

## AGREEMENT FOR PURCHASE AND SALE OF GOODS

**Bid/Proposal No. 032-12**

**Contract No.** 12-00018

**Project Name** Pump Station Control Panels

**THIS AGREEMENT FOR PURCHASE AND SALE OF GOODS (the "Agreement")** is made this **2nd** day of **May, 2012**, by and between F.J. Nugent & Associates, whose address is PO Box **521925, Longwood, Florida 34752** ("Seller") and THE CITY OF NAPLES, a Florida municipal corporation, the address of which is 735 Eighth Street South, Naples, Florida 34102 ("Buyer"). In consideration of the mutual covenants and agreements hereinafter set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby mutually acknowledged, Buyer and Seller agree as follows:

1. **Description of Goods; Sale and Delivery.** Seller shall sell, transfer, and deliver to Buyer the goods described on the Description/Proposal attached hereto and made a part of as Exhibit "A" subject to such terms as are set forth in the Description/Proposal and in this Agreement.
2. **Acceptance; Purchase.** Buyer shall accept the goods and pay the total sum **not to exceed \$260,000 annually** for the goods in accordance with the terms of this Agreement.
3. **Identification of Goods.** Identification of the goods shall not be deemed to have been made until both Buyer and Seller have agreed that the goods in question are to be appropriate to the performance of this Agreement.
4. **Rate and Time of Payment.** Unless otherwise specified, Buyer shall make payment to Seller for the goods within 30 days after the goods are received by Buyer.
5. **Receipt of Goods.** The goods shall be deemed received by Buyer when delivered to **Buyer's designated locations** at City of Naples, Naples, Florida 34102. Delivery of the goods to Buyer shall occur on a business day and shall not occur after 3:15 p.m. on the delivery day.
6. **Risk of Loss.** The risk of loss from any casualty to the goods, regardless of the cause, shall be on Seller up to the time of receipt of the goods by Buyer at the place of delivery, but only after any proper inspection has been completed without rejection of the goods. Thereafter, such risk shall be on Buyer, including any goods thereafter returned to Seller until their receipt by Seller.
7. **Warranty Against Encumbrances.** Seller warrants that the goods are now free, and at the time of delivery shall be free, from any security interest or other lien or encumbrance.
8. **Warranty of Title.** Seller warrants that at the time of signing this Agreement, Seller neither knows, nor has reason to know, of the existence of any outstanding title or claim of title hostile to the rights of Seller in the goods.
9. **Product Warranty.** Seller provides general warranties of fitness and general warranties that the goods are free from defects, for 1 year from acceptance of the goods, except as may otherwise be set forth in the Description/Proposal, or other attached warranty.

10. **Right of Inspection.** Buyer shall have the right to inspect the goods at the time and place of delivery, and within 5 business days after delivery, Buyer must give notice to Seller of any claim for damages on account of the condition, quality, or grade of the goods, and Buyer must specify in detail the basis of such claim. The failure of Buyer to comply with these conditions shall constitute irrevocable acceptance of the goods by Buyer.

11. **Procedure as to Rejected Goods.** On receipt of notification of rejection, Seller will immediately arrange to receive back the goods for shipment and return. However, within 5 days, Seller may have an agent inspect such goods for nonconformity; otherwise, such inspection will be made on return to Seller's storage facility. When such goods are confirmed or acquiesced in as nonconforming, Seller will ship conforming goods within 30 days of the notice of rejection unless Buyer earlier notifies Seller to forgo such shipment.

12. **Governing Law.** The parties acknowledge that the transaction that is the subject matter of this Agreement bears a reasonable relation to the State of Florida and agree that the law of the State of Florida will govern their rights and duties. The parties specifically intend that the provisions of Article 2 of the Florida Uniform Commercial Code will control as to all aspects of this Agreement and its interpretation, and that all the definitions contained therein will be applicable to this Agreement except where this Agreement may expressly provide otherwise.

13. **Bid Documents.** The terms and conditions of the Invitation to Bid attached hereto and made a part hereof as Exhibit "B" shall be incorporated herein as a part of this Agreement. Prices shall be good for a period of one year, with an option for 2 one year renewals.

14. **Notices and Address of Record.** All notices required or made pursuant to this Agreement to be given by Seller to Buyer shall be in writing and shall be delivered by overnight courier, by hand or by United States Postal Service Department, first class mail service, postage prepaid, return receipt requested, addressed to the following:

**To Buyer:**

City of Naples  
735 Eighth Street South  
Naples, Florida 34102-3796  
Attention: A. William Moss, City Manager

All notices required or made pursuant to this Agreement to be given by Buyer to Seller shall be made in writing and shall be delivered by overnight courier, by hand or by the United States Postal Service Department, first class mail service, postage prepaid, return receipt requested, addressed to the following:

**To Seller:**

F.J. Nugent & Associates, Inc.  
PO Box 521925  
Longwood, FL 32752  
Attn: Michael W. Krebs, Vice President

Either party may change its address of record by written notice to the other party given in accordance with requirements of this Article.





15. **Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original as against any party whose signature appears thereon and all of which shall together constitute one and the same instrument.

16. **Effective Date.** This Agreement shall take effect on the day of execution by the last party to execute this agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day first written above.

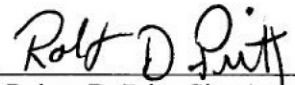
ATTEST: "SELLER":

  
(Print Name: FRED NUGENT)  
President  
By:   
Authorized Representative (Corporate Seal)

ATTEST: "BUYER":

By:   
Tara A. Norman, City Clerk  
Patricia L. Rambask  
City of Naples, Florida  
By:   
A. William Moss, City Manager

Approved as to form and legal sufficiency:

By:   
Robert D. Pritt, City Attorney

Agreement for Purchase and Sale of Goods  
358322\_1 97853\_2

## EXHIBIT A

### WASTEWATER PUMP STATION DUPLEX / TRIPLEX CONTROL PANELS

#### PURPOSE

The purpose of this bid is to obtain competitive pricing for the purchase of Wastewater Pump Station Duplex and Triplex Control Panels, as specified in the Minimum Specifications herein, for the City of Naples Utilities Maintenance Division Pump Station(s):

1. Duplex Control Panel, 2 Pumps ranging from 2 HP to 20HP ea., 230V Delta, 4 Wire, 3 Phase, 60Hz, and Full Load Amp rating determined by pump horsepower for which panel is specified.
2. Duplex Control Panel, 2 Pumps ranging from 20HP to 60HP ea., 480V WYE, 4 Wire, 3 Phase, 60Hz and Full Amp Load Rating determined by pump horse power for which panel is specified.
3. Triplex Control Panel, 3 Pumps ranging from 20 HP to 50HP, 480V WYE, 4 Wire, 3 Phase, 60 Hz, and Full Amp Load Rating determined by horsepower for which panel is specified.

#### PRICES/DELIVERY

1. The cost proposal shall be inclusive of any freight, transportation, handling, delivery, surcharges, or any other incidental charges. The proposal shall be exclusive of any Federal or State taxes, as the City of Naples is exempt from payment of such taxes, unless otherwise stated in these documents.
2. The bidder must indicate all applicable discounts (if any) on the Bid Schedule, which will be made part of the bid proposal.

All prices quoted will remain firm for the length of the entire contract (1 year; including two additional one-year renewal periods).

All products and/or materials shall be new, and shall be warranted against any defects in materials and workmanship for 24 months. This period of manufacturer's warranty shall begin to run at the time the item or materials are received, inspected, and installed by a representative of the City.

The elected firm shall ensure that any factory service required while an item or items are under warranty shall be performed at the nearest authorized dealer, with no extra charge of any nature. Any defective part, components, or assembly which will not fulfill, or that would jeopardize the end functional use of the item, shall be replaced at no extra charge to the City, inclusive of the return of the item/equipment and return delivery of the same at no extra charge.

These panels/accessories are described in "Bid Schedule" of this bid document. The City of Naples may elect to add additional size Pump Control panels to this contract at any time our facilities are expanded to incorporate additional pump control systems. The awarded vendor shall also understand that many of the units described herein are under the responsibility of different Departments/Divisions, and may require individual purchase orders for the various Departments/Divisions.

#### BID EXCEPTIONS

Any exceptions to the specifications contained in this bid must be clearly noted on a separate sheet of paper and included with the bid proposal.



## EXHIBIT A

### TECHNICAL INFORMATION/DOCUMENTATION REQUIRED UPON AWARD

1. Upon award of each unit, the bidder/manufacture shall supply As-Built Submittals (if the design is different or more detailed than the original bid proposal).
2. Upon delivery of awarded unit(s): Each unit shall be supplied with the following:
  - a. A laminated As-Built power/control circuitry drawing, mounted on the inside of the outer door.
  - b. Two (2) copies of the As-Built power/control circuitry drawings, and all Parts Lists, supplied on 8.5" by 11" sheets.
3. Two (2) copies of all Drawings (in ACAD 2004 DWG Format) and Parts lists to be supplied on CD.
4. Two (2) copies Data Cut Sheets and/or O&M manuals for all components and equipment supplied.

### ACCURACY

This Division has made every attempt to assure that the accuracy and functionality of the specified control panels has been met. If a problem or error is found in these specifications/drawings, please make sure that we are contacted so that the situation can be resolved prior to completion and delivery of the units.

### MINIMUM CONTRACT SERVICE REQUIREMENTS

The contract shall be for a one-year period. Two additional one-year renewal terms are available based on the mutual agreement of both parties.

Bidders shall provide location of servicing office and shall provide a technician within two hours of a service call. In addition, due to both essential and critical needs for maintaining quality of life and public health, bidders shall be able to furnish Panels in time stipulated in Bid Schedule.

All invoices will clearly state Department and delivery address, person placing order, purchase order number, invoice number, model number, serial number, horse power rating and voltage, unit price of product, total price of invoice, delivery date, and quantity of each product for each item.

If any item as part of Control Panel becomes unserviceable while under warranty then a replacement (loaner) item will be issued within 30 days until said item has been repaired. If item cannot be repaired a NEW item (no reconditioned units) will be issued in its place.

### SPECIFICATIONS

#### 1. LOCATION:

The control panels described in this section will be installed at the City of Naples Pump Stations and other facilities.

#### 2. POWER/LOAD REQUIREMENTS:

These pump stations will be supplied with 220 VAC Single Phase; a four (4) wire, three (3) phase 230 VAC Delta; or a four (4) wire, three (3) phase 460 VAC WYE power service supplied by Florida Power & Light Co., to a new meter and main safety disconnect rack system supplied by the City. The components of the control panel shall be rated as depicted in the Bid Schedule.

## EXHIBIT A

### 3. INSTALLATION:

The installation of the control panel and peripheral equipment will be performed by the City of Naples Maintenance personnel and the City's Electrical Contractor.

### 4. START-UP:

The control panel manufacturer shall supply a technical representative for an on-site inspection and start-up of the supplied equipment, if requested by the Utilities Maintenance Supervisor. This start-up shall be scheduled through the Utilities Maintenance Supervisor.

### 5. DETAIL SPECIFICATIONS:

The specifications for the required Control Panels, equipment, materials, and detailed wiring guidelines are provided in the attached Drawing Sheets "SHEET WW-23" through "SHEET WW-59" for Pump Stations **(Exhibit A)**.

The specification requirements shall be strictly adhered to. Any variations of construction, materials, and/or details shall be clearly noted, fully explained, and supplied with the bid proposal. Failure to provide thorough and acceptable explanation data, could result in an rejected bid proposal.

### 6. REQUIRED DOCUMENTATION:

The bidder shall provide the following documentation with their bid proposal:

a. The panel enclosure make and model number with all dimensions clearly labeled. Enclosures to be sized to properly accommodate all specified components and proper spacing requirements.

b. A detailed drawing of the dead-front panel layout, with all components numbered, and a glossary of component descriptions. This drawing must be equal in quality of Sheet WW-23 for Duplex 230 VAC, 3 Phase Panels; Sheet WW-32 for Duplex 460 VAC, 3 Phase Panels, Sheet WW-41 for Duplex 220 VAC Single Phase Panels, and Sheet WW-50 for Triplex 460 VAC, 3 Phase Panels.

c. A detailed drawing of the back plate component layout, with all components numbered, and a glossary of component descriptions. This drawing must be equal in quality of Sheet WW-24 for Duplex 230 VAC, 3 Phase Panels; Sheet WW-33 for Duplex 460 VAC, 3 Phase Panels, Sheet WW-42 for Duplex 220 VAC Single Phase Panels, and Sheet WW-51 for Triplex 460 VAC, 3 Phase Panels.

d. A detailed Ladder Wiring Diagram of the power distribution and control circuitry. The drawing(s) must be equal in quality of Sheets WW-25 & WW-26 for Duplex 230 VAC, 3 Phase Panels; Sheets WW-34 & WW-35 for Duplex 460 VAC, 3 Phase Panels; Sheets WW-43 & WW-44 for Duplex 220 VAC Single Phase Panels; and Sheets WW-52, WW-53, & WW-54 for Triplex 460 VAC, 3 Phase Panels.

e. A detailed drawing of the Radio Telemetry Interface Terminal Strips TB6A and TB6B. This drawing must be equal in quality of Sheet WW-27 for Duplex 230 VAC, 3 Phase Panels; Sheet WW-36 for Duplex 460 VAC, 3 Phase Panels, Sheet WW-45 for Duplex 220 VAC Single Phase Panels, and Sheet WW-55 for Triplex 460 VAC, 3 Phase Panels.

f. A detailed drawing of the Junction/Terminal Box, showing all dimensions, quantities of materials, terminals, and layout. This drawing must be equal in quality of Sheet WW-28 for Duplex 230 VAC, 3 Phase Panels; Sheet WW-37 for Duplex 460



## EXHIBIT A

VAC, 3 Phase Panels, Sheet WW-46 for Duplex 220 VAC Single Phase Panels, and Sheet WW-56 for Triplex 460 VAC, 3 Phase Panels.

g. A complete itemized component parts list (Schedule of Materials) shall be supplied. This list must be equal in quality of Sheet WW-29 for Duplex 230 VAC, 3 Phase Panels; Sheet WW-38 for Duplex 460 VAC, 3 Phase Panels, Sheet WW-47 for Duplex 220 VAC Single Phase Panels, and Sheet WW-57 for Triplex 460 VAC, 3 Phase Panels.

h. A complete itemized detailed list of all required Panel Labeling shall be supplied. This list must be equal in quality of Sheet WW-31 for Duplex 230 VAC, 3 Phase Panels; Sheet WW-40 for Duplex 460 VAC, 3 Phase Panels, Sheet WW-49 for Duplex 220 VAC Single Phase Panels, and Sheet WW-59 for Triplex 460 VAC, 3 Phase Panels.

**GENERAL UTILITY DETAILS:**

Detail No.	Description
U-01	Backfill - Limerock Road & Open Terrain
U-02	Backfill - Paved Roadways
U-03	Pipe Bedding & Backfill
U-04	Thrust Blocks No. 1
U-05	Thrust Blocks No. 2
U-06	Typical Encasement
U-07	Cross Over
U-08	Typical Conduit Crossing
U-09	Pipe Restraint Schedule
U-10	Jack & Bore Detail
U-11	Typical Horizontal Directional Drill Under A Roadway
U-12	Typical Subaqueous Horizontal Directional Drill
U-13	Subaqueous Main Valve Vault
U-14	Typical In-Line Valve (Water/Sewer/Reuse)
U-15	Valve Pad Detail
U-16	Sedimentation Control No. 1
U-17	Sedimentation Control No. 2
U-18	Line Terminus
U-19	2-Lane Local Street 60' Roadway
U-20	2-Lane Minor Collector 80' Roadway
U-21	4-Lane Major Collector 100' Divided Highway
U-22	2-Lane Minor Collector 120' Divided Highway
U-23	4-Lane Major Collector 120' Divided Highway
U-24	Alley (30' Right of Way)
U-25	Alley (30' Right of Way)
U-26	Alley (30' Right of Way)
U-27	Pipe Mount Wall Bracket

**WATER UTILITY DETAILS:**

Detail No.	Description
W-01	3" to 2" Reduced pressure Backflow Assembly
W-02	3" and Larger Domestic Meter Assembly
W-03	3" and Larger Combination Fire & Domestic Meter Assembly
W-04	Temporary Backflow Preventers & Construction Tie-In Assembly
W-05	Temporary Backflow Preventers & Construction Tie-In Assembly
W-06	Temporary Water Service - Hottap & Jumper Meter Connection
W-07	Fire System Detector Check Assembly
W-08	2" & 3" Fire System Detector Check Assembly w/o FIH Downstream
W-09	Hydrant Tees
W-10	Hydrant Detail
W-11	Fire Hydrant Detail
W-12	Typical Meter Setting Detail
W-13	Multiple Meter Service Connections
W-14	Temporary Blowoff
W-15	Air Release Valve Detail (Pobable Water)
W-16	Main Enting & Sample Station
W-17	Master Series (AII) Fire System Detector Check
W-18	3" to 2" Pressure Vacuum Breaker
W-19	3" & Larger Pipe Support Detail
W-20	Automatic Water Main Flushing Device
W-21	
W-22	

**WASTEWATER UTILITY DETAILS:**

Detail No.	Description
WW-01	Sewer Laterals
WW-02	Property Line Cleanout
WW-03	Dead End Gravity Main & Connection to House or 6" Lateral
WW-04	Multi-Service Lateral/Cleanout
WW-05	Standard Pre-Cast Manholes
WW-06	Shallow Manhole
WW-07	Drop Manhole
WW-08	Manhole Cut-In
WW-09	Standard Manhole Cover
WW-10	Manhole at Line Intersections
WW-11	Air Release Valve (Sanitary)
WW-12	Grease Interceptor
WW-13	Typical Residential Sanitary Disposal System
WW-14	Private FM Connection to City FM
WW-15	Wastewater Pump Station Control Panel Mounting
WW-16	Wastewater Pump Station RTU Antenna Mounting
WW-17	Wastewater Pump Station Site Plan - Plan View
WW-18	Wastewater Pump Station Cross Section View
WW-19	Wastewater Pump Station Pump Station Sub0Details
WW-20	Wastewater Pump Station Notes & Specifications
WW-21	Wastewater Pump Station Water Service & Backflow Device
WW-22	Low Pressure Sanitary Sewer Simplex Grinder Pump Station

**REUSE UTILITY DETAILS:**

Detail No.	Description
R-01	Meter Setting Detail Irrigation or Reclaimed
R-02	Air Release Valve (Reclaimed Water)
R-03	Meter & Pressure Reducing Valve 3" & Larger-Irrigation or Reclaimed
R-04	Flare Bib for Reclaimed & Irrigation Water

**WASTEWATER UTILITY DETAILS:**

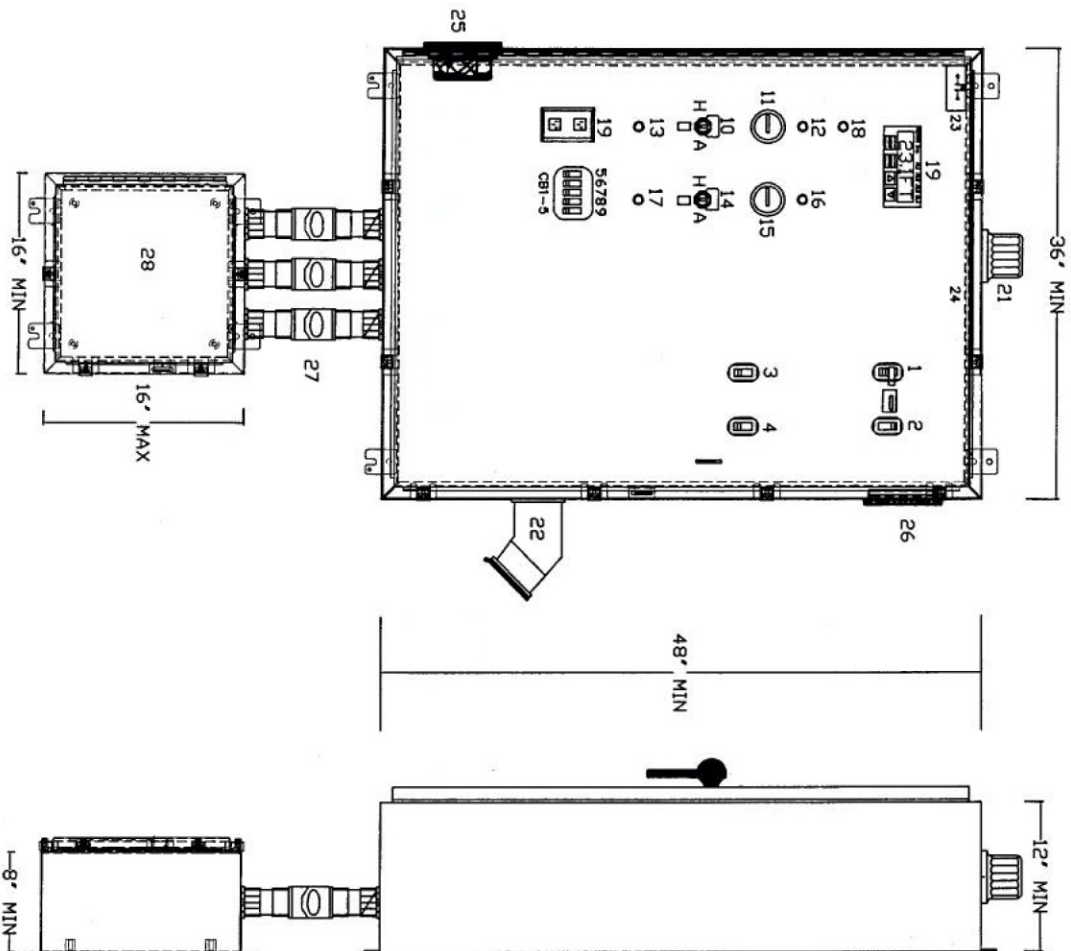
Detail No.	Description
WW-23	220 VAC - 3 PH; 20HP & BELOW DUPLEX CONTROL PANEL
WW-24	Duplex Pump Control Panel Typical Dead Front Panel (230VAC/3PH; <=20HP)
WW-25	Duplex Pump Control Panel Typical Back Plate (230VAC/3PH; <=20HP)
WW-26	Duplex Pump Control Panel Power/Control Wiring Layout1 (230VAC/3PH; <=20HP)
WW-27	Duplex Pump Control Panel Power/Control Wiring Layout2 (230VAC/3PH; <=20HP)
WW-28	Duplex Pump Control Panel RTU Interface Terminal Detail (230VAC/3PH; <=20HP)
WW-29	Duplex Pump Control Panel J-Box Backplate Layout (230VAC/3PH; <=20HP)
WW-30	Duplex Pump Control Schedule of Materials (230VAC/3PH; <=20HP)
WW-31	Duplex Pump Control Panel Notes (230VAC/3PH; <=20HP)
WW-32	Duplex Pump Control Panel Labeling Details (230VAC/3PH; <=20HP)
WW-33	460 VAC - 3 PH; DUPLEX CONTROL PANEL
WW-34	Duplex Pump Control Panel Typical Dead Front Panel (460VAC/3PH)
WW-35	Duplex Pump Control Panel Typical Back Plate (460VAC/3PH)
WW-36	Duplex Pump Control Panel Power/Control Wiring Layout1 (460VAC/3PH)
WW-37	Duplex Pump Control Panel Power/Control Wiring Layout2 (460VAC/3PH)
WW-38	Duplex Pump Control Panel RTU Interface Terminal Detail (460VAC/3PH)
WW-39	Duplex Pump Control Panel J-Box Backplate Layout (460VAC/3PH)
WW-40	Duplex Pump Control Schedule of Materials (460VAC/3PH)
WW-41	Duplex Pump Control Panel Notes (460VAC/3PH)
WW-42	Duplex Pump Control Panel Labeling Details (460VAC/3PH)
WW-43	220 VAC - 1 PH; DUPLEX CONTROL PANEL
WW-44	Duplex Pump Control Panel Typical Dead Front Panel (220VAC/1PH)
WW-45	Duplex Pump Control Panel Typical Back Plate (220VAC/1PH)
WW-46	Duplex Pump Control Panel Power/Control Wiring Layout1 (220VAC/1PH)
WW-47	Duplex Pump Control Panel Power/Control Wiring Layout2 (220VAC/1PH)
WW-48	Duplex Pump Control Panel RTU Interface Terminal Detail (220VAC/1PH)
WW-49	Duplex Pump Control Panel J-Box Backplate Layout (220VAC/1PH)
WW-50	Duplex Pump Control Schedule of Materials (220VAC/1PH)
WW-51	Duplex Pump Control Panel Notes (220VAC/1PH)
WW-52	Duplex Pump Control Panel Labeling Details (220VAC/1PH)
WW-53	460 VAC - 3 PH; TRIPLEX CONTROL PANEL
WW-54	Triplex Pump Control Panel Typical Dead Front Panel (460VAC/3PH)
WW-55	Triplex Pump Control Panel Typical Back Plate (460VAC/3PH)
WW-56	Triplex Pump Control Panel Power/Control Wiring Layout1 (460VAC/3PH)
WW-57	Triplex Pump Control Panel Power/Control Wiring Layout2 (460VAC/3PH)
WW-58	Triplex Pump Control Panel RTU Interface Terminal Detail (460VAC/3PH)
WW-59	Triplex Pump Control Panel J-Box Backplate Layout (460VAC/3PH)
WW-60	Triplex Pump Control Schedule of Materials (460VAC/3PH)
WW-61	Triplex Pump Control Panel Notes (460VAC/3PH)
WW-62	Triplex Pump Control Panel Labeling Details (460VAC/3PH)

FOR: NOV. 2011	UTILITIES ENGINEERING DIVISION	CITY OF NAPLES
DRAWN: JAF	INDEX OF DETAILS	SHEET: INDEX
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. INDEX.DWG



**EXHIBIT A**

- 1 - MAIN CIRCUIT BREAKER
- 2 - GENERATOR CIRCUIT BREAKER
- 3 - P-1 MOTOR CIRCUIT BREAKER
- 4 - P-2 MOTOR CIRCUIT BREAKER
- 5 - CB1 CONTROL CIRCUIT BREAKER (15A)
- 6 - CB2 DUPLEX RECEPTACLE C.B. (20A)
- 7 - CB3 LIGHTING CIRCUIT BREAKER (15A)
- 8 - CB4 SPARE CIRCUIT BREAKER (20A)
- 9 - CB5 RTU POWER (15A)
- 10 - P-1 HOA SELECTOR SWITCH
- 11 - P-1 ELAPSED TIME METER
- 12 - P-1 RUN PILOT LIGHT (GREEN)
- 13 - P-1 MOTOR THERMAL ALARM P.L. (RED)
- 14 - P-2 HOA SELECTOR SWITCH
- 15 - P-2 ELAPSED TIME METER
- 16 - P-2 RUN PILOT LIGHT (GREEN)
- 17 - P-2 MOTOR THERMAL ALARM PILOT LIGHT (RED)
- 18 - HIGH LEVEL ALARM PILOT LIGHT (RED)
- 19 - GFCI DUPLEX RECEPTACLE
- 20 - LEVEL, PUMP CONTROLLER W/SUBMERSIBLE TRANSDUCER
- 21 - EXTERNAL ALARM LIGHT
- 22 - GENERATOR RECEPTACLE
- 23 - PANEL INTRUSION ALARM SWITCH
- 24 - PANEL CONVENIENCE LIGHT BAR
- 25 - COOLING FAN PACKAGE



**KEY NOTES:**

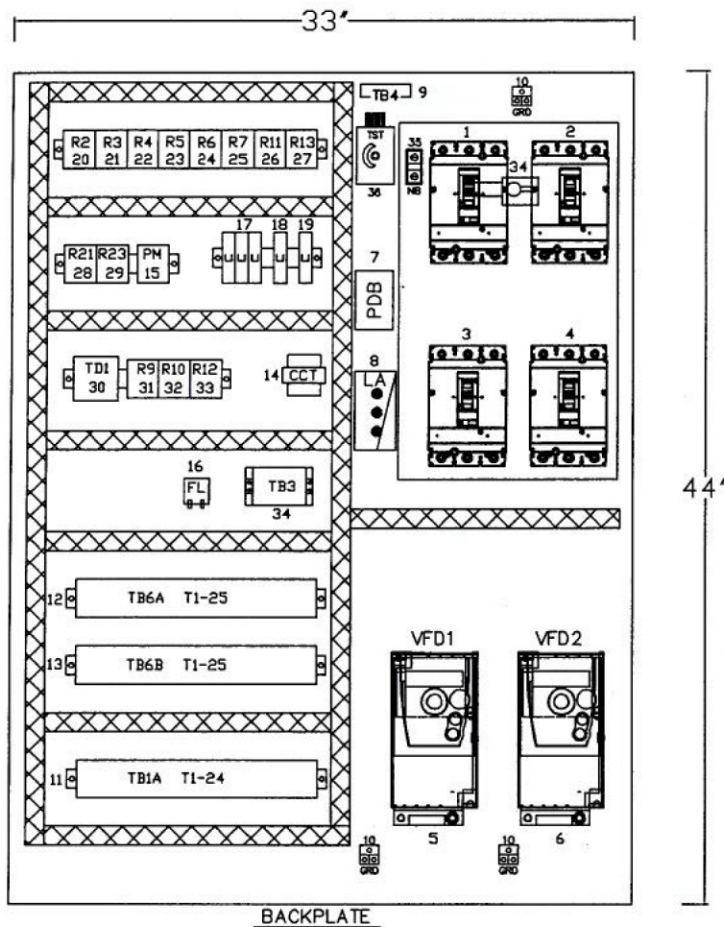
- \* OUTER DOOR HAS BEEN REMOVED FOR CLARITY
- \* PANEL ENCLOSURE SIZE SHALL BE DETERMINED BY PROPER SPACING & CODE REQUIREMENTS OF ALL SPECIFIED COMPONENTS TO BE INSTALLED. CONFIGURATION MAY VARY. FOR A TYPICAL 10 HP, 460 VAC, 3 PH PANEL, MAINTAINING A 1.5" SEPARATION BETWEEN COMPONENTS & CABLE TRAYS REQUIRES A MINIMUM OF A 36"W X 48"H X 12"D ENCLOSURE.
- \* THE SUB-PANEL DOOR SHALL BE EQUIPPED WITH A WIND (HOLD OPEN) RESTRAINT MECHANISM.
- \* THE PANEL ENCLOSURE SHALL BE SUPPLIED WITH A CONTINUOUS DRIP EDGE.
- \* THE ENCLOSURE SHALL BE ALUMINUM NEMA 3R, 4, OR 12 AS REQUIRED. GASKET SEAL DOORS, A MINIMUM OF A THREE POINT LATCH SYSTEM, LOCKING HASP, AND STAINLESS STEEL HINGES & HARDWARE.
- \* SINGLE DOOR ENCLOSURES SHALL REQUIRE ONE (1) EA INTRUSION DOOR SWITCH. PANEL INTRUSION DOOR SWITCH: SWITCH SHALL BE CLEANLY AND SECURELY MOUNTED. SWITCH SHALL BE WEATHER RESISTANT, NON-EXPOSED CONTACTS/TERMINALS, IMPACT RESISTANT. SWITCH CAN BE MAGNETIC, MECHANICAL, ETC.
- \* ITEM 23 PANEL CONVENIENCE LIGHT BAR: THE SPECIFIED PORTFOLIO 27" LED LIGHT STRIP SHALL BE MOUNTED BEHIND THE SUB-DOOR AND UNDER THE TOP OF PANEL.

A DATA POCKET SHALL BE MOUNTED TO THE INSIDE OF THE PANEL ENCLOSURE OUTER DOOR. NO PENETRATIONS THROUGH THE DOOR SHALL BE ALLOWED FOR MOUNTING. THE DATA POCKET SHALL BE HOFFMAN ADP2 OR APPROVED EQUAL.

**20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY**

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-23
DRAWN: DAG	TYPICAL DEAD FRONT PANEL	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-23.DWG



- |           |   |           |  |
|-----------|---|-----------|--|
| 1 - MCB   | - MAIN CIRCUIT BREAKER                      | 20 - R2   | - P-1 CALL (CONTROLLER) RELAY (110V, 8PIN) |
| 2 - GCB   | - GENERATOR CIRCUIT BREAKER                 | 21 - R3   | - P-2 CALL (CONTROLLER) RELAY (110V, 8PIN) |
| 3 - PCB1  | - P-1 MOTOR CIRCUIT BREAKER                 | 22 - R4   | - VFD#1 RESET RELAY (110V, 8 PIN)          |
| 4 - PCB2  | - P-2 MOTOR CIRCUIT BREAKER                 | 23 - R5   | - VFD#2 RESET RELAY (110V, 8 PIN)          |
| 5 - VFD1  | - VARIABLE FREQUENCY DRIVE #1               | 24 - R6   | - P-1 REMOTE DISABLE RELAY (110V, 8PIN)    |
| 6 - VFD2  | - VARIABLE FREQUENCY DRIVE #2               | 25 - R7   | - P-2 REMOTE DISABLE RELAY (110V, 8PIN)    |
| 7 - PDB   | - POWER DISTRIBUTION BLOCK (3POLE/MULTITAP) | 26 - R11  | - VFD1 REMOTE RUN RELAY (110V, 8PIN)       |
| 8 - LA    | - LIGHTNING ARRESTER                        | 27 - R21  | - VFD1 REMOTE RUN RELAY (110V, 8PIN)       |
| 9 - TB4   | - TERMINAL BLOCK 4: ALARM LIGHT             | 28 - R13  | - P-1 MOTOR THERMAL RELAY (110V, 11PIN)    |
| 10 - GRD  | - GROUND LUG(S)                             | 29 - R23  | - P-2 MOTOR THERMAL RELAY (110V, 11PIN)    |
| 11 - TB1A | - TERMINAL BLOCK 1A                         | 30 - TD1  | - HIGH LEVEL TIME DELAY RELAY (24V, 8PIN)  |
| 12 - TB6A | - TERMINAL BLOCK 6A                         | 31 - R9   | - FLOAT CONTROL ON RELAY (24V, 11PIN)      |
| 13 - TB6B | - TERMINAL BLOCK 6B                         | 32 - R10  | - LOW LEVEL FLOAT ALARM RELAY (24V, 11PIN) |
| 14 - CCT  | - CONTROL CIRCUIT TRANSFORMER (120V-24V)    | 33 - R12  | - PANEL INTRUSION ALARM RELAY (24V, 11PIN) |
| 15 - PM   | - PHASE MONITOR 230V, 8PIN                  | 34 - BINT | - MAIN/GEN. MECHANICAL BREAKER INTERLOCK   |
| 16 - FL   | - FLASHER (110V SOLID STATE)                | 35 - NB   | - NEUTRAL BLOCK                            |
| 17 - CB6  | - PHASE MONITOR CIRCUIT BREAKERS (3P-1A)    | 36 - TST  | - FAN THERMOSTAT                           |
| 18 - CB7  | - CCT PRIMARY CIRCUIT BREAKER (1P-1A)       |           |  |
| 19 - CB8  | - CCT SECONDARY CIRCUIT BREAKER (1P-3A)     |           |  |

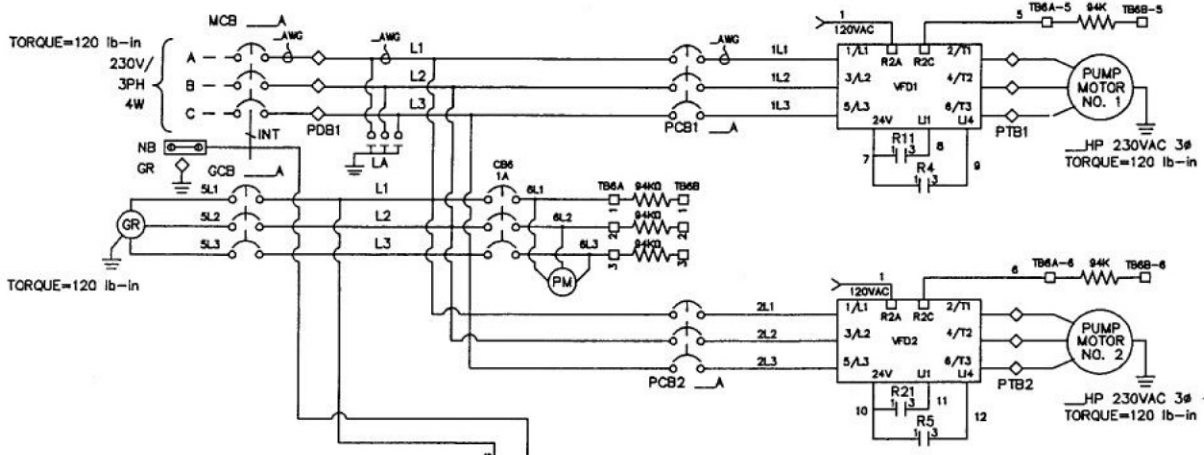
THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

**20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY**

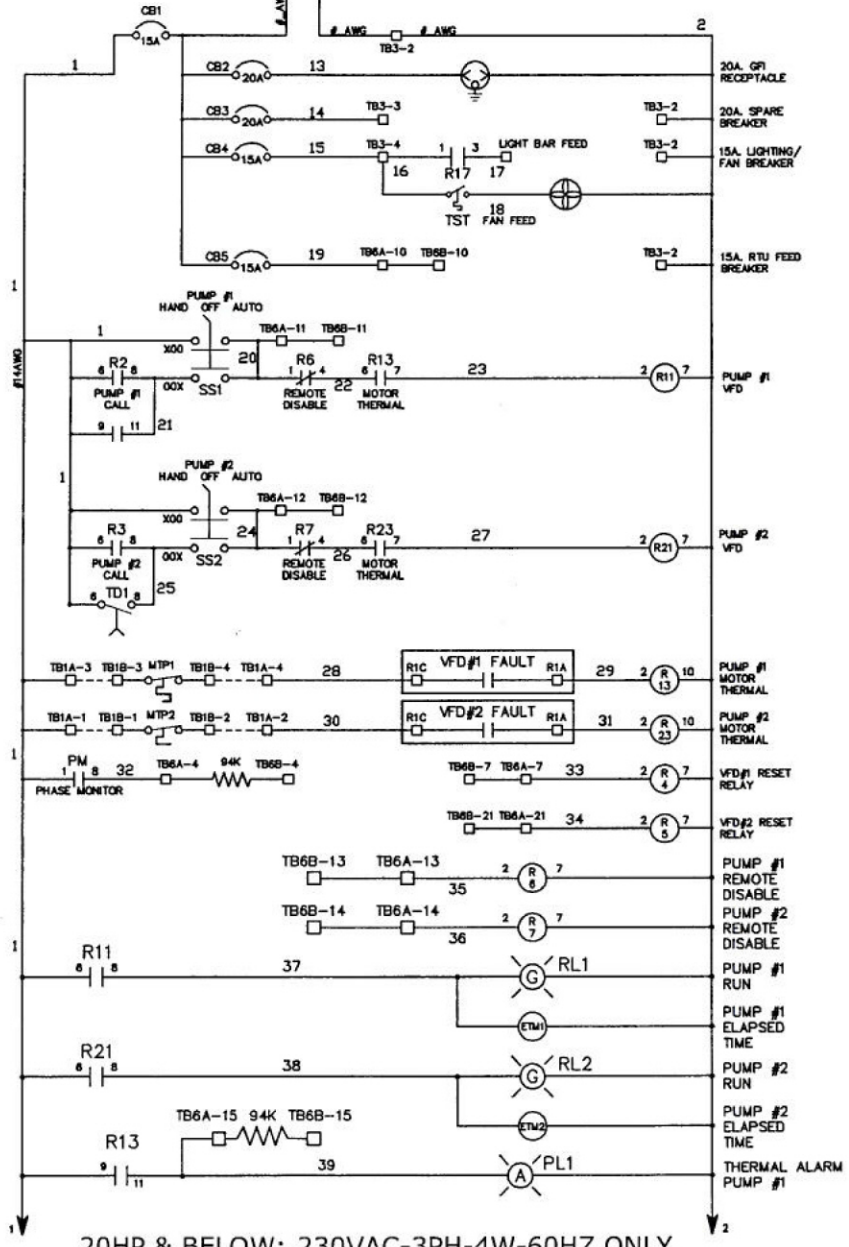
FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-24
DRAWN: DAG	TYPICAL BACKPLATE LAYOUT	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-24.DWG



**EXHIBIT A**



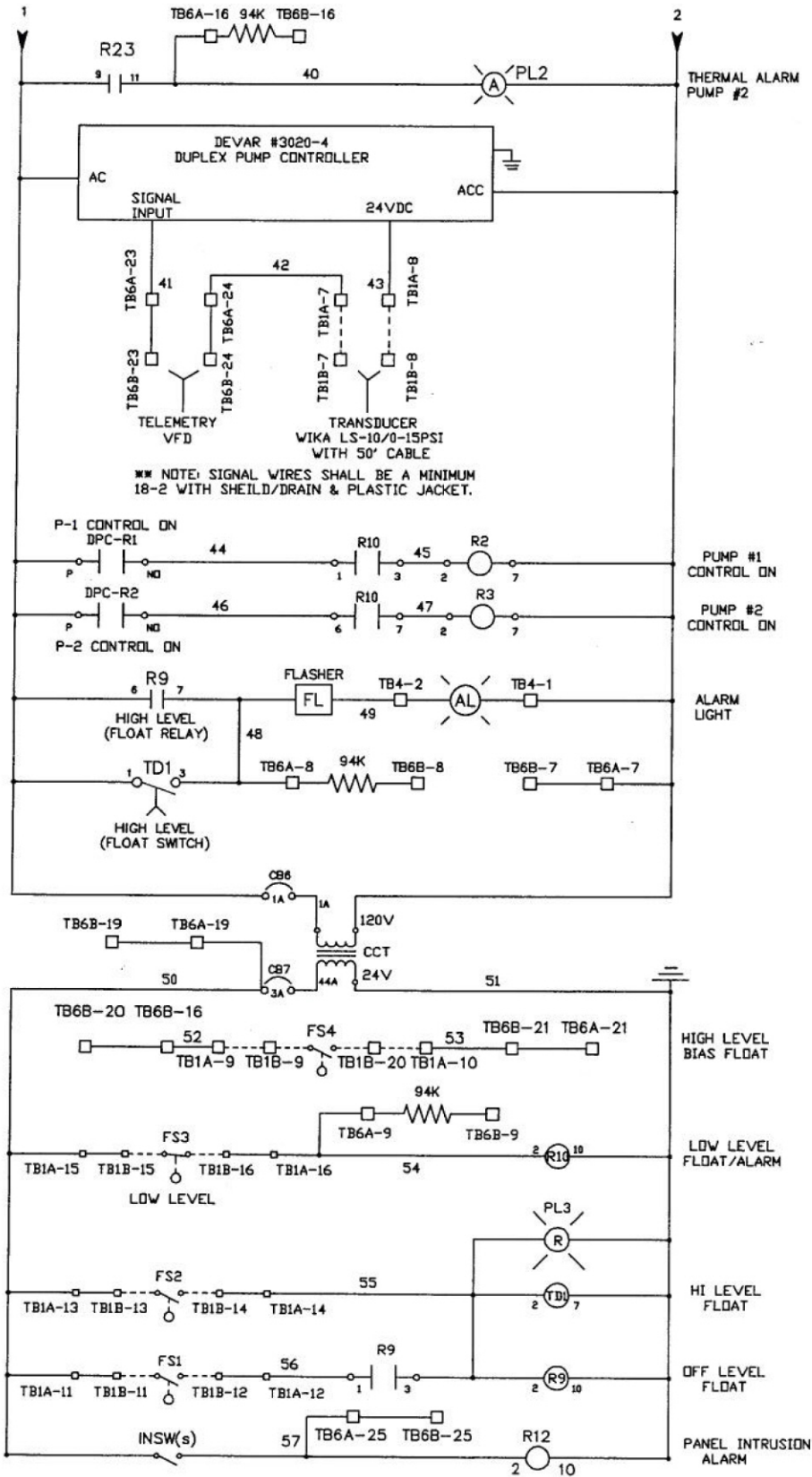
ALL WIRES SHALL BE CLEARLY NUMBERED/LABELED AT EACH CONNECTION/TERMINATION.



20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-25
DRAWN: DAG	POWER/CONTROL WIRING LAYOUT 1	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-25.DWG



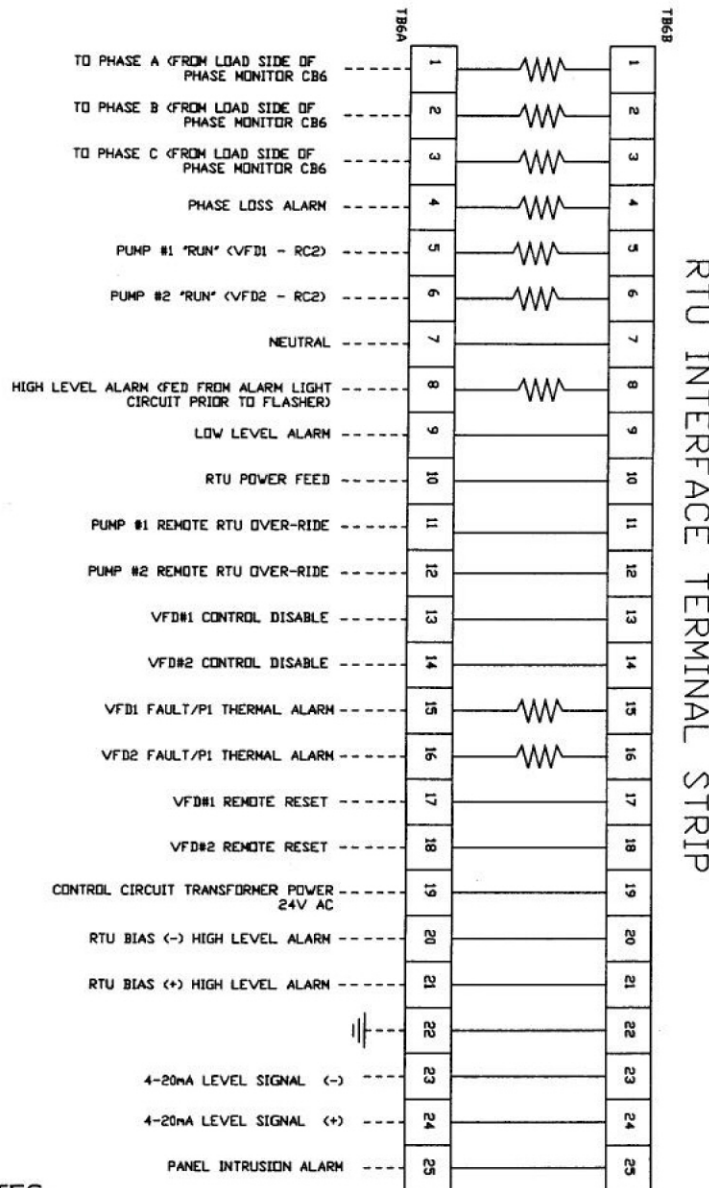
ALL WIRES SHALL BE CLEARLY NUMBERED/LABELED AT EACH CONNECTION/TERMINATION.

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-26
DRAWN: DAG	POWER/CONTROL WIRING LAYOUT2	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-26.DWG

**EXHIBIT A**



ALL WIRES SHALL BE CLEARLY NUMBERED/  
LABELED AT EACH CONNECTION/TERMINATION.

**NOTES:**

- 5A. TB6A & TB6B SHALL BE INSTALLED IN THE CONTROL PANEL AS DESCRIBED IN DRAWING "WW-24", WITH UN-OBSTRUCTED ACCESS AND A MINIMUM OF 1.5" SEPARATION FOR THE INSTALLATION OF THE RESISTORS AND JUMPER WIRES. THE 1.5" SEPARATION SHALL BE UNIFORM BETWEEN COMPONENTS AND WIREWAYS TO ALLOW ACCESS.
- 5B. ALL REQUIRED RESISTORS SHALL BE RATED AT 94K OHM @ 2 WATTS.
- 5C. TERMINAL BLOCKS TB6A & TB6B SHALL BE SQD 9080 SERIES OR EQUAL

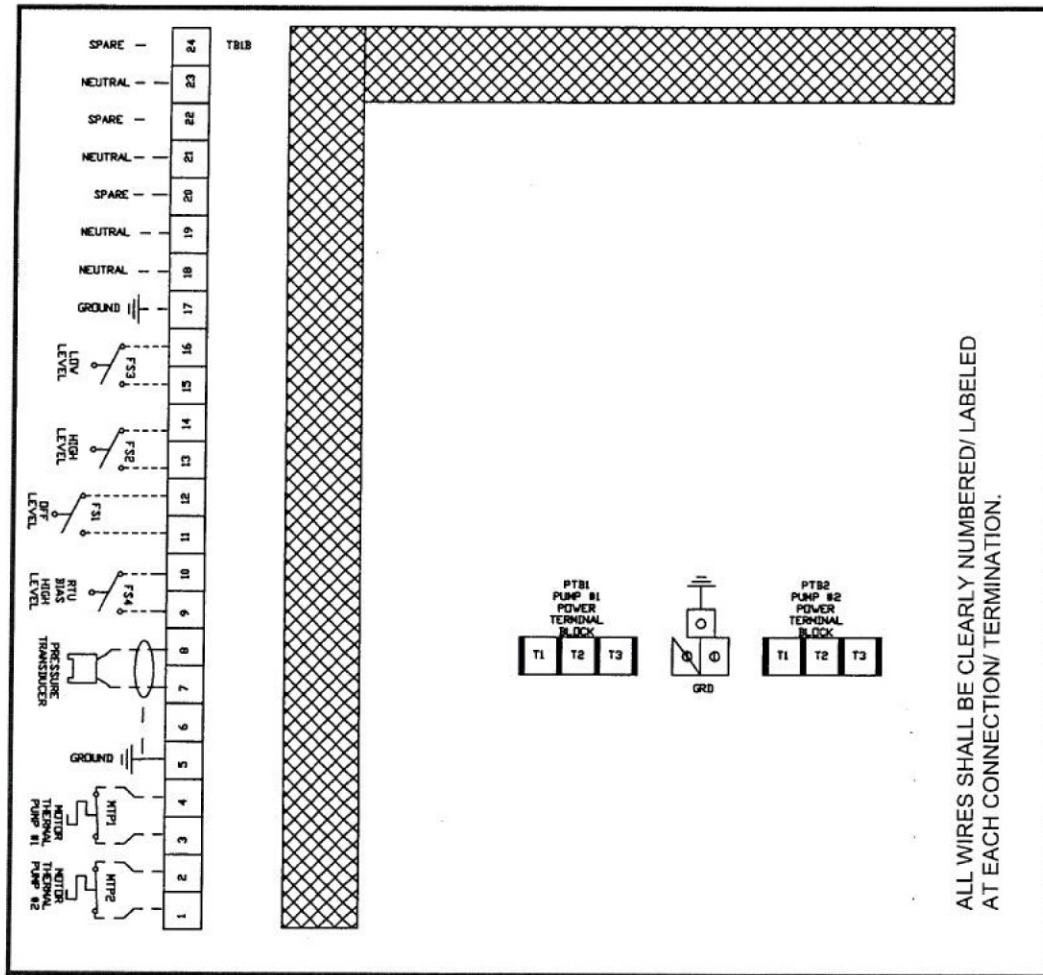
THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY

<b>FOR:</b>	<b>UTILITIES DEPARTMENT</b>	<b>CITY OF NAPLES</b>
<b>DATE:</b> NOV. 2011	<b>DUPLEX PUMP CONTROL PANEL</b>	<b>SHEET: WW-27</b>
<b>DRAWN:</b> DAG	<b>RTU INTERFACE TERMINAL DETAIL</b>	<b>DIR: WASTEWATER</b>
<b>SCALE:</b> N.T.S.	<b>380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102</b>	<b>DWG. WW-27.DWG</b>



**EXHIBIT A**



ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

**JUNCTION BOX BACKPLATE LAYOUT**

**REQUIRED TERMINATIONS IN SPECIFIED JUNCTION BOX**

- 6A. LAYOUT MAY VARY SLIGHTLY AS REQUIRED
- 6B. BACKPLATE SHALL BE ALUMINUM.
- 6C. THE J-BOX SHALL BE ALUMINUM, 3, 4, OR 4X AS REQUIRED, WITH EXTERNAL MOUNTING BRACKETS, HINGED DOOR, GASKET SEAL, DRIP EDGE, & LOCKABLE.
- 6D. THE J-BOX SHALL BE SIZED TO PROPERLY ACCOMODATE ALL CONDUITS, FITTINGS, TERMINAL BLOCKS, AND SPECIFIED WIRING WITH ADEQUATE CLEARANCES AND SPACING. MINIMUM OR 16"X16"X 8"D. JUNCTION BOX CAN NOT EXCEED 16" HIGH. IF SPACING REQUIREMENTS REQUIRE MORE AREA, THE J-BOX SHALL BE MADE WIDER INSTEAD OF HIGHER;OR USE TWO MATCHING J-BOXES PER SPACE FILL REQUIERMENTS.
- 6E. THE TERMINAL BLOCKS, POWER BLOCKS, LUGS, AND WIRE RACE SHALL BE MOUNTED AS SHOWN IN THE ABOVE DETAIL. TB1B SHALL BE SQ D SERIES 9080, 30AMP RATED OR EQUAL. POWER BLOCKS AND LUGS SHALL BE SIZED ONE SIZE LARGER THAN REQUIRED LOADS.
- 6F. FOR CITY IN-HOUSE INSTALLATIONS: THE SPECIFIED J-BOX SHALL BE SUPPLIED WITH THE CONTROL PANEL; ALONG WITH THE REQUIRED MYERS HUBS, AL/SS NIPPLES, SEAL-OFFS AS REQUIERD BY CITY UTILITY STANDARDS; BUT WILL BE FIELD INSTALLED AND WIRED BY CITY PERSONNEL.
- 6G. FOR CONTRACTOR/DEVELOPER INSTALLED PROJECTS: THE SPECIFIED J-BOX SHALL BE SUPPLIED/INSTALLED WITH THE CONTROL PANEL; ALONG WITH THE REQUIRED MYERS HUBS, ALL/SS NIPPLES, SEAL-OFFS, AND WIRING; AS REQUIERD BY CITY UTILITY STANDARDS

ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLIX PUMP CONTROL PANEL J-BOX BACKPLATE LAYOUT	SHEET: WW-28
DRAWN: DAG		DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102	DWG. WW-28.DWG



**EXHIBIT A**

Part No	Qty	TAG LABEL	DESC
AAE-AE01L	8	R2,3,4,5,6,7,11,21	Control Relay 115 Vac 8 Pin. with lamp Indicator
AAE-A304L	3	R9,10,12	Control Relay 24 Vac 11 Pin. with lamp Indicator
AAE-A301L	2	R13,23	Control Relay 115 Vac 11 Pin. with lamp Indicator
FS127	1	FL	5sec Flasher 120 Vac, 90 Fpm
PF083E	9	R2,3,4,5,6,7,11,21,TD1	8 Pin Round Relay Base
PF113A	5	R9,10,12,13,23	11 Pin Round Relay Base
CE1A-C10HAD24	1	TD1	Time Delay Relay, adjustable, 24 Vac
PMPU-E-278 CCT2040	1	PM	Phase Monitor, 8 Pin Plug In Type
480-2079-ND	2	ETM1 & 2	Hour Meter
9080L_BA162101	1	NEU	AB Power Block 1 Pole
9080L_BA362104	1	PDB1	Power Block, 1IN 4 OUT
LRX-40	1	AL	Alarm Light Red
9001-SKP38A9	2	PL1,2	SOD Pilot Light 120Vac Amber Lens Corrosion Resistant Plastic
9001-SKS43BH1	2	SS1,2	SOD 3 Pos. Selector SW. with Contacts on Both Side, Cam C,
9001-SKP38G9	2	RL1,2	SOD Pilot Light 120Vac Green Lens corrosion resistant plastic.
9001-SKP35R9	1	PL3	SOD Pilot Light 24Vac, Red Lens corrosion resistant plastic.
9070150D23	1	CCT	SOD 50VA Transformer 120V/24VAC.
HDL36	2	PCB1,2	SOD MOTOR Breaker 3 Pole ---Amp, 600 Vac Rating (SIZED FOR SPECIFIED HP)
HDL36	2	MCB, ECB	SOD MAIN/GEN Breaker 3 Pole ---Amp, 600Vac Rating (SIZED FOR FULL LOAD RATING)
QDU115	2	CB1, CB3	SOD Breaker 1 Pole 15 Amps 120/240 Vac
QDU120	2	CB2, CB4	SOD Breaker 1 Pole 20 Amps 120/240 Vac
TE02XCS104X	1	LA	Advanced Protection Technologies Lightning Arrestor 230 VAC 3 PH
PAS2091W	1	DR	GFCI Receptacle 20 Amps
3020-4	1	DLPC	Devor Controller
LS-10/0-15PS1	1	PT	Wika pressure Transducer, 50' Cable
C4100R9W	1	GR	Hubbel 100 Amp Generator Receptacle with angle BBI002W
ATV312	2	VFD1,2	VFD ALTIVAR312 --HP 240VAC BY SOD. 61AR FDR 20HP+ (RATED FOR SPECIFIED HP)
1492-J4	AR	TB1A,1B,6A,6B,4	Terminal Blocks 30 amps
1492-EBJ3	AR	TBEB	Terminal Blocks end barrier.
AB1ABBM35	AR	TBEC	Terminal Blocks end clamp.
9080L_BA362101	2	PTB	3 pole Power Terminal Block by SOD.
282-91K-RC	AR	RES	Resistor 94K OHM 2 watts
MG24140	1	CBS	Circuit Breaker 3 poles 1 Amps.
MG24500	1	CB6	Circuit Breaker 1 pole 1 Amp.
MG24502	1	CB7	Circuit Breaker 1 pole 3 Amps.
K2A25U	4	GRDL	Double Ground Lug.
	1	ENC	Nema 3R, 4, or 12 Enclosure 48"Hx36"Wx12"D wall mount w/hold open arms. AL supanel.
	1	J-BOX	J-Box Nema 3, 4, or 4X enclosure 16"Hx16"Wx8"D Hinged/drip edge, & gasketed. AL supanel.
	6	EYE INSTALL	1 1/5" Min ALUMINUM DR STAINLESS closed nipple PER UTILITY STANDARDS.
	6	EYE INSTALL	1 5/8" Min NYERS HUBS to both enclosures.
EV150	3	EYE INSTALL	Cast Aluminum Vertical sealing fitting 1 1/2" Min
29125	1	LTB	PORTOLID LED LIGHT BAR
TFP41	1	FAN	4" COOLING FAN ASSEMBLY BY HOFFMAN
TEP4	1	EXH	EXHAUST VENT ASSEMBLY BY HOFFMAN
IUH42	1	TST	FAN THERMOSTAT (DAYTON)
AS REQUIRED	1	ALL DIN RAIL, SCEWS, BOLTS, NUTS, SEALANTS, ADHESIVES, AND MISC. HARDWARE AND SUPPLIES NECESSARY FOR JOB.	

AR = AS REQUIRED

PANEL MANUFACTURER MUST PROVIDE SUBMITTALS FOR ALL MATERIALS AND COMPONENTS TO BE UTILIZED FOR THIS PROJECT BEFORE ANY ASSEMBLY IS INITIATED. THE CITY RESERVES THE RIGHT TO REJECT ANY AND ALL MATERIAL OR COMPONENT NOT MEETING STANDARDS.

20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-29
DRAWN: DAG	SCHEDULE OF MATERIALS	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-29.DWG



**CONTROL PANEL NOTES:**

Panel designer may make changes in materials and component manufacturer, with City Utilities Engineer's approval only.

Manufacturer shall list any additional equipment necessary to provide a clean, neat, professional, and Code compliant control panel; such as: Lugs, distribution terminals, wire races, etc..

The panel manufacturer shall provide two (2) sets of As-Built drawings in hard copy, and the drawings shall be provided in Dwg 2004 format, on a CD.

A laminated As-Built Ladder Diagram shall be attached to the inside of the outer control panel door.

The Control Panel Enclosure shall be Type 14 gauge minimum Aluminum, NEMA 3R, 4, or 12 as required, gasketed, with: A padlockable hasp, three point latch system, wind restrainer arm(s) that includes all hardware to restrain both the main and dead front door(s) when open; backplate(s), and drip edge that extends the entire length of the top of the enclosure.

The Junction Box Enclosure shall be Type 14 gauge minimum Aluminum, NEMA 3, 4, or 4X as required, gasketed, drip edge with: A padlockable hasp, hinged door. The Junction Box shall have a back plate for component mounting. The Junction Box shall have industrial grade terminal strips of sufficient size and spacing, as required by these specifications. The Junction Box shall be isolated from the Control Panel with the properly sized seal-off fittings (not to exceed 80% capacity), pre-wired, and supplied with epoxy sealant per manufacturer recommendations. The epoxy sealant shall be supplied with but installed on site after all connections are made, confirmed, and accepted by the City. The J-Box shall be mounted to the panel using Myers Hubs at both panels, threaded nipples, and Cast AL Vertical EYE fittings.

The Control Panel Enclosure and the Junction Box Enclosure shall be shipped: Pre-wired, Pre-tested, and complete as one unit, unless this creates a shipping hazard. If the J-Box requires removal for shipping, all wires shall be properly tagged and protected during shipping. The enclosures and components shall be properly packed to prevent damage and loss during shipment to our Naples location.

All Panduit (or equal) wire raceways shall not be filled in excess of 80% capacity. All wires extending outside of a raceway in excess of 5" shall be held in place with plastic wire ties. All wiring shall be neat and un-tangled.

All wires shall be properly labeled at each termination point. All wires and terminals shall be rated according to NEC standards.

20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY

<b>FOR:</b>	<b>UTILITIES DEPARTMENT</b>	<b>CITY OF NAPLES</b>
<b>DATE: NOV. 2011</b>	<b><i>DUPLEX PUMP CONTROL PANEL</i></b>	<b>SHEET: WW-30</b>
<b>DRAWN: DAG</b>	<b><i>CONTROL PANEL NOTES</i></b>	<b>DIR: WASTEWATER</b>
<b>SCALE: N.T.S.</b>	<b>380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102</b>	<b>DWG. WW-30.DWG</b>



EXHIBIT A

## CONTROL PANEL MINIMUM LABELING REQUIREMENTS

LABEL	QUANT	COLOR	DESCRIPTION
MCB	2	BLACK	MAIN CIRCUIT BREAKER
GCB	2	BLACK	GENERATOR CIRCUIT BREAKER
PCB1	2	BLACK	PUMP 1 CIRCUIT BREAKER
PCB2	2	BLACK	PUMP 2 CIRCUIT BREAKER
CB1-4	1	BLACK	CONTROL CB, RECEPTICLE CB, SPARE CB, LIGHTING CB
CB1	1	BLACK	CONTROL CIRCUIT BREAKER
CB2	1	BLACK	RECEPTICLE CIRCUIT BREAKER
CB3	1	BLACK	SPARE CIRCUIT BREAKER
CB4	1	BLACK	LIGHTING CIRCUIT BREAKER
VFD1	1	BLACK	VARIABLE FREQUENCY DRIVE 1
VFD2	1	BLACK	VARIABLE FREQUENCY DRIVE 2
CB5	1	BLACK	PHASE MONITOR CIRCUIT BREAKER
CB6	1	BLACK	CONTROL CIRCUIT TRANSFORMER LINE CIRCUIT BREAKER
CB7	1	BLACK	CONTROL POWER TRANSFORMER LOAD CIRCUIT BREAKER
PM	1	BLACK	PHASE MONITOR
CCT	1	BLACK	CONTROL CIRCUIT TRANSFORMER
R1	1	BLUE	CONTROL CIRCUIT POWER RELAY
R2	1	BLUE	P1 CONTROL ON RELAY
R3	1	BLUE	P2 CONTROL ON RELAY
R4	1	BLUE	VFD1 REMOTE RESET RELAY
R5	1	BLUE	VFD2 REMOTE RESET RELAY
R6	1	BLUE	P1 REMOTE DISABLE RELAY
R7	1	BLUE	P2 REMOTE DISABLE RELAY
R9	1	BLUE	HIGH LEVEL ON/OFF FLOAT RELAY
R10	1	BLUE	LOW LEVEL ALARM OVER-RIDE RELAY
R11	1	BLUE	VFD1 RUN RELAY
R12	1	BLUE	INTRUSION ALARM/CONVIENENCE LIGHT RELAY
R13	1	BLUE	P1 THERMAL ALARM RELAY
R21	1	BLUE	VFD2 RUN RELAY
R23	1	BLUE	P2 THERMAL ALARM RELAY
TD1	1	BLUE	FLOAT OPERATED SECOND PUMP ON TIME DELAY RELAY
TB4	1	BLUE	ALARM LIGHT TERMINAL BLOCK
TB1A	1	BLUE	PANEL CONTROLS TERMINAL BLOCK
TB1B	1	BLUE	J-BOX CONTROLS TERMINAL BLOCK
TB6A	1	BLUE	RTU INTERFACE TERMINAL BLOCK A
TB6B	1	BLUE	RTU INTERFACE TERMINAL BLOCK B
P1 RUN	1	BLUE	P1 RUN PILOT LIGHT
P2 RUN	1	BLUE	P2 RUN PILOT LIGHT
TST	1	BLUE	FAN THERMOSTAT
FLASH	1	RED	FLASHER FOR HIGH LEVEL
P1 THERMAL	1	RED	P1 THERMAL OVERLOAD ALARM PILOT LIGHT
P2 THERMAL	1	RED	P2 THERMAL OVERLOAD ALARM PILOT LIGHT
HIGH LEVEL	1	RED	HIGH LEVEL ALARM PILOT LIGHT

Each switch, circuit breaker, indicating light, push button, relay, etc., shall have an engraved laminated plastic color coded nameplate mounted above or below the device for proper identification; RED for alarm, BLACK for Power, and BLUE for level and controls. Letters shall be a minimum of 1/4" in height. A quality, long lasting adhesive shall be used for mounting the labels.

20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY

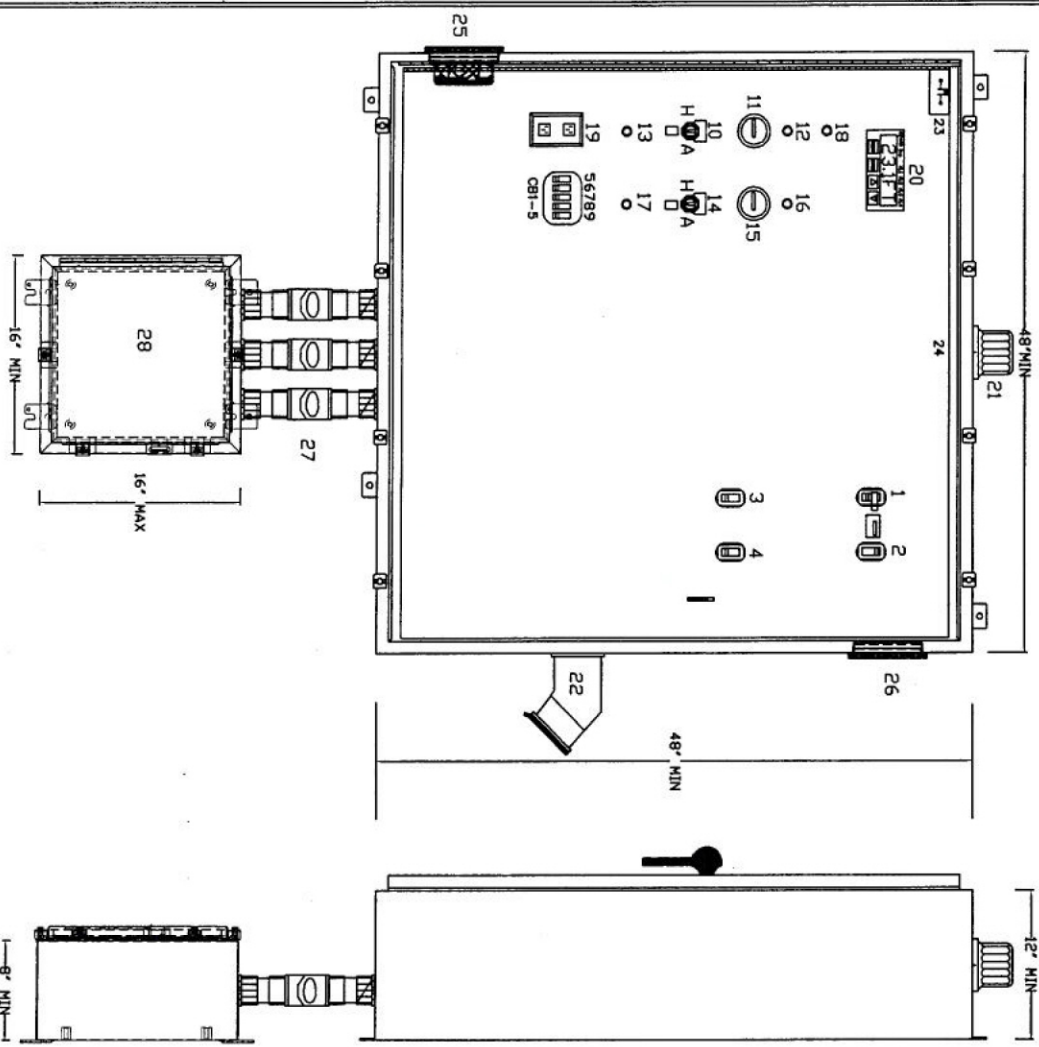
FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	<i>DUPLEX PUMP CONTROL PANEL PANEL LABELING DETAILS</i>	SHEET: WW-31
DRAWN: DAG		DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102	DWG. WW-31.DWG

**EXHIBIT A**

- 1 - MAIN CIRCUIT BREAKER
- 2 - GENERATOR CIRCUIT BREAKER
- 3 - P-1 MOTOR CIRCUIT BREAKER
- 4 - P-2 MOTOR CIRCUIT BREAKER
- 5 - CB1 CONTROL CIRCUIT BREAKER (15A)
- 6 - CB2 DUPLEX RECEPTACLE C.B. (20A)
- 7 - CB3 LIGHTING CIRCUIT BREAKER (15A)
- 8 - CB4 SPARE CIRCUIT BREAKER (20A)
- 9 - CB5 RTU POWER FEED (15A)
- 10 - P-1 HOA SELECTOR SWITCH
- 11 - P-1 ELAPSED TIME METER

- 12 - P-1 RUN PILOT LIGHT (GREEN)
- 13 - P-1 MOTOR THERMAL ALARM P.L. (AMBER)
- 14 - P-2 HOA SELECTOR SWITCH
- 15 - P-2 ELAPSED TIME METER
- 16 - P-2 RUN PILOT LIGHT (GREEN)
- 17 - P-2 MOTOR THERMAL ALARM PILOT LIGHT (AMBER)
- 18 - HIGH LEVEL ALARM PILOT LIGHT (RED)
- 19 - GFCCI DUPLEX RECEPTACLE
- 20 - LEVEL PUMP CONTROLLER W/SUBMERSIBLE TRANSDUCER
- 21 - EXTERNAL ALARM LIGHT

- 22 - GENERATOR RECEPTACLE
- 23 - PANEL INTRUSION ALARM SWITCH
- 24 - PANEL CONVENIENCE LIGHT BAR
- 25 - COOLING FAN PACKAGE
- 26 - COOLING EXHAUST PACKAGE
- 27 - PANEL(S) SEAL-OFF ASSEMBLIES
- 28 - JUNCTION BOX



- KEY NOTES:**
- \* OUTER DOOR HAS BEEN REMOVED FOR CLARITY
  - \* PANEL ENCLOSURE SIZE SHALL BE DETERMINED BY PROPER SPACING & CODE REQUIREMENTS OF ALL SPECIFIED COMPONENTS TO BE INSTALLED.
  - \* CONFIGURATION MAY VARY. FOR A TYPICAL 10 HP, 460 VAC, 3 PH PANEL, MAINTAINING A 1.5" SEPARATION BETWEEN COMPONENTS & CABLE TRAYS REQUIRES A MINIMUM OF A 48"W X 48"H X 12"D ENCLOSURE.
  - \* THE SUB-PANEL DOOR SHALL BE EQUIPPED WITH A WIND (HOLD OPEN) RESTRAINT MECHANISM.
  - \* THE PANEL ENCLOSURE SHALL BE SUPPLIED WITH A CONTINUOUS DRIP EDGE.
  - \* THE ENCLOSURE SHALL BE ALUMINUM NEMA 3R, 4, OR 12 AS REQUIRED, GASKET SEAL DOORS, A MINIMUM OF A THREE POINT LATCH SYSTEM, LOCKING HASP, AND STAINLESS STEEL HINGES & HARDWARE.
  - \* SINGLE DOOR ENCLOSURES SHALL REQUIRE ONE (1) EA INTRUSION DOOR SWITCH. PANEL INTRUSION DOOR SWITCH: SWITCH SHALL BE CLEANLY AND SECURELY MOUNTED. SWITCH SHALL BE WEATHER RESISTANT, NON-EXPOSED CONTACTS/TERMINALS, IMPACT RESISTANT. SWITCH CAN BE MAGNETIC, MECHANICAL, ETC.
  - \* ITEM 23 PANEL CONVENIENCE LIGHT BAR: THE SPECIFIED PORTFOLIO 27" LED LIGHT STRIP SHALL BE MOUNTED BEHIND THE SUB-DOOR AND UNDER THE TOP OF PANEL.

A DATA POCKET SHALL BE MOUNTED TO THE INSIDE OF THE PANEL ENCLOSURE OUTER DOOR. NO PENETRATIONS THROUGH THE DOOR SHALL BE ALLOWED FOR MOUNTING. THE DATA POCKET SHALL BE HOFFMAN ADP2 OR APPROVED EQUAL.

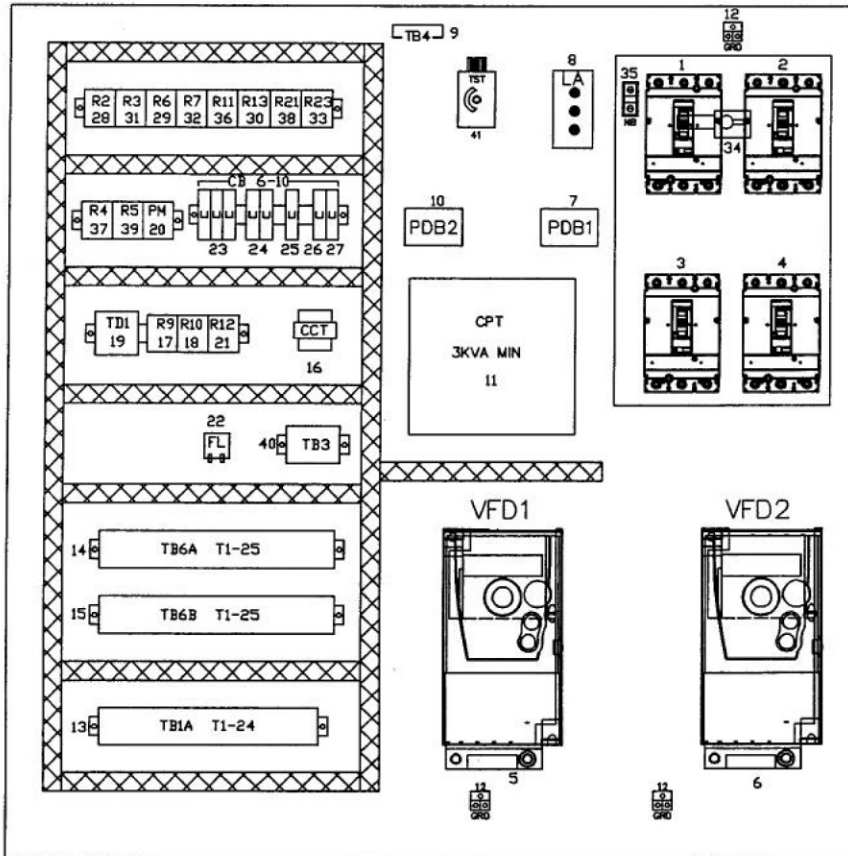
THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

**DUPLEX: 460VAC-3PH-4W-60HZ ONLY**

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-32
DRAWN: DAG	TYPICAL DEAD FRONT PANEL	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-32.DWG



**EXHIBIT A**



**TYPICAL BACKPLATE LAYOUT**

- |           |   |           |   |
|-----------|---|-----------|---|
| 1 - MCB   | - MAIN CIRCUIT BREAKER                      | 21 - R12  | - PANEL INTRUSION ALARM RELAY(24V,11PIN)    |
| 2 - GCB   | - GENERATOR CIRCUIT BREAKER                 | 22 - FL   | - FLASHER (110V SOLID STATE)                |
| 3 - PCB1  | - P-1 MOTOR CIRCUIT BREAKER                 | 23 - CB6  | - PHASE MONITOR CIRCUIT BREAKER(MINI 3P-1A) |
| 4 - PCB2  | - P-2 MOTOR CIRCUIT BREAKER                 | 24 - CB7  | - CPT LINE CIRCUIT BREAKER(MINI DIN 2P-25A) |
| 5 - VFD1  | - VARIABLE FREQUENCY DRIVE #1               | 25 - CB8  | - CPT LOAD CIRCUIT BREAKER(MINI DIN 1P-30A) |
| 6 - VFD2  | -VARIABLE FREQUENCY DRIVE #2                | 26 - CB9  | - CCT LINE CIRCUIT BREAKER(MINI DIN 1P-1A)  |
| 7 - PDB1  | - POWER DISTRIBUTION BLOCK (3POLE/MULTITAP) | 27 - CB10 | - CCT LOAD CIRCUIT BREAKER(MINI DIN 1P-3A)  |
| 8 - LA    | - LIGHTNING ARRESTER                        | 28 - R2   | - P-1 CALL RELAY (110V, 8PIN)               |
| 9 - TB4   | - TERMINAL BLOCK 4: ALARM LIGHT             | 29 - R6   | - P-1 DISABLE RELAY (110V, 8PIN)            |
| 10 - PDB2 | - POWER DISTRIBUTION BLOCK MULTITAP         | 30 - R13  | - P-1 MOTOR THERMAL RELAY (110V, 11PIN)     |
| 11 - CPT  | - CONTROL POWER TRANSFORMER (460V-120V)     | 31 - R3   | - P-2 CALL RELAY (110V, 8PIN)               |
| 12 - GRD  | - GROUND LUG(S)                             | 32 - R7   | - P-2 DISABLE RELAY (110V, 8PIN)            |
| 13 - TB1A | - TERMINAL BLOCK 1A                         | 33 - R23  | - P-2 MOTOR THERMAL RELAY (110V, 11PIN)     |
| 14 - TB6A | - TERMINAL BLOCK 6A                         | 34 - BINT | - MAIN/GEN. MECHANICAL BREAKER INTERLOCK    |
| 15 - TB6B | - TERMINAL BLOCK 6B                         | 35 - NB   | - NEUTRAL BLOCK                             |
| 16 - CCT  | - CONTROL CIRCUIT TRANSFORMER (120V-24V)    | 36 - R11  | - REMOTE VFD RUN RELAY (110V, 8PIN)         |
| 17 - R9   | - HIGH LEVEL OFF RELAY (24V, 11PIN)         | 37 - R4   | - VFD#1 RESET RELAY (110V, 8 PIN)           |
| 18 - R10  | - LOW LEVEL LOCKOUT RELAY (24V, 11PIN)      | 38 - R21  | - PUMP#2 RELAY (110V, 8 PIN)                |
| 19 - TD1  | - HIGH LEVEL TIME DELAY RELAY (24V, 8PIN)   | 39 - R5   | - VFD#2 RESET RELAY (110V, 8 PIN)           |
| 20 - PM   | - PHASE MONITOR 460V, 8PIN                  | 40 - TB3  | - TERMINAL BLOCK B3                         |
|           |   | 41 - TST  | - FAN THERMOSTAT                            |

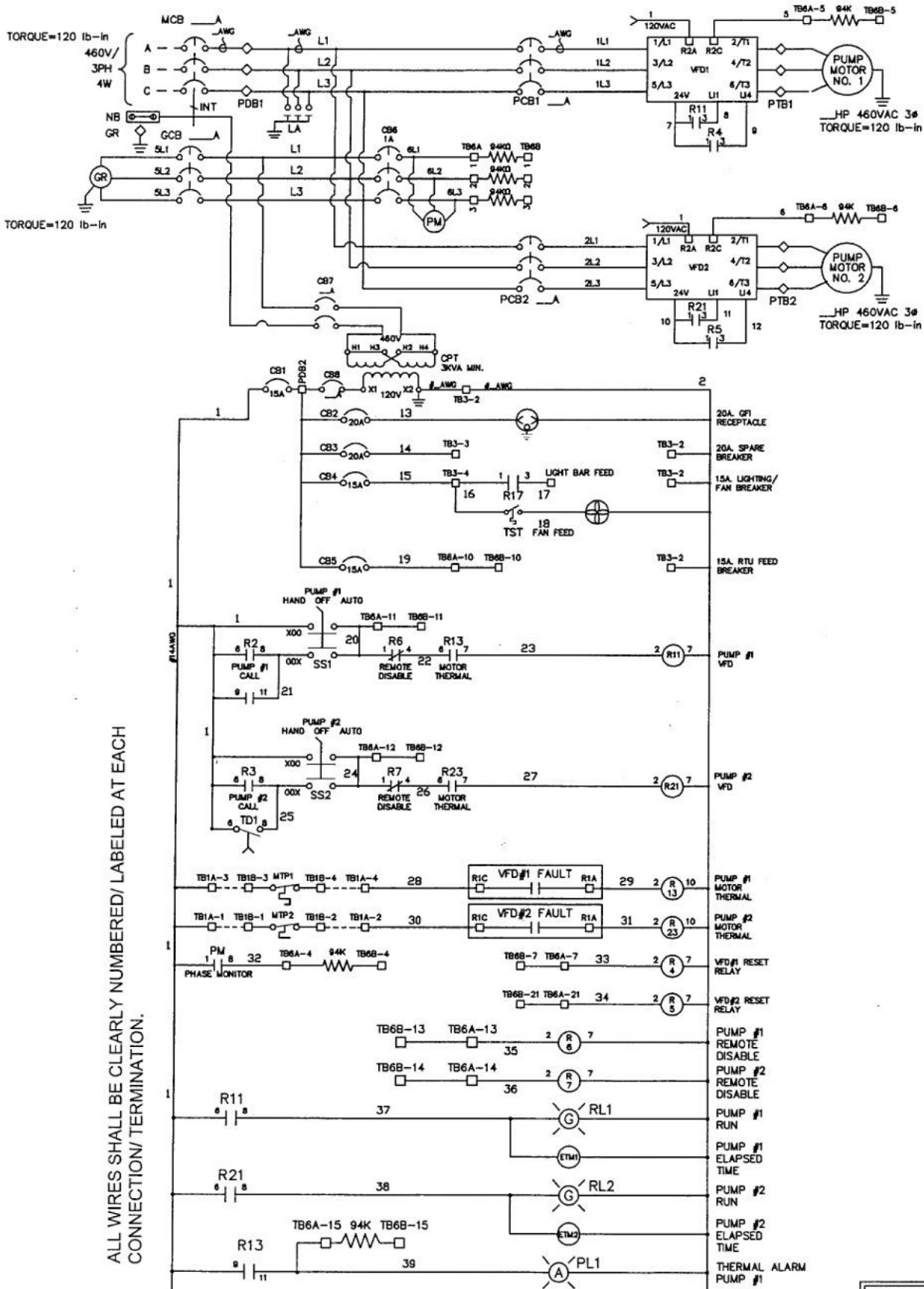
**THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.**

**DUPLEX: 460VAC-3PH-4W-60HZ ONLY**

<b>FOR:</b>	<b>UTILITIES DEPARTMENT</b>	<b>CITY OF NAPLES</b>
<b>DATE:</b> NOV. 2011	<b>DUPLEX PUMP CONTROL PANEL</b>	<b>SHEET: WW-33</b>
<b>DRAWN:</b> DAG	<b>TYPICAL BACKPLATE LAYOUT</b>	<b>DIR: WASTEWATER</b>
<b>SCALE:</b> N.T.S.	<b>380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102</b>	<b>DWG. WW-33.DWG</b>



**EXHIBIT A**



ALL WIRES SHALL BE CLEARLY NUMBERED/LABELED AT EACH CONNECTION/TERMINATION.

DUPLEX: 460VAC-3PH-4W-60HZ ONLY

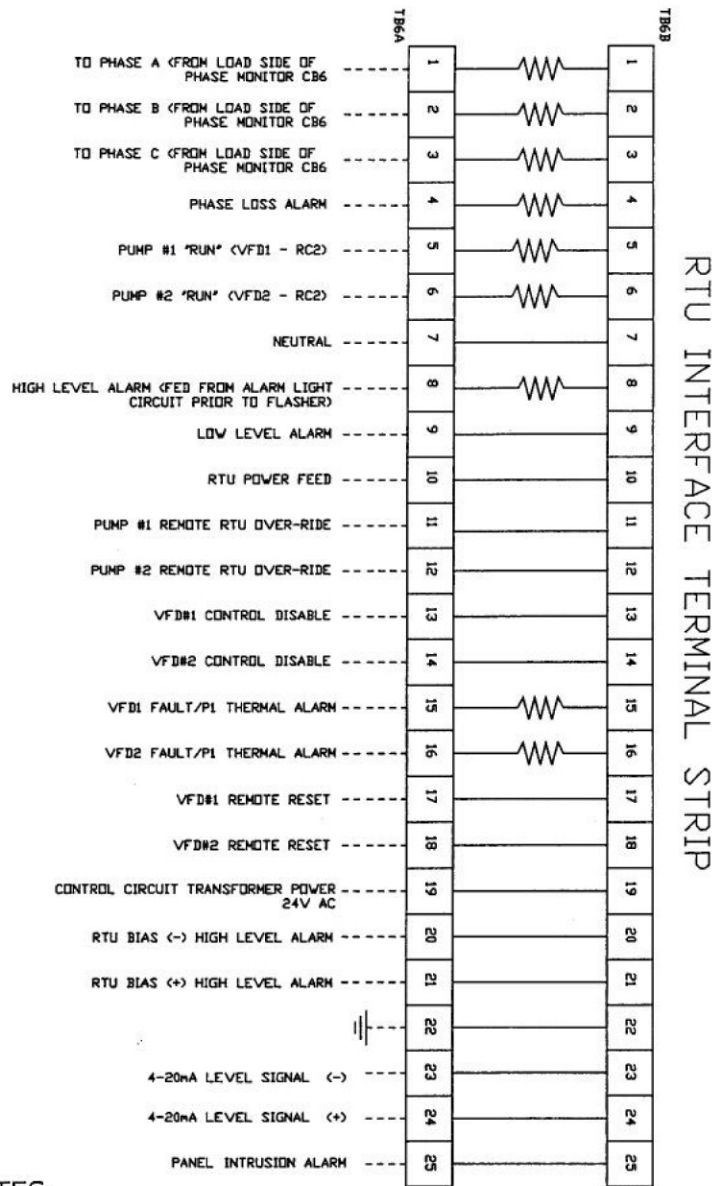
THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-34
DRAWN: DAG	POWER/CONTROL WIRING LAYOUT 1	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-34.DWG





**EXHIBIT A**



ALL WIRES SHALL BE CLEARLY NUMBERED/  
LABELED AT EACH CONNECTION/TERMINATION.

RTU INTERFACE TERMINAL STRIP

**NOTES:**

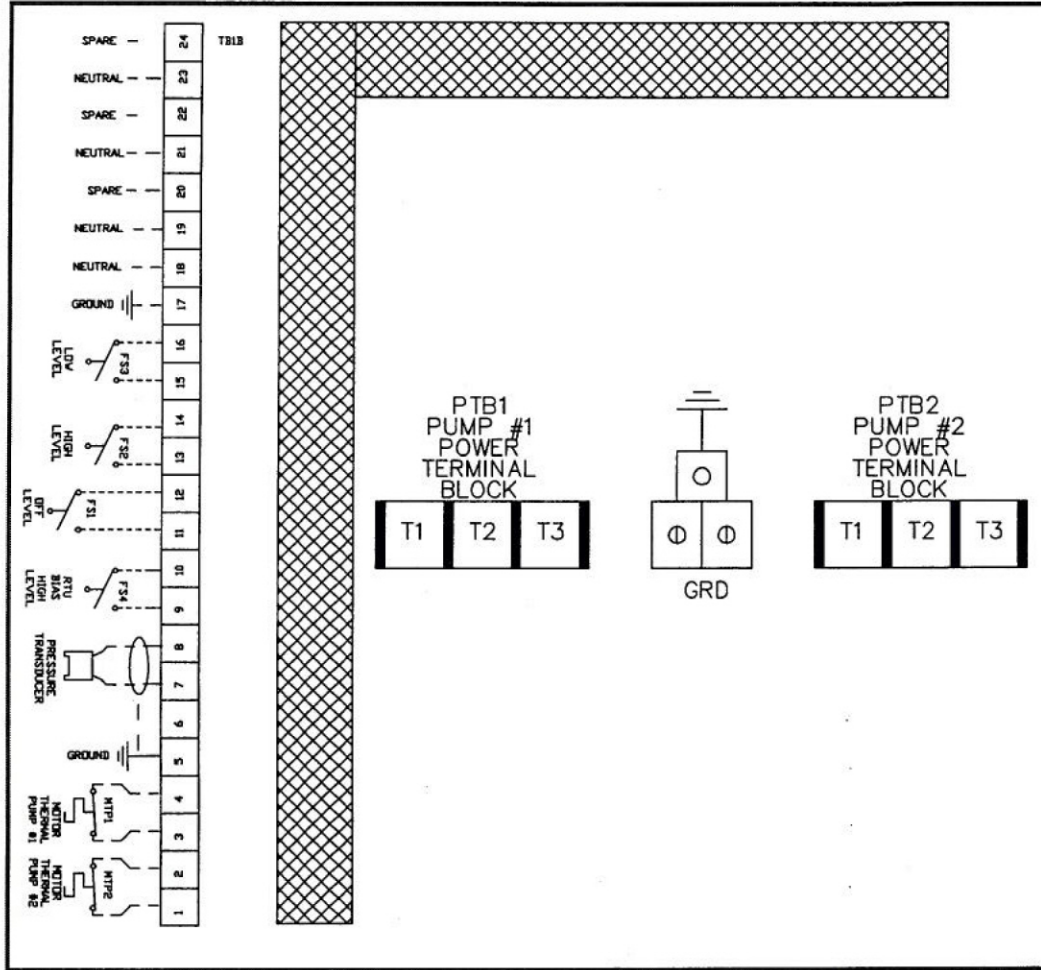
- 5A. TB6A & TB6B SHALL BE INSTALLED IN THE CONTROL PANEL AS DESCRIBED IN DRAWING "WW-33", WITH UN-OBSTRUCTED ACCESS AND A MINIMUM OF 1.5" SEPARATION FOR THE INSTALLATION OF THE RESISTORS AND JUMPER WIRES. THE 1.5" SEPARATION SHALL BE UNIFORM BETWEEN COMPONENTS AND WIREWAYS TO ALLOW ACCESS.
- 5B. ALL REQUIRED RESISTORS SHALL BE RATED AT 94K OHM @ 2 WATTS.
- 5C. TERMINAL BLOCKS TB6A & TB6B SHALL BE SQD 9080 SERIES OR EQUAL

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

DUPLEX: 460VAC-3PH-4W-60HZ ONLY

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	<i>DUPLEX PUMP CONTROL PANEL</i>	SHEET: WW-36
DRAWN: DAG	<i>RTU INTERFACE TERMINAL DETAIL</i>	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-36.DWG

**EXHIBIT A**



**JUNCTION BOX BACKPLATE LAYOUT**

**REQUIRED TERMINATIONS IN SPECIFIED JUNCTION BOX**

- 6A. LAYOUT MAY VARY SLIGHTLY AS REQUIRED
- 6B. BACKPLATE SHALL BE ALUMINUM.
- 6C. THE J-BOX SHALL BE ALUMINUM, 3, 4, OR 4X AS REQUIRED, WITH EXTERNAL MOUNTING BRACKETS, HINGED DOOR, GASKET SEAL, DRIP EDGE, & LOCKABLE.
- 6D. THE J-BOX SHALL BE SIZED TO PROPERLY ACCOMODATE ALL CONDUITS, FITTINGS, TERMINAL BLOCKS, AND SPECIFIED WIRING WITH ADEQUATE CLEARANCES AND SPACING. MINIMUM OR 16"X16"X 8"D. JUNCTION BOX CAN NOT EXCEED 16" HIGH. IF SPACING REQUIREMENTS REQUIRE MORE AREA, THE J-BOX SHALL BE MADE WIDER INSTEAD OF HIGHER;OR USE TWO MATCHING J-BOXES PER SPACE FILL REQUIERMENTS.
- 6E. THE TERMINAL BLOCKS, POWER BLOCKS, LUGS, AND WIRE RACE SHALL BE MOUNTED AS SHOWN IN THE ABOVE DETAIL. TB1B SHALL BE SQ D SERIES 9080, 30AMP RATED OR EQUAL. POWER BLOCKS AND LUGS SHALL BE SIZED ONE SIZE LARGER THAN REQUIRED LOADS.
- 6F. FOR CITY IN-HOUSE INSTALLATIONS: THE SPECIFIED J-BOX SHALL BE SUPPLIED WITH THE CONTROL PANEL; ALONG WITH THE REQUIRED MYERS HUBS, AL/SS NIPPLES, SEAL-OFFS AS REQUIERD BY CITY UTILITY STANDARDS; BUT WILL BE FIELD INSTALLED AND WIRED BY CITY PERSONNEL.
- 6G. FOR CONTRACTOR/DEVELOPER INSTALLED PROJECTS: THE SPECIFIED J-BOX SHALL BE SUPPLIED/INSTALLED WITH THE CONTROL PANEL; ALONG WITH THE REQUIRED MYERS HUBS, ALL/SS NIPPLES, SEAL-OFFS, AND WIRING; AS REQUIERD BY CITY UTILITY STANDARDS

ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

DUPLEX: 460VAC-3PH-4W-60HZ ONLY

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-37
DRAWN: DAG	J-BOX BACKPLATE LAYOUT	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102	DWG. WW-37.DWG



Part No	Qty	TAG LABEL	DESC
AAE-AE01L	8	R2,3,4,5,6,7,11,21	Control Relay 115 Vac 8 Pin. with lamp Indicator
AAE-A304L	3	R9,10,12	Control Relay 24 Vac 11 Pin. with lamp Indicator
AAE-A301L	2	R13,23	Control Relay 115 Vac 11 Pin. with lamp Indicator
FS127	1	FL	Spec Flasher 120 Vac, 90 Fpm
PF083E	9	R2,3,4,5,6,7,11,21,TD1	8 Pin Round Relay Base
PF113A	5	R9,10,12,13,23	11 Pin Round Relay Base
GE1A-C10HAD24	1	TD1	Time Delay Relay, adjustable, 24 Vac
SLA-440ALE	1	PM	Phase Monitor, 9 Pin Plug In Type (460VAC, 3 POLE) DIVERSIFIED
480-2079-ND	2	ETM1 & 2	Hour Meter
9080L BA162101	1	NEU	AB Power Block 1 Pole
9080L BA362104	1	PDB1	Power Block, 1IN 4 DUT
LRX-40	1	AL	Alarm Light Red
9001-SKP38A9	2	PL1,2	SQD Pilot Light 120Vac Amber Lens Corrosion Resistant Plastic
9001-SK343BH1	2	SSL,2	SQD 3 Pos. Selector SW. with Contacts on Both Side, Can C.
9001-SKP38G9	2	RL1,2	SQD Pilot Light 120Vac Green Lens corrosion resistant plastic.
9001-SKP35R9	1	PL3	SQD Pilot Light 24Vac, Red Lens corrosion resistant plastic.
9070150D23	1	CCT	SQD 50VA Transformer 120V/24VAC.
907013000D1	1	CPT	SQD Control Power Transformer 3kva min 460V/120VAC.
HDL 36	2	PCB1,2	SQD MOTOR Breaker 3 Pole ---Amp, 600 Vac Rating (SIZED FOR SPECIFIED HP)
HDL 36	2	MCB, ECB	SQD MAIN/GEN Breaker 3 Pole ---Amp, 600Vac Rating (SIZED FOR FULL LOAD RATING)
QDU115	2	CB1, CB3	SQD Breaker 1 Pole 15 Amps 120/240 Vac
QDU120	2	CB2, CB4	SQD Breaker 1 Pole 20 Amps 120/240 Vac
TE04XCS104X	1	LA	ADVANCED PROTECTION TECHNOLOGIES Lightning Arrestor 460Vac 3 PH
PAS2091W	1	DR	Receptacle 20 Amps
IUHH2	1	TST	FAN THERMOSTAT (DAYTEND)
3020-4	1	DLPC	Devvar Controller
LS-10/0-1SPSI	1	PT	Wika pressure Transducer, 50' Cable
C4100R9W	1	GR	Hubbel 100 Amp Generator Receptacle with angle BB1002V
ATV312	2	VFD1,2	VFD ALTIVAR312 ---HP 460VAC BY SQD. (RATED FOR SPECIFIED HP)
1492-J4	AR	TB1A,1B,6A,6B,4	Terminal Blocks 30 amps
1492-EBJ3	AR	TBEB	Terminal Blocks end barrier.
AB1ABM35	AR	TBEC	Terminal Blocks end clamp.
9080L BA362101	1	PTB1	3 pole Multi-Tap Power Terminal Block by SQD.
9080L BA	1	PTB2	1 pole Multi-Tap Power Terminal Block by SQD.
282-91K-RC	10	RES	Resistor 94K OHM 2 watts
MG24140	1	CB6	Phase Monitor Circuit Breaker 3 poles 1 Amps.
MG24526	1	CB7	CPT Line Circuit Breaker 2 poles 25 Amps.
MG17427	1	CB8	CPT Line Circuit Breaker 1 pole 30 Amps.
MG24500	1	CB9	CCT Line Circuit Breaker 1 pole 1 Amp.
MG24502	1	CB10	CCT Load Circuit Breaker 1 pole 3 Amps.
KEA25U	4	GRDL	Double Ground Lug.
	1	ENC	Nema 3R4, DR 12 enclosure 48"Hx38"Wx12"D MIN wall mount w/hold open arms, AL subpanel
	1	J-BDX	J-box Nema 3,4, DR 4X enclosure 16"Hx16"Wx8"D Hinged & gasketed, AL subpanel.
	6	EYE INSTALL	1 1/5" MIN ALUMINUM DR /SS close nipples PER UTILITY STANDARDS.
	6	EYE INSTALL	1 1/5" MIN MYERS HUBS TO BOTH ENCLDSURES.
EY150	3	EYE INSTALL	CAST ALUMINUM Vertical sealing fitting 1 1/2" MIN
29125	1	LTB	PORTFOLIO LED LIGHT BAR
TEP41	1	FAN	COOLING FAN ASSM. (HOFEMAN)
TEP4	1	EXH	EXHAUST ASSEM. (HOFEMAN)
AS REQUIRED	1	ALL DIN RAIL, SCEWS, BOLTS, NUTS, SEALANTS, ADHESIVES, AND MISC. HARDWARE AND SUPPLIES NECESSARY FOR JOB.	

PANEL MANUFACTURER MUST PROVIDE SUBMITTALS FOR ALL MATERIALS AND COMPONENTS TO BE UTILIZED FOR THIS PROJECT BEFORE ANY ASSEMBLY IS INITIATED. THE CITY RESERVES THE RIGHT TO REJECT ANY AND ALL MATERIAL OR COMPONENT NOT MEETING STANDARDS.

DUPLEX: 460VAC-3PH-4W-60HZ ONLY

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-38
DRAWN: DAG	SCHEDULE OF MATERIALS	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-38.DWG



**EXHIBIT A**

**CONTROL PANEL NOTES:**

Panel designer may make changes in materials and component manufacturer, with City Utilities Engineer's approval only.

Manufacturer shall list any additional equipment necessary to provide a clean, neat, professional, and Code compliant control panel; such as: Lugs, distribution terminals, wire races, etc..

The panel manufacturer shall provide two (2) sets of As-Built drawings in hard copy, and the drawings shall be provided in Dwg 2004 format, on a CD.

A laminated As-Built Ladder Diagram shall be attached to the inside of the outer control panel door.

The Control Panel Enclosure shall be Type 14 gauge minimum Aluminum, NEMA 3R, 4, or 12 as required, gasketed, with: A padlockable hasp, three point latch system ( one each per door if more than one door is required), wind restrainer arm(s) that includes all hardware to restrain both the main and dead front door(s) when open; backplate(s), and drip edge that extends the entire length of the top of the enclosure.

The Junction Box Enclosure shall be Type 14 gauge minimum Aluminum, NEMA 3, 4, or 4X as required, gasketed, with: A padlockable hasp, hinged door. The Junction Box shall have an Aluminum back plate for component mounting. The Junction Box shall have industrial grade terminal strips of sufficient size and spacing, as required by these specifications. The Junction Box shall be isolated from the Control Panel with the properly sized seal-off fittings (not to exceed 80% capacity), pre-wired, and supplied with epoxy sealant per manufacturer recommendations. The epoxy sealant shall be supplied with but installed on site after all connections are made, confirmed, and accepted by the City. The J-Box shall be mounted to the panel using Myers Hubs at both panels, AI or SS threaded nipples, and Cast AL Vertical EYE fittings.

The Control Panel Enclosure and the Junction Box Enclosure shall be shipped: Pre-wired, Pre-tested, and complete as one unit, unless this creates a shipping hazard. If the J-Box requires removal for shipping, all wires shall be properly tagged and protected during shipping. The enclosures and components shall be properly packed to prevent damage and loss during shipment to our Naples location.

All Panduit (or equal) wire raceways shall not be filled in excess of 80% capacity. All wires extending outside of a raceway in excess of 5" shall be held in place with plastic wire ties. All wiring shall be neat and un-tangled.

All wires shall be properly labeled at each termination point. All wires and terminals shall be rated according to NEC standards.

DUPLEX: 460VAC-3PH-4W-60HZ ONLY

<b>FOR:</b>	<b>UTILITIES DEPARTMENT</b>	<b>CITY OF NAPLES</b>
<b>DATE: NOV. 2011</b>	<b><i>DUPLEX PUMP CONTROL PANEL</i></b>	<b>SHEET: WW-39</b>
<b>DRAWN: DAG</b>	<b><i>CONTROL PANEL NOTES</i></b>	<b>DIR: WASTEWATER</b>
<b>SCALE: N.T.S.</b>	<b>380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102</b>	<b>DWG. WW-39.DWG</b>

## CONTROL PANEL MINIMUM LABELING REQUIREMENTS

LABEL	QUANT	COLOR	DESCRIPTION
MCB	2	BLACK	MAIN CIRCUIT BREAKER
GCB	2	BLACK	GENERATOR CIRCUIT BREAKER
PCB1	2	BLACK	PUMP 1 CIRCUIT BREAKER
PCB2	2	BLACK	PUMP 2 CIRCUIT BREAKER
CB1	1	BLACK	CONTROL CIRCUIT BREAKER
CB2	1	BLACK	RECEPTACLE CIRCUIT BREAKER
CB3	1	BLACK	SPARE CIRCUIT BREAKER
CB4	1	BLACK	LIGHTING CIRCUIT BREAKER
VFD1	1	BLACK	VARIABLE FREQUENCY DRIVE 1
VFD2	1	BLACK	VARIABLE FREQUENCY DRIVE 2
CB5	1	BLACK	PHASE MONITOR CIRCUIT BREAKER
CB6	1	BLACK	CONTROL CIRCUIT TRANSFORMER LINE CIRCUIT BREAKER
CB7	1	BLACK	CONTROL CIRCUIT TRANSFORMER LOAD CIRCUIT BREAKER
CB8	1	BLACK	CONTROL POWER TRANSFORMER LINE CIRCUIT BREAKER
CB9	1	BLACK	CONTROL POWER TRANSFORMER LOAD CIRCUIT BREAKER
PM	1	BLACK	PHASE MONITOR
CCT	1	BLACK	CONTROL CIRCUIT TRANSFORMER
CPT	1	BLACK	CONTROL POWER TRANSFORMER
R2	1	BLUE	P1 CONTROL ON RELAY
R3	1	BLUE	P2 CONTROL ON RELAY
R4	1	BLUE	VFD1 REMOTE RESET RELAY
R5	1	BLUE	VFD2 REMOTE RESET RELAY
R6	1	BLUE	P1 REMOTE DISABLE RELAY
R7	1	BLUE	P2 REMOTE DISABLE RELAY
R9	1	BLUE	HIGH LEVEL ON/OFF FLOAT RELAY
R10	1	BLUE	LOW LEVEL ALARM OVER-RIDE RELAY
R11	1	BLUE	VFD1 RUN RELAY
R12	1	BLUE	INTRUSION ALARM/CONVIENENCE LIGHT RELAY
R13	1	BLUE	P1 THERMAL ALARM RELAY
R21	1	BLUE	VFD2 RUN RELAY
R23	1	BLUE	P2 THERMAL ALARM RELAY
TD1	1	BLUE	FLOAT OPERATED SECOND PUMP ON TIME DELAY RELAY
TB4	1	BLUE	ALARM LIGHT TERMINAL BLOCK
TB1A	1	BLUE	PANEL CONTROLS TERMINAL BLOCK
TB1B	1	BLUE	J-BOX CONTROLS TERMINAL BLOCK
TB6A	1	BLUE	RTU INTERFACE TERMINAL BLOCK A
TB6B	1	BLUE	RTU INTERFACE TERMINAL BLOCK B
P1 RUN	1	BLUE	P1 RUN PILOT LIGHT
P2 RUN	1	BLUE	P2 RUN PILOT LIGHT
TST	1	BLUE	FAN THERMOSTAT
FLASH	1	RED	FLASHER FOR HIGH LEVEL
P1 THERMAL	1	RED	P1 THERMAL OVERLOAD ALARM PILOT LIGHT
P2 THERMAL	1	RED	P2 THERMAL OVERLOAD ALARM PILOT LIGHT
HIGH LEVEL	1	RED	HIGH LEVEL ALARM PILOT LIGHT

Each switch, circuit breaker, indicating light, push button, relay, etc., shall have an engraved laminated plastic color coded nameplate mounted above or below the device for proper identification; RED for alarm, BLACK for Power, and BLUE for level and controls. Letters shall be a minimum of 1/4" in height. A quality, long lasting adhesive shall be used for mounting the labels.

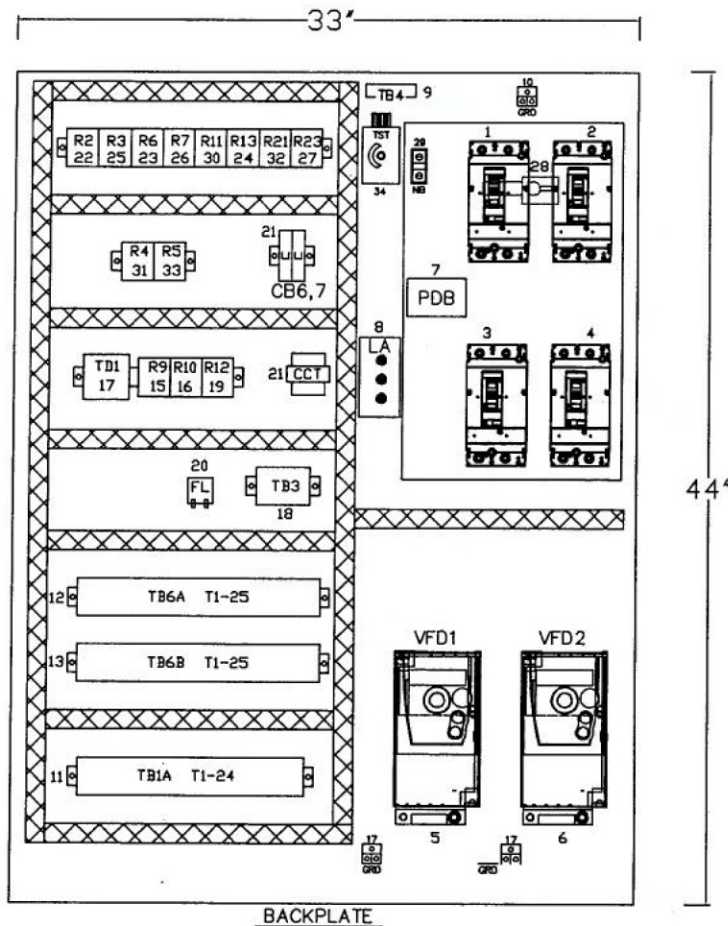
DUPLX: 460VAC-3PH-4W-60HZ ONLY

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	<i>DUPLEX PUMP CONTROL PANEL</i>	SHEET: WW-40
DRAWN: DAG	<i>PANEL LABELING DETAILS</i>	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-40.DWG









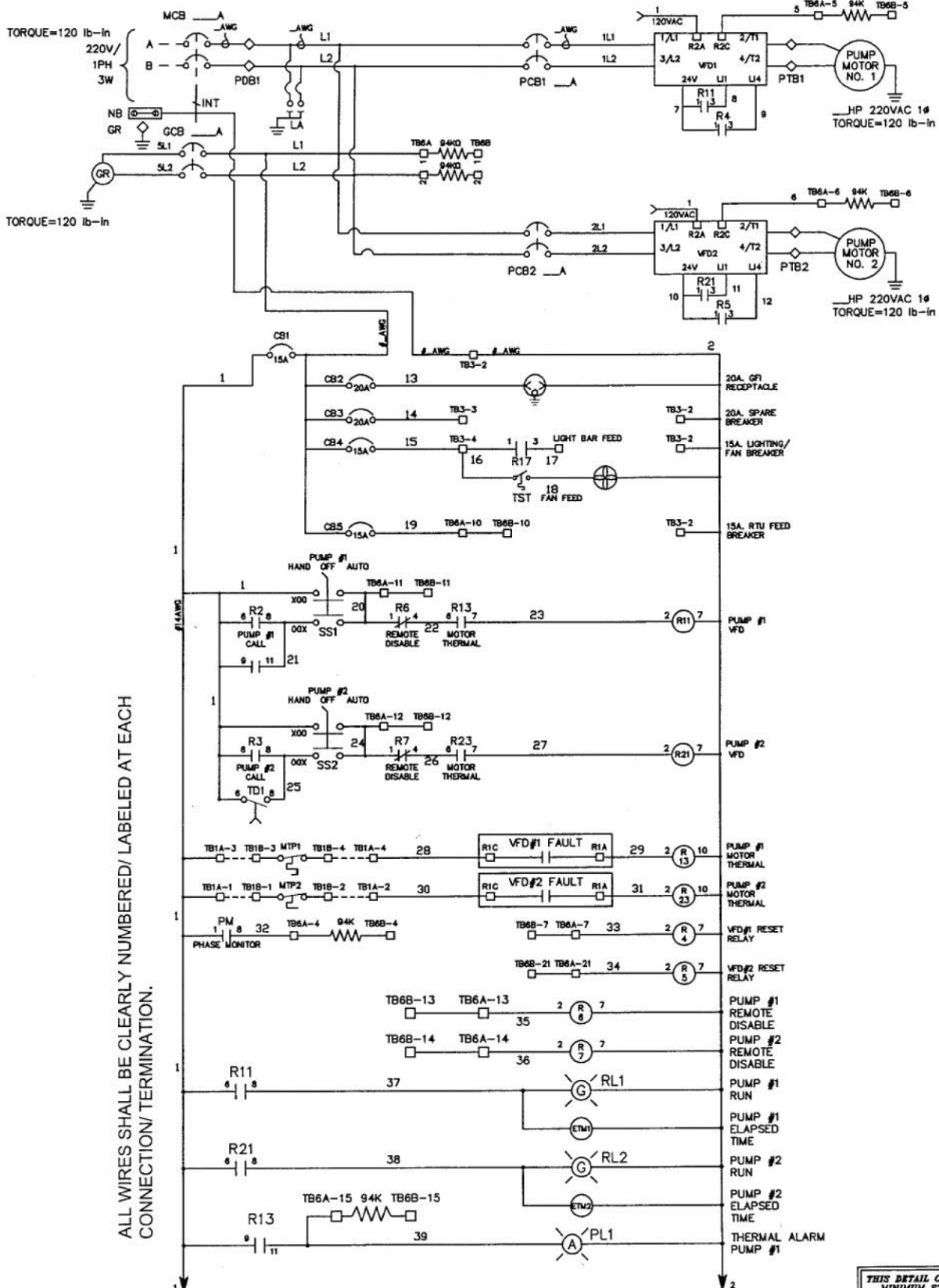
- |           |  |           |  |
|-----------|--|-----------|--|
| 1 - MCB   | - MAIN CIRCUIT BREAKER                         | 21 - CB   | - CIRCUIT BREAKERS                       |
| 2 - GCB   | - GENERATOR CIRCUIT BREAKER                    | - CB6     | - CCT PRIMARY CIRCUIT BREAKER (1P-1A)    |
| 3 - PCB1  | - P-1 MOTOR CIRCUIT BREAKER                    | - CB7     | - CCT SECONDARY CIRCUