING GREEN INSULATED EQUIPMENT GROUND, SIZED IN ACCORDANCE WITH THE NEC.

OVERALL MOISTURE RESISTANT TAPE.

4. GALVANIZED STEEL OR ALUMINUM INTERLOCKED CLADDING. 5. MANUFACTURED IN ACCORDANCE WITH UL 1569.

WIRE SMALLER THAN #12 AWG NOT PERMITTED UNLESS OTHERWISE NOTED. #14 AWG, TYPE MTW OR TFF PERMITTED FOR SIGNAL AND PILOT CONTROL CIRCUITS UNLESS OTHERWISE . COLOR CODE

G.1. 240/120V G.1.1. NEUTRAL: WHITE

G.1.2. PHASE: A - BLACK, B - RED

G.1.3. GROUND: GREEN G.1.4. ISOLATED GROUND - GREEN W/ YELLOW TRACER

G.2. 208/120V

G.2.1. NEUTRAL: WHITE G.2.2. PHASE: A - BLACK, B - RED, C - BLUE

RECOGNIZED TESTING LABORATORY

G.2.3. GROUND: GREEN G.2.4. ISOLATED GROUND - GREEN W/ YELLOW TRACER

COLOR CODE #6 AWG AND SMALLER PHASE AND NEUTRAL CONDUCTORS BY CONTINUOUS OUTER COVERING. CONDUCTORS #4 AWG AND LARGER MAY BE COLOR CODED BY TAPE. TAPE SHALL HAVE MINIMUM OF TWO COMPLETE WARPS AROUND CONDUCTOR AT 6 INCHES FROM TERMINATIONS, SPLICES, AND JUNCTION POINTS.

IDENTIFY CIRCUIT NUMBERS WITH SYNTHETIC CLOTH OR PLASTIC LABELS AT SPLICE AND

2.2 CONDUIT

PART 2 - EXECUTION

ABOVE GRADE WITH SEALANT.

B. EQUIPMENT GROUNDING:

CODES AND AS INDICATED ON DRAWINGS.

CONDUIT TYPES SHALL BE AS FOLLOWS AND SHALL BEAR THE LABEL OF A NATIONALLY

1. GALVANIZED RIGID METAL CONDUIT (GRC): HOT_DIP GALVANIZED.

2. INTERMEDIATE METAL CONDUIT (IMC): HOT_DIP GALVANIZED.

3. ELECTRICAL METALLIC TUBING (EMT): HOT_DIP GALVANIZED.

4. SCHEDULE 40 HEAVY_WALL POLYVINYL CHLORIDE (PVC). 5. FLEXIBLE METAL CONDUIT: ZINC_COATED STEEL OR ALUMINUM.

6. LIQUID TIGHT FLEXIBLE STEEL CONDUIT WITH PVC JACKET 7. MC CABLE: STEEL OR ALUMINUM CLADDING

2.3 OUTLET BOXES AND CONDUIT FITTINGS

A. OUTLET BOXES AND CONDUIT FITTINGS SHALL BEAR THE LABEL OF A NATIONALLY COGNIZED TESTING LABORATORY AND BE RATED FOR ENVIRONMENTAL CONDITIONS

BOXES: COMPLY WITH NEC IN REGARD TO MAXIMUM ALLOWABLE NUMBER OF CONDUCTORS . INTERIOR BOXES: HOT DIP GALVANIZED, 4 INCHES MINIMUM OCTAGON OR SQUARE, UNLESS

OTHERWISE NOTED. PROVIDE SINGLE OR MULTIPLE GANG OUTLET BOXES AS REQUIRED FOR FLUSH INSTALLATION IN DRYWALL CONSTRUCTION. PROVIDE MASONRY BOXES FOR OUTLETS INSTALLED FLUSH IN CONCRETE UNIT MASONRY. PROVIDE SINGLE SURFACE MOUNTED OUTLET BOXES FOR UTILITY TYPE BOXES. 2. EXTERIOR BOXES: PROVIDE MASONRY BOXES FOR OUTLETS INSTALLED FLUSH IN

CONCRETE UNIT MASONRY. 3. OUTLET BOXES: SUITABLE FOR SUPPORTING LIGHTING FIXTURES IF INTENDED FOR THAT PURPOSE

CONDUIT FITTINGS. 1. EMT FITTINGS FOR DRY LOCATIONS: DIECAST OR STEEL SET SCREW TYPE. 2. EMT FITTINGS FOR WET OR DAMP LOCATIONS: STEEL COMPRESSION TYPE.

4. THREADLESS GRC OR IMC FITTINGS: NOT PERMITTED

6. PVC FITTINGS: SOLVENT WELD TYPE FOR PVC CONDUIT

GRC OR IMC CONNECTORS FOR DRY LOCATIONS.

3. GRC, IMC, OR EMT BOX CONNECTORS FOR WET OR DAMP LOCATIONS: WEATHER-TIGHT

MATERIALS AND METHODS

OR IN ANOTHER APPROVED MANNER WHERE DETAILS ARE NOT INDICATED.

WITH MANUFACTURER'S RECOMMENDATIONS FOR LOAD TO BE SUPPORTED.

3. INSTALL AN INSULATED EQUIPMENT GROUND WIRE AS SPECIFIED ON DRAWINGS.

A. INSTALL SPECIFIED MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON

B. CUTTING AND PATCHING: WHERE CUTTING IS REQUIRED THROUGH WALLS, FLOORS, OR CEILINGS, MAKE OPENINGS NO LARGER THAN REQUIRED AND REPAIR AFFECTED SURFACES TO MATCH ADJACENT SURFACES.

D. SLEEVES: INSTALL WHERE CONDUITS PASS THROUGH CONCRETE FLOORS. CAULK SLEEVES THROUGH OUTSIDE WALLS

A. GENERAL: GROUND ALL METALLIC CONDUITS, SUPPORTS, CABINETS, EQUIPMENT, SYSTEM NEUTRALS, METAL BUILDING STRUCTURES, AND OTHER ITEMS REQUIRED TO BE GROUNDED IN ACCORDANCE WITH THE NEC AND OTHER APPLICABLE

TORQUE ALL CONDUCTOR CONNECTION TO MANUFACTURER'S RECOMMENDED VALUES. INSPECT PANELBOARDS FOR PHYSICAL DAMAGE, PROPER ALIGNMENT, ANCHORAGE, AND GROUNDING. CHECK PROPER INSTALLATION AND TIGHTNESS OF CONNECTIONS FOR CIRCUIT BREAKERS, FUSIBLE SWITCHES, AND FUSES.

TESTING

MEASURE GROUND RESISTANCE FROM SYSTEM NEUTRAL CONNECTION AT SERVICE ENTRANCE TO CONVENIENT GROUND POINT ON BUILDING C. ELECTRICAL EQUIPMENT SUPPORTS: SUPPORT ELECTRICAL EQUIPMENT WITH HANGERS AND SUPPORTS SPECIFIED ABOVE

POLARITY, GROUNDING, AND CONTINUITY OF CIRCUITS. E. FASTENING AND ANCHORING: FASTEN CONDUIT STRAPS, DISCONNECT SWITCHES, PANELBOARDS, AND OTHER EQUIPMENT SECURED TO WALLS AND SLABS WITH CADMIUM PLATED SCREWS OR BOLTS AND LEAD CINCH ANCHORS OR EXPANSION BOLTS AND INSTALL IN DESCONDED WITH POPPER SIZE MASCHED DRILL. PROPERLY SIZE ANCHORS IN ACCORDANCE

LOAD TEST GFCI RECEPTACLES.

1.1 SUMMARY

PART 1 - GENERAL

A. SECTION INCLUDES:

 LIGHTING/APPLIANCE PANELBOARDS. B. RELATED REQUIREMENTS:

BASIC ELECTRICAL MATERIALS AND METHODS GROUNDING.

PANELBOARDS

1.2 REFERENCES

A. NATIONAL ELECTRICAL CODE (NFPA-70), AND INTERIM AMENDMENTS IN EFFÉCT

1.3 QUALITY ASSURANCE

A. COMPLY WITH NATIONAL ELECTRICAL CODE. B. COMPLY WITH LOCAL AND STATE, UTILITY REGULATIONS AND LAWS

1.4 SYSTEM DESCRIPTION

A. ELECTRICAL SYSTEM VOLTAGES: THE FOLLOWING VOLTAGES SHALL APPLY UNLESS OTHERWISE

1. RECEPTACLE AND SMALL POWER SYSTEMS: 208Y/120 VOLT, 3 PHASE, 4 WIRE WYE, 60 HZ, SOLID GROUNDED NEUTRAL.

PART 2 - PRODUCTS

2.1 MANUFACTURERS A. PANELBOARDS MANUFACTURED BY ONE OF FOLLOWING, UNLESS OTHERWISE INDICATED ON

DRAWINGS 1. CUTLER HAMMER 2. GENERAL ELECTRIC

3. SIEMENS (ITE).

SQUARE D. B. EQUIPMENT SHALL BEAR NAME AND TRADEMARK OF MANUFACTURER AS LISTED ABOVE.

(MCB), OR MAIN FÜSIBIÉ SWITCH (MFS

C. SUBSTITUTIONS: NOT PERMITTED.

2.2 LIGHTING/APPLIANCE PANELBOARDS A. PANELBOARDS: INSTALL AS SCHEDULED ON DRAWINGS, INCLUDING VOLTAGE, AMPERAGE, BUS BRACING, AND INTERRUPTING RATINGS. 1. MAIN LUGS ONLY (MLO), MAIN CIRCUIT BREAKER

> PANELBOARD AND BRANCH DEVICES ÁS INDICATED ON SCHEDULE. BRANCH CIRCUIT PROTECTIVE DEVICES PLUG ON OR BOLTED TYPE THERMAL MAGNETIC CENTER_TRIP CIRCUIT BREAKERS FOR LTERNATING CURRENT, EACH WITH SINGLE_HANDLE COMMON TRIP. TANDEM OF HALF SIZED CIRCUIT BREAKERS OR LOAD CENTER TYPE CONSTRUCTION NOT PERMITTED CIRCUIT BREAKER AMP INTERRUPTING CAPACIT (AIC) NO LESS THAN VALUES INDICATED ON EMERGENCY LIGHTS. NIGHT LIGHTS. TIME CLOCK MOTORS, ETC. WILL BE EQUIPPED WITH HANDLE LOCKS WHERE INDICATED ON

DRAWINGS, OR REQUIRED BY NFPA 70 3. CABINETS: ZINC COATED SHEET STEEL WITH KNOCK OUTS, LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY, TRIMS AND DOORS TO HAV JITABLE PRIMER COAT AND FINISH COAT MANUFACTURER'S STANDARD COLOR, TRIMS TO BE FITTED WITH HINGED DOORS HAVING COMBINED LOCK AND LATCH. LOCKS WILL EYED ALIKE AND FURNISHED WITH TWO KEYS

DIRECTORY HOLDER: CONTRACTOR SHAL PROVIDE LEGIBLE TYPEWRITTEN CIRCUIT DIRECTORY PROPERLY IDENTIFYING LOAD(S) ACH CIRCUIT MOUNTED UNDER CLEAR PLAST COVER. BRANCH CIRCUITS SHALL BE CONNECTED EXACTLY AS INDICATED ON PANEL SCHEDULE

PART 3 - EXECUTION

FOR EACH PANELBOARD.

A. EXAMINE SURFACES AND ADJACENT AREAS IN WHICH WORK UNDER THIS SECTION IS TO BE PERFORMED. REPORT IN WRITING TO OWNER'S CONSTRUCTION MANAGER PREVAILING CONDITIONS THAT MAY ADVERSELY AFFECT SATISFACTORY EXECUTION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

B STARTING WORK CONSTITUTES ACCEPTANCE OF THE EXISTING CONDITIONS AND THE CONTRACTOR SHALL THEN, AT HIS EXPENSE, BE RESPONSIBLE FOR CORRECTING ALL UNSATISFACTORY AND DEFECTIVE WORK ENCOUNTERED.

3.2 INSTALLATION

PART 1 - GENERAL

1.2 REFERENCES

PART 2 - PRODUCTS

2.1 SAFETY SWITCHES A. SWITCH INTERIOR

SWITCH MECHANISM

A. SECTION INCLUDES:

SAFETY DISCONNECT SWITCHES.

BASIC DESIGNATION ONLY.

(1000 VOLTS MAXIMUM).

A. THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION TO THE EXTENT REFERENCED.
PUBLICATIONS ARE REFERENCED WITHIN THE TEXT BY THE

B. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

1. DEAD-FRONT CONSTRUCTION WITH HINGED ARC

MECHANISM WHILE THE DOOR IS OPEN.

. PROVIDE ELECTRICAL INTERLOCK SWITCH TO

DE-ENERGIZE CONTROL WIRING AS REQUIRED.

3. LINE AND LOAD TERMINALS OF THE DEVICE RATED 1

INSTALLATION OF A PADLOCK IN "OFF" OR "ON"

. WHERE SWITCHES ARE INDICATED TO BE FUSED, FURNISH WITH PROVISIONS FOR FUSES.

1. NEMA 1, CODE GAUGE SHEET STEEL WITH HINGED COVER, EXCEPT WHERE EXPOSED TO WEATHER.

1. NEMA 250 - ENCLOSURES FOR ELECTRICAL EQUIPMENT

SUPPRESSOR AND SWITCH BLADES WHICH ARE FULLY VISIBLE IN THE OFF POSITION AND WITH DOOR OPEN.

 QUICK-MAKE AND QUICK-BREAK OPERATING HANDLE AND MECHANISM WITH A DELETE DUAL COVER INTERLOCK TO PREVENT UNAUTHORIZED OPENING OF THE SWITCH

DOOR IN THE "ON" POSITION OR CLOSING THE SWITCH

AMPERES OR LESS SHALL BE RATED FOR 75 DEGREES C 4. PROVIDE OPERATING HANDLE WITH PROVISIONS FOR

1. SWITCHES HORSEPOWER RATED FOR 600 VOLTS, 60 HZ, HEAVY-DUTY TYPE.

. INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.

SAFETY SWITCHES

CONDUCTORS.

CAMERON SHAFFER 8170 LACKLAND ROAD ST. LOUIS, MO 63114 PHONE: 314-573-2080 FAX: 314-573-0003

GENERAL NOTES

PROVIDE SEALS AT RACEWAY PENETRATIONS AS FOLLOWS: A. FIRE RATED WALLS: SEAL WITH SEALENT HAVING A T-RATING

B. EXTERIOR: REFER TO ARCHITECTURAL DOCUMENTS FOR SEALING REQUIREMENTS AT ALL EXTERIOR MOUNTED DEVICES, FIXTURES, ENCLOSURES, AND RACEWAY PENETRATIONS

OF AT LEAST ONE HOUR.

PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR (SIZE PER NEC) IN EACH CONDUIT WITH POWER CIRCUITS, ISOLATED GROUND CIRCUITS, OR AS SHOWN ON PLANS. CONDUIT SHALL BE SIZED PER NEC BASED ON THWN 600 VOLT COPPER SINGLE CONDUCTORS, PLUS THE EQUIPMENT GROUNDING CONDUCTOR.

WIRING DEVICES: DEVICE MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF OUTLET BOX UNLESS NOTED OTHERWISE ON PLANS. COORDINATE THE STANDARD MOUNTING HEIGHTS WITH MASONRY A SWITCHES +44" B. RECEPTACLES +20" C. VOICE/DATA +20"

WIRING SHALL INCLUDE FINAL CONNECTION TO ALL EQUIPMENT IN CONFORMANCE WITH EQUIPMENT SUPPLIER WIRING DIAGRAMS.

CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE PANELBOARD IDENTIFICATION SCHEDULES.

BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG UNLESS NOTED OTHERWISE IN SCHEDULES. WHERE 20A BRANCH CIRCUITS HAVE #8 AND LARGER WIRE SPECIFIED, #10 AWG WIRE SHALL BE USED FOR THE FINAL CONNECTION (15-FT MAXIMUM).

WHERE BRANCH CIRCUITS ARE GROUPED, SIZE CONDUIT AND DERATE CURRENT CARRYING CONDUCTORS PER NEC PROVIDE HANDLE TIES ON ALL MULTIWIRE BRANCH CIRCUITS

TO MEET NEC REQUIREMENTS. CONDUITS EXTENDING BEYOND EXTERIOR WALL: STUB OUT 2'-0" BELOW GRADE TO 5'-0" BEYOND EXTERIOR WALLS UNLESS NOTED OTHERWISE. COORDINATE LOCATION AND PROVIDE CONNECTION TO SITE CONDUITS

SUPPORTS FROM STRUCTURE: NO ATTACHMENT OF ANY TYPE SHALL BE MADE TO BRIDGING OR JOIST WEB MEMBERS. UTILIZE ONLY THE TOP AND BOTTOM CHORDS FOR SUPPORTING THE ELECTRICAL SYSTEM INSTALLATIONS. DO NOT INSTALL EQUIPMENT OR CONDUITS DIRECTLY UNDER SKYLIGHT WELLS UNLESS INDICATED OTHERWISE ON PLANS.

WHERE GROUPED CONDUITS ARE INSTALLED WITHIN THE JOIST SPACE, COORDINATE WITH SPRINKLER CONTRACTOR PRIOR TO INSTALLATION IN ORDER TO MAINTAIN REQUIRED CLEARANCES FROM SPRINKLERS COORDINATE OUTLET BOX LOCATIONS WITH METAL SIDING

TO MINIMIZE CUTTING OF SIDING.

ALL MOUNTING HEIGHTS TO CENTERLINE OF ITEM UNLESS OTHERWISE NOTED. VERIFY ALL OUTLET LOCATIONS ON THE JOB PRIOR TO ROUGH-IN LABEL THE FRONT OF EACH RECEPTACLE COVERPLATE WITH PANEL DESIGNATION AND CIRCUIT NUMBER USING CLEAR

THERMAL TRANSFER (ELECTRIC DYMO) LABELS WITH 1/8"

HIGH BLACK LETTERS (OR CONTRASTING COLOR IF PLATES ARE BLACK OR BROWN). LABELS SHALL BE SUITABLE FOR INDOOR/OUTDOOR USE. LABEL THE BACK OF EACH LIGHT SWITCH COVERPLATE WITH PANEL DESIGNATION AND CIRCUIT NUMBER USING A FINE BLACK PERMANENT MARKER ALL PIPING, CONDUIT, AND OUTLET BOXES (ELECTRIC,

VOICE, DATA, ETC.) IN THE RATED WALLS OR CEILING SHALL BE CONSTRUCTED OF NON-COMBUSTABLE MATERIAL. OUTLET BOXES (ELECTRICAL, VOICE, DATA, ETC.) SHALL BE LIMITED TO TWO OUTLET BOXES PER STUD SPACE. OUTLET BOXES ON OPPOSITE SIDES OF THE RATED WALLS SHALL BE

SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES

18. LABEL EACH RECEPTACLE COVERPLATE USING CLEAR

THERMAL TRANSFER (ELECTRONIC DYMO) LABELS WITH 1/8" HIGH LETTERS. THE COLOR OF ISOLATED GROUND RECEPTACLES AND COVERPLATES SHALL MATCH THOSE OF OTHER DEVICES ON

FOR ISOLATED GROUND CIRCUITS, PROVIDE AN ISOLATED GROUND CONDUCTOR THROUGHOUT THE LENGTH OF THE CIRCUIT IN ADDITION TO THE PHASE, NEUTRAL, AND GROUND

EQUIPMENT, PANELBOARDS, DISCONNECT SWITCHES AND LIGHTING FIXTURES TO BE FURNISHED BY THE ACCOUNT VENDOR, GRAYBAR.

CONTACT: EMAIL: LOVES@GRAYBAR.COM SYMBOL LEGEND

(SYMBOLS APPLY ONLY WHEN USED ON DRAWINGS)

EMERGENCY FIXTURE

SWITCH, SINGLE POLE

SWITCH, 3-WAY

WITCH, 4-WAY

SWITCH, KEYED

SWITCH, DIMMER

SWITCH, VARIABLE SPEED

SWITCH, MANUAL MOTOR

SENSOR, MANUAL ON, AUTO OFF

SENSOR, MANUAL ON, AUTO OFF

DUAL-TECH WALL SWITCH OCC

RECEPTACLE, DUPLEX

RECEPTACLE, DUPLEX

MOUNTED HORIZONTALLY

GROUND FLUSH FLOOR

ECEPTACLE, DUPLEX

SOLATED GROUND

ISOLATED GROUND

5-15R UNO

5-15R UNC

JUNCTION BOX

POWER PACK

SENSOR, MANUAL ON, AUTO OFF

TRASONIC CEILING OCC. SENSOR

RECEPTACLE, DUPLEX FLUSH FLOOR

RECEPTACLE, SIMPLEX TWIST LOCK,

RECEPTACLE, SIMPLEX TWIST LOCK,

RECEPTACLE, DUPLEX TWIST LOCK,

RECEPTACLE, DUPLEX TWIST LOCK,

(WALL MOUNTED/CEILING MOUNTED)

WALL MOUNTED/CEILING MOUNTED)

(WALL MOUNTED/CEILING MOUNTED

EQUIPMENT CONNECTION POINT

(PROVIDED WITH EQUIPMENT)

UNDERGROUND CONDUIT RUN

LUSH MOUNTED PANELBOARD

TELEPHONE / DATA BOX

TELEPHONE, FLUSH FLOOR

OW VOLTAGE CABLE

BOX FOR OTHER

TELEPOWER POLE

SMOKE DETECTOR

HORN / STROBE

DOOR HOLD OPEN

CONDENSER FANS

ELECTRIC DEFROST

HBA DIGITAL TIMER SWITCH - TD200

PUSH BUTTON

MOTOR

BUZZER

SURFACE MOUNTED PANELBOARD

LOW VOLTAGE CIRCUITRY

CIRCUIT, CONCEALED

CIRCUIT, EXPOSED

ONDUIT SLEEVE

ISOLATED GROUND, L5-15R, UNO

RECEPTACLE, SPECIAL

RECEPTACLE, SIMPLEX

ALARM JUNCTION BOX,

ALARM JUNCTION BOX,

FOR REMOTE TEST/RESET

NON-FUSED DISCONNECT

USED DISCONNECT

RECEPTACLE, PLUG-MOLD

ISOLATED GROUND, L5-15R, UNO

RECEPTACLE, DUPLEX ISOLATED

RECEPTACLE, DOUBLE DUPLEX

DESCRIPTION

(WALL MOUNTED/CEILING MOUNTED)

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STORE NO. DOCUMENT DATE: 03.30.2 CHECKED BY: DRAWN BY:

> **ELECTRICAL SPECIFICATIONS** & GENERAL NOTES

SHEET:

1. MAKE CONDUITS ELECTRICALLY CONTINUOUS USING PROPER FITTINGS, CONNECTIONS, GROUNDING BUSHINGS, ETC. 2. WHERE GALVANIZED RIGID METAL CONDUIT (GRC) PENETRATES THE GRADE OUTDOORS OR PENETRATES THE SLAB, INSTALL INSULATING GROUNDING BUSHINGS.

C. METAL UNDERGROUND COLD WATER PIPE: CONNECT TO ELECTRICAL SYSTEM IF AVAILABLE AND PERMITTED BY LOCAL CODES. INSTALL JUMPERS AROUND WATER METERS, VALVES, OR OTHER DEVICES WHICH MIGHT CAUSE AN INTERRUPTION OF CONTINUITY DURING SERVICE. D. CONCRETE ENCASED ELECTRODES: WHERE INDICATED ON THE DRAWINGS, FURNISH AND INSTALL ELECTRODES, JUMPERS AND APPROVED FITTINGS IN ACCORDANCE WITH GROUNDING ELECTRODE DETAIL.

E. GROUND RODS: IF GROUND RODS ARE REQUIRED, INSTALL TWO 5/8 INCH MINIMUM DIAMETER COPPERWELD RODS DRIVEN VERTICALLY NOT LESS THAN 12 FEET APART AND EACH WITH 8 FEET OF LENGTH IN CONTACT WITH THE SOIL.

A. UPON COMPLETION OF INSTALLATION, PERFORM CONTINUITY TESTS ON POWER AND EQUIPMENT BRANCH CIRCUIT CONDUCTORS. INSPECT WIRE AND CABLE FOR PHYSICAL DAMAGE. VERIFY PROPER PHASING

WATER PIPE USING SUITABLE GROUND TESTING EQUIPMENT TEST RECEPTACLES WITH CIRCUIT TESTER TO ENSURE PROPER

A. INSTALL MOTOR AND CIRCUIT DISCONNECT IN

B. PROVIDE PROPERLY SIZED GROUNDING LUG AND TERMINATIONS FOR ALL SAFETY SWITCHES.

2. IF EXPOSED TO WEATHER, PROVIDE NEMA 3R ENCLOSURE. PART 3 - EXECUTION

D. ENCLOSURES:

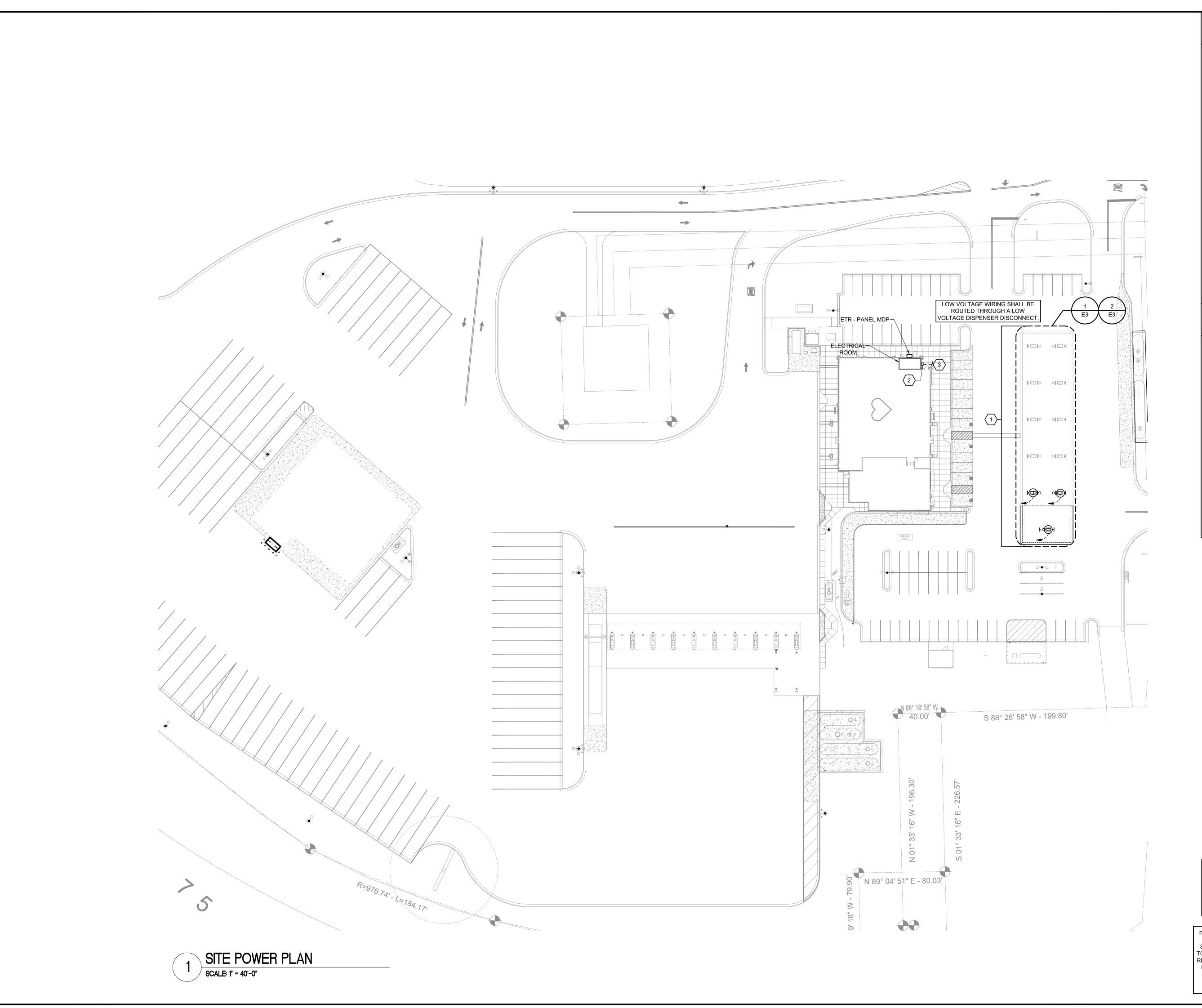
POSITIONS

C. RATINGS:

ACCORDANCE WITH MANUFACTURER'S
RECOMMENDATIONS. APPLICABLE CODES SHALL TAKE PRECEDENCE OVER DRAWING DETAILS.

THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS IN THEIR RELATED FIELD. THE FAILURE TO ACQUAINT HIMSELF WITH THIS KNOWLEDGE DOES NOT RELIEVE THE RESPONSIBILITY OF PERFORMING HIS WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE TO FAILURE TO FAMILIARIZE WORKERS WITH THIS KNOWLEDGE.

EACH SUBCONTRACTOR IS RESPONSIBLE FOR HAVING A



GENERAL NOTES

- UNLESS OTHERWISE NOTED, ALL BRANCH CIRCUITS
 ROUTED ON SITE SHALL BE MINIMUM #10 AWG IN
 MINIMUM 1" CONDUIT.
- ALL UNDERGROUND CONDUITS SHALL BE PVC, EXCEPT AS NOTED BELOW. ALL RISERS SHALL BE PVC-COATED RIGID GALVANIZED STEEL (RGS). ALL ELLS BELOW GRADE SHALL BE PVC-COATED RIGID GALVANIZED STEEL (RGS). PROVIDE WITH PVC TO STEEL ADAPTER(S) AS NECESSARY. (THIS REQUIREMENT SHALL NOT APPLY TO FIXTURE POLE BASES.) FUEL CONDUIT RUNS AND ALL OTHER CONDUIT RUNS PASSING UNDER THE BOUNDARIES OF CLASS I LOCATIONS SHALL BE THREADED RIGID METAL IN ACCORDANCE WITH NEC ARTICLE 514 AND SHALL MEET THE GROUNDING AND BONDING REQUIREMENTS OF NEC 250.100. IF LOCAL SOILS ARE CORROSIVE, INCLUDE PVC-COATING OR OTHER APPROVED CORROSION PROTECTION. IF CONDUIT RUN SERVES D.E.F. (DIESEL EXHAUST FLUID) SUMPS PROVIDE "ROBROY" PVC-COATED (COATED INSIDE & OUT) CONDUIT. PVC MAY BE ALLOWED FOR THE UNDERGROUND PORTIONS OF THESE RUNS IF ALL PROVISIONS OF NEC 514.8 EXCEPTION 2 ARE MET.
- 3. PROVIDE LISTED SEALS IN EACH CONDUIT RUN ENTERING OR LEAVING A DISPENSER OR ANY CAVITIES OR ENCLOSURES IN DIRECT COMMUNICATION THEREWITH. THE SEAL FITTING SHALL BE THE FIRST FITTING WITHIN 10' AFTER THE CONDUIT EMERGES FROM THE EARTH OR CONCRETE. CONDUITS PASSING UNDER THE BOUNDARIES OF THE CLASS I LOCATIONS ARE CONSIDERED TO BE IN A CLASS I LOCATION AND SHALL HAVE SEAL FITTINGS ON BOTH ENDS OF THE CONDUIT RUN. THE SEAL IS TO BE THE FIRST FITTING WITHIN 10' AT THE POINT OF EMERGENCE ON EACH SIDE PER NEC 514.8



U D CIRCUITS SHOWN FOR FUE

- INSTALL FIELD CIRCUITS SHOWN FOR FUEL EQUIPMENT FROM ISO-FUEL PANEL, 'FP' TO THE EQUIPMENT. SEE FUEL ELECTRICAL DRAWINGS FOR SPECIFIC DETAILS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AN ELECTRICAL GUTTER WITH A INTRINSIC SECTION FOR LOW VOLTAGE WIRING.
- ELECTRICAL CONTRACTOR SHALL STUB-OUT (5)
 CONDUITS 10'-0" FROM BUILDING FOR AUTO CANOPY.
 COORDINATE LOCATION AND QUANTITY WITH FUEL
 DRAWINGS AND CONTRACTOR.
 (3) 1" TO FUEL DISPENSERS FOR POWER AND
- (3) 1" TO FUEL DISPENSERS FOR POWER AND CONTROLS
 (1) 1" TO FUEL DISPENSERS FOR LIQUID SENSORS AND LEVEL PROBES.
- (1) 2" FOR FUTURE USE. PROVIDE SEAL-OFFS IN BUILDING. EXTENSION OF THESE CONDUITS BY FUEL CONTRACTOR. REFERENCE SHEET FE2.
- E.C SHALL INSTALL (6) CONDUITS FROM BUILDING TO AUTO CANOPY FOR THE FOLLOWING:
 (1) 1" FOR FASCIA LIGHTING
 (5) 1" FOR FUTURE USE (CONDUIT ONLY WITH PULL STRING) PROVIDE SEAL-OFFS ON BOTH ENDS.

EXTENSION OF THESE CONDUITS BY E.C.

Creative Solutions
Meaningful Places

HARRISON FRENCH

1705 S. Walton Blvd., Suite 3 Bentonville, Arkansas 72712 www.hfa-ae.com

t 479.273.7780

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THIS DRAWING WAS PREPARED FOR USE
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DATE ON 03-30-22, AND IT IS NOT SUITABLE
FOR USE ON A DIFFERENT PROJECT SITE
FOR USE ON A DIFFERENT PROJECT SITE
FOR REFERENCE OR EXAMPLE ON ANOTHER
PROJECT REQUIRES THE SERVICES OF
PROPERLY LICENSED ARCHITECTS AND
ENGINEERS, REPRODUCTION OF THIS
DRAWING FOR REUSE ON ANOTHER
PROJECT IS NOT AUTHORIZED AND MAY BE
CONTRARY TO THE LAW.

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FUELING

Travel Stop & Country Stores



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Harrison French & Associates, LTD

STORE NO. 603

DOCUMENT DATE: 03.30.22

CHECKED BY: CAR

DRAWN BY: LJC

ELECTRICAL SITE POWER PLAN

SHEET: F2

DRAWINGS AND MAY NOT REFLECT EXACT "AS-BUILT"
CONDITIONS. CONTRACTOR SHALL FIELD VERIFY ALL
EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL
BIDS. CONTRACTOR SHALL CAREFULLY COORDINATE
NEW WORK AND DEMOLITION WITH ALL OTHER
DISCIPLINES AND EXISTING CONDITIONS.

EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL

COORDINATE THE EXTENT OF ALL REQUIRED ELECTRICAL DEMOLITION WITH CONSTRUCTION MANAGER

EACH SUBCONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS IN THEIR RELATED FIELD. THE FAILURE TO ACQUAINT HIMSELF WITH THIS KNOWLEDGE DOES NOT RELIEVE THE RESPONSIBILITY OF PERFORMING HIS WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE TO FAILURE TO FAMILIARIZE WORKERS WITH THIS KNOWLEDGE.

COLUMN	CONDUITS INSIDE COLUMN
(4)	(1) 1" C. FOR LIGHT BOXES (2) 1" C. FOR FUTURE USE
B	DOWNSPOUT
0	(3) 1" C. FOR FUTURE USE
(D)	DOWNSPOUT

X KEYNOTES

- 1. BACKLITE FACSIA LIGHT BOXES WILL BE ERECTED BY OWNER, UP TO 45'-0" LENGTHS, UP TO (3) 15'-0" SECTIONS AT A TIME. FASCIAS MAY BE LAID OUT STARTING FROM LEFT TO RIGHT. THE ELECTRICAL CONNECTION POINT IS ALWAYS THE TOP CENTER OF THE LEFT BOX.
 - ELECTRICAL CONTRACTOR SHALL COMPLETE THE "SYSTEM 90 INSTALLATION SUMMARY" LOCATED IN DIVISION 11 OF THE SPECIFICATIONS BOOKLET AN MAIL TO:
 MR. PAUL MAYFIELD
 SHARPLINE CONVERTING
 1520 S. TYLER RD.
- 2. CANOPY COLUMN, TYPICAL, WITH CONDUITS OR OTHER FEATURES AS OTHERWISE NOTED.

WICHITA, KS 67277

ACCOMMODATE NEW LOAD.

1-800-888-4888

- 3. PROVIDE A WEATHERPROOF SPST SWITCH FOR EACH LIGHT BOX CIRCUIT. LOCATE SWITCH ABOVE CANOPY ROOF AT THE ELECTRICAL CONNECTION POINT.
- COLUMN UNDER SLAB.
 CONNECT TO EXISTING CIRCUIT CURRENTLY SERVING AUTO CANOPY RECEPTACLES. VERIFY EXISTING CIRCUIT CAN

4. STUB OUT CONDUITS INSIDE COLUMNS TO THIS SIDE OF THE

- CONNECT TO EXISTING CIRCUIT ROUTED THROUGH
 CONTACTOR CURRENTLY SERVING AUTO CANOPY PANAFLEX.
 VERIFY EXISTING CIRCUIT CAN ACCOMMODATE NEW LOAD.
- 7. CONNECT TO EXISTING CIRCUIT ROUTED THROUGH CONTRACTOR CURRENTLY SERVING AUTO CANOPY LIGHTING. VERIFY EXISTING CIRCUIT CAN ACCOMMODATE NEW LOAD.

GENERAL NOTES

UNLESS OTHERWISE NOTED, ALL BRANCH CIRCUITS ROUTED ON SITE SHALL BE MINIMUM #10 AWG IN MINIMUM 1" CONDUIT

ALL UNDERGROUND CONDUITS SHALL BE PVC, EXCEPT AS NOTED BELOW. ALL RISERS SHALL BE PVC-COATED RIGID GALVANIZED STEEL (RGS). ALL ELLS BELOW GRADE SHALL BE PVC-COATED RIGID GALVANIZED STEEL (RGS). PROVIDE WITH PVC TO STEEL ADAPTER(S) AS NECESSARY. (THIS REQUIREMENT SHALL NOT APPLY TO FIXTURE POLE BASES.) FUEL CONDUIT RUNS AND ALL OTHER CONDUIT RUNS PASSING UNDER THE BOUNDARIES OF CLASS I LOCATIONS SHALL BE THREADED RIGID METAL IN ACCORDANCE WITH NEC ARTICLE 514 AND SHALL MEET THE GROUNDING AND BONDING REQUIREMENTS OF NEC 250.100. IF LOCAL SOILS ARE CORROSIVE, INCLUDE PVC-COATING OR OTHER APPROVED CORROSION PROTECTION. IF CONDUIT RUN SERVES D.E.F. (DIESEL EXHAUST FLUID) SUMPS, PROVIDE "ROBROY" PVC-COATED (COATED INSIDE & OUT) CONDUIT. PVC MAY BE ALLOWED FOR THE UNDERGROUND PORTIONS OF THESE RUNS IF ALL PROVISIONS OF NEC 514.8 EXCEPTION 2 ARE MET.

PROVIDE LISTED SEALS IN EACH CONDUIT RUN ENTERING OR LEAVING A DISPENSER OR ANY CAVITIES OR ENCLOSURES IN DIRECT COMMUNICATION THEREWITH. THE SEAL FITTING SHALL BE THE FIRST FITTING WITHIN 10' AFTER THE CONDUIT EMERGES FROM THE EARTH OR CONCRETE. CONDUITS PASSING UNDER THE BOUNDARIES OF THE CLASS I LOCATIONS ARE CONSIDERED TO BE IN A CLASS I LOCATION AND SHALL HAVE SEAL FITTINGS ON BOTH ENDS OF THE CONDUIT RUN. THE SEAL IS TO BE THE FIRST FITTING WITHIN 10' AT THE POINT OF EMERGENCE ON EACH SIDE PER NEC 514.8



Meaningful *Places*

HARRISON FRENCH

t 479.273.7780

1705 S. Walton Blvd., Suite 3

Bentonville, Arkansas 72712

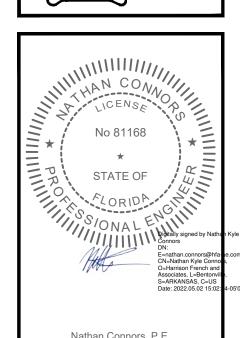
www.hfa-ae.com

KE CITY, FL
ORE #724

UELING







License #81168 Harrison French & Associates, LTD

SSUE BLOCK

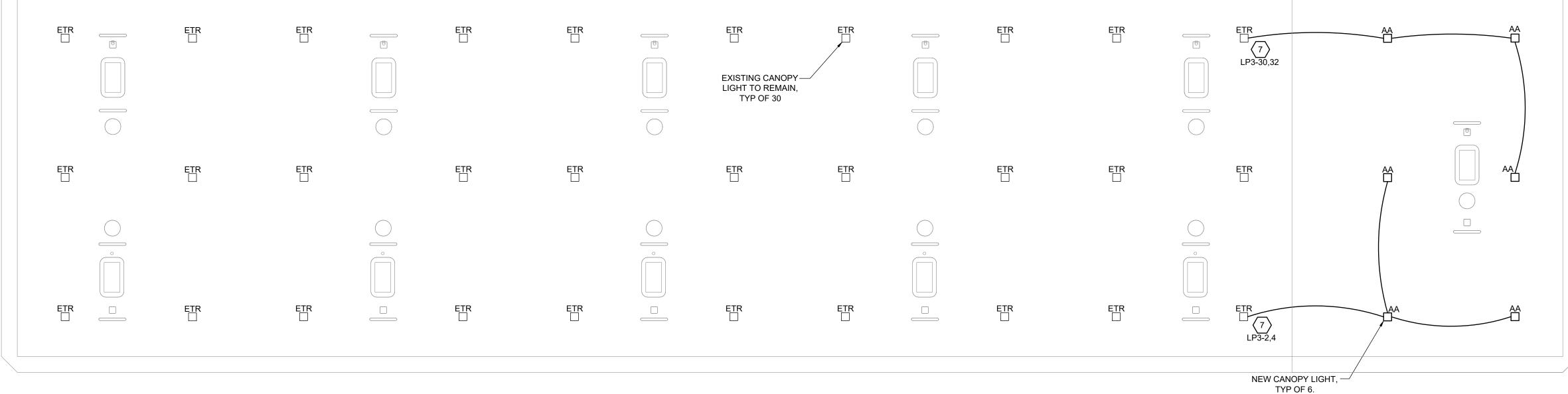
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ELECTRICAL CANOPY POWER PLAN

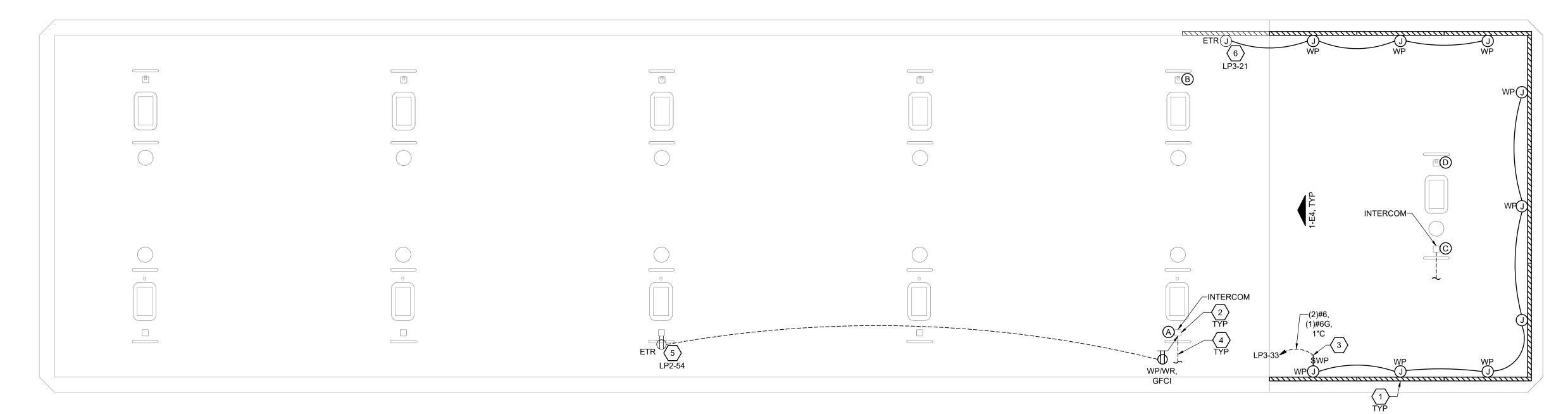
SHEET:

CAR FUEL ISLAND CANOPY POWER PLAN

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



2 CAR FUEL ISLAND CONOPY LIGHTING PLAN SCALE: 1/8' = 1'-0'



COORDINATE THE EXTENT OF ALL REQUIRED ELECTRICAL DEMOLITION WITH CONSTRUCTION MANAGER

EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. CONTRACTOR SHALL CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.

EACH SUBCONTRACTOR IS RESPONSIBLE FOR HAVING A
THOROUGH KNOWLEDGE OF ALL DRAWINGS AND
SPECIFICATIONS IN THEIR RELATED FIELD. THE FAILURE
TO ACQUAINT HIMSELF WITH THIS KNOWLEDGE DOES NOT
RELIEVE THE RESPONSIBILITY OF PERFORMING HIS WORK
PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE
ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE
TO FAILURE TO FAMILIARIZE WORKERS WITH THIS
KNOWLEDGE.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG #	DESCRIPTION	VOLTS	WATTS	MOUNTING	REMARKS
AA	LSI	CRUS-SC-LED-HO-50-UF-WHT		208	125	CANOPY	NOTE 10

- LIGHT FIXTURES TO BE PROVIDED BY OWNER, INSTALLED AND CONNECTED BY ELECTRICAL CONTRACTOR.
- 2. PROVIDE ARROWS AND FACES AS INDICATED ON THE DRAWINGS.
- 3. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FIXTURE LOCATIONS WITH ARCHITECTURAL ELEVATIONS.
- 4. ELECTRICAL CONTRACTOR SHALL INSTALL ALL CEILING MOUNTED LIGHTING FIXTURES IN LOCATIONS AS INDICATED ON THE ARCHITECTURAL REFLECTED CEILING PLAN.
- 5. GENERAL CONTRACTOR SHALL PROVIDE FIREPROOFING AROUND RECESSED FIXTURES INSTALLED IN FIRE RATED CEILING PER U.L. REQUIREMENTS, ELECTRICAL CONTRACTOR SHALL COORDINATE.
- 6. ALL LIGHT FIXTURES SHALL BE SECURED TO THE CEILING FRAMING SYSTEM BY MECHANICAL MEANS (SUCH AS BOLTS, SCREWS, OR RIVETS) OR BY CLIPS IDENTIFIED FOR USE WITH THE TYPE OF CEILING, FRAMING MEMBER, AND LIGHT FIXTURE.
- 7. EMERGENCY LIGHTS SHALL HUG CEILINGS. IN NON-CEILING STORAGE ROOMS, LOCATE BOTTOM OF FIXTURES AT 12'-0" AFF. 8. PROVIDE DRYWALL FRAME KIT.
- 9. EMERGENCY FIXTURE WITH EMERGENCY BATTERY.
- 10 CANOPY FIXTURES SHALL BE INSTALLED BY CANOPY CONTRACTOR, WIRING BY E.C.

LP3 EXISTING PANELBOARD										208Y/120V, 3PH, 4W 125A M.L.O.				
SERVES: EXTERIOR LIGHTING														
														,000 AIC
LOC	CATION: ELECTRICAL ROOM												SURFACE	MOUNT
FEC	FROM: PANEL MDP												GROU	ND BAR
UPS	STREAM OVERCURRENT DEVICE: 1	25A												
СК	LOAD SERVED	WIRE	BRKE	PL	PHA	SE A	PHASE B	PHA	SE C	PL	BRKR	WIRE	LOAD SERVED	СК
1	loves bldg sign (9)		20	1	0.48	1.05				2	20		ltg - car canopy (9)	2
3	loves logo sign (9)		20	1			0.48 1.05]		-				4
5	ext litg - building front (9)		20	1				0.03	1.05	2	20		ltg - trk canopy (9)	6
7	ext litg - building rear (9)	-	20	1	0.82	1.05				-				8
9	backlit fascia - bldg (9)	-	20	1			0.75 1.05		Ī		20		ltg - trk canopy (9)	10
11	backlit fascia - bldg (9)		20	1				0.90	1.05	-				12
13	st sign - loves heart (9)		20	1	0.72	1.11				2	20		ltg - pk lot (9)	14
15	backlit fascia - trk cpy (9)		20	1			0.75 1.11							16
17	directional signs (9)		20	1				0.48	0.00	2	20		spare (11)	18
19	backlit fascia - trk cpy (9)		20	1	0.75	0.00				-				20
21	backlit fascia - car cpy (9)		20	1			1.05 0.67			2	20		ltg - pk lot (9)	22
23	backlit fascia - car cpy (9)		20	1				1.05	0.67	-				24
25	backlit fascia - trk cpy (9)		20	1	1.05	0.67		-	•		20		ltg - pk lot (9)	26
27	backlit fascia - trk cpy (9)		20	1			1.05 0.67			-				28
29	ltg - pk lot (9)		20	2				0.89	1.05	2	20		ltg - car canopy (9)	30
31				-	0.89	1.05		-		-				32
33	BACKLIT FASCIA - CAR CPY (6,10)	6	20	1			1.51 0.94			2	20		ltg - pk lot (9)	34
35	spare (11)		20	1				0.00	0.94	-				36
37	backlit fascia - trk cpy (9)		20	1	1.05	0.45				1	20		backlit fascia - trk cpy (9)	38
39	backlit fascia - trk cpy (9)		20	1			1.05 0.00]		1	20		spare (11)	40
41	backlit fascia - car cpy (9)		20	1			•	1.05	0.00	1	20		spare (11)	42
	TOTAL	ED	11.1 12.1 9.16 KVA											
	TOTAL	ED	92.8		101.1	76.3		A۱	ИPS					
		AD	32.4 KVA 90.0 AMPS											
	PER NEC ARTICLE 220 F	EEDE	ER LO	AD	40.5		KVA	112.5		A۱	/IPS			

EXTEND CONDUITS AND PULL ROPES TO — PANAFLEX FASCIA LIGHTING & HORNS EXPOSED ABOVE CANOPY DECK. BY. G.C., LINE VOLTAGE WIRING BY E.C., LOW VOLTAGE WIRING PULLED BY OWNER. NO EXPOSED CONDUITS ALLOWED FROM PAVEMENT UP TO CANOPY DECK — SURFACE-MOUNT (2) GANG BOX ON COLUMN FOR INTERCOM CONTRACTOR. HEXAGON JUNCTION BOX BELOW-MOUNT TOP OF BOX 40" ABOVE ISLAND CURB. (BY CANOPY FOR HORN G.C.) LOCATE ON ISLANDS PER DETAIL 1/E1.5. BY G.C. RE: 1/E3 EXPOSED CONDUIT AT FACE OF COLUMN LOOP (HORN/WIRING BY OWNER). UNDERGROUND TO OTHER ISLANDS. DO NOT LOOP OVERHEAD. ELECTRICAL CONDUITS INSIDE CANOPY COLUMN (PROVIDED BY OWNER) SURFACE MOUNTED EMERGENCY SHUT OFF SWITCH — "ESO" AT 40" IF REQUIRED (BY FUEL CONTRACTOR) (EXPOSED CONDUIT AT FACE OF COLUMN) OR SURFACE-MOUNT WEATHER PROOF OUTLET WITH HEAVY DUTY, NEMA-3R METALLIC WHILE-IN-USE COVER, HUBBELL #WP26E OR EQUAL. (LOCATE AT EXPOSED SEAL-OFFS -ISLANDS PER ELECTRICAL DRAWINGS BY G.C.) DISPENSER DISPENSER (TYPICAL EACH CONDUIT) (EXPOSED CONDUIT AT FACE OF COLUMN). 3/4" CONDUIT WITH PULL ROPE -TO WEATHERPROOF OUTLET TRASH TRASH OR ESO AS INDICATED. (BY G.C.) UNIT UNIT TOP OF FOOTING - CONTAINMENT ROUTE 1" CONDUIT WITH PULL ROPE FROM RE: CIVIL DRAWINGS EXISTING FUEL DISPENSER TO NEW DISPENSER. LOOP 3/4" CONDUIT WITH PULL ROPES TO OTHER ISLANDS AS INDICATED ON 1/E3. -(1) 1" CONDUIT WITH PULL ROPE FROM ----- (1) 1" CONDUIT FOR FUEL MONITORING PANEL POWER/DATA TO DISPENSER TO FIRST GAS DISPENSER THEN FROM GUTTER-INTRINSIC SECTION EXTEND 3/4" CONDUIT WITH PULL ROPES TO OTHER -(1) 1" CONDUIT FOR LIQUID SENSORS AND LEVEL GAS DISPENSERS (BY FUEL CONTRACTOR) PROBES FROM GUTTER-INTRINSIC SECTION WHERE INDICATED ON FUEL DRAWINGS, REF FE-4. —(1) 1" CONDUIT FOR FUTURE USE FROM DATA RACK WHERE INDICATED ON FUEL DRAWINGS, REF FE-4. REFERENCE CANOPY CONDUIT SCHEDULE FOR

QUANTITY AND SIZE OF CONDUITS AT EACH COLUMN

ELEVATION PLAN - CAR FUEL ISLAND

PANELBOARD NOTES ()

- (1) TERMINATE GROUND ON ISOLATED GROUND BUS.
- (2) INSTALL LOCKING DEVICE (LOCK-OFF FOR MAINTENANCE).
- (3) INSTALL LOCKING DEVICE FURNISHED WITH PANELBOARD (LOCK-ON FOR CRITICAL LOAD).
- (4) GFI BREAKER FOR PERSONNEL PROTECTION (5 mA).
- (5) GFI BREAKER FOR EQUIPMENT PROTECTION (30 mA).
- (6) CONDUCTOR SIZE HAS BEEN INCREASED FOR VOLTAGE DROP. SIZE EQUIPMENT GROUNDING CONDUCTOR PROPORTIONALLY PER NEC.
- (7) THRU FUEL CONTACTOR.
- (8) THRU CONTACTOR.
- (9) EXISTING CIRCUIT TO REMAIN.
- (10) EXISTING CIRCUIT BREAKER TO REMAIN. VERIFY CONDITION OF CIRCUIT BREAKER TO ENSURE THAT IT IS OPERATIONAL AND MEETS ALL U.L. RATINGS.
- (11) PROVIDE HANDLE LOCK OFF DEVICE TO LOCK "SPARE" CIRCUIT BREAKER IN THE "OFF" POSITION. II CIRCUIT BREAKER IS IDENTIFIED AS "EXISTING", FIELD VERIFY CIRCUIT BREAKER INDICATED IS NOT CONNECTED TO ANY LOAD AND UPDATE PANELBOARD CIRCUIT DIRECTORY IDENTIFYING CIRCUIT AS "SPARE".
- (12) TRACE EXISTING CIRCUIT, IDENTIFY LOAD AND PROVIDE COMPLETE TYPEWRITTEN PANELBOARD IDENTIFICATION SCHEDULE AND PLACE ON INTERIOR OF PANELBOARD DOOR. IF CIRCUIT IS A "SPARE" THEN REFER TO PANELBOARD NOTE (11).
- (13) RELOCATE CIRCUIT FROM EXISTING PANELBOARD
- (14) IF WIRE IS #8 OR LARGER ONLY REPLACE CIRCUIT BREAKER AND CONNECT NEW LIGHTS TO EXISTING WIRE AT AUTO CANOPY. IF WIRE IS SMALLER THAN #8 PULL NEW WIRE IN EXISTING CONDUIT.
- (N) NEW
- (E) EXISTING

ALL SWITCHBOARDS AND PANELBOARDS SHALL HAVE A COMMERCIALLY PRODUCED PERMANENT LABEL APPLIED TO WARN OF POTENTIAL ARC FLASH HAZARDS, IN ACCORDANCE WITH NEC 110.16 AND NFPA 70E. LABELING MAY BE COMPLETED BY EQUIPMENT MANUFACTURER, EQUIPMENT VENDOR/SUPPLIER, OR THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY THAT ALL SWITCHBOARDS AND PANELBOARDS ARE PROPERLY LABELED IN THE FIELD.

> EXISTING CIRCUITRY IS BASED ON ORIGINAL BUILDING PLANS. IF EXISTING CIRCUITS TO REMAIN ARE NOT AS SHOWN ON THE PANELBOARD SCHEDULES, ARRANGE NEW CIRCUITS BASED UPON PRESENT LOCATION OF EXISTING CIRCUITS TO REMAIN.

> > EC SHALL MATCH TYPE AND AIC RATINGS OF EXISTING CIRCUIT BREAKERS.

> > > ELECTRICAL SERVICE AND METERING ARE **EXISTING TO REMAIN**

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HARRISON FRENCH $\& \quad \mbox{A S S O C I A T E S}$, $\quad \mbox{L T}$

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STORE NO. DOCUMENT DATE: 03.30.22 CHECKED BY: DRAWN BY:

> **PANELBOARDS** & SCHEDULES

SHEET: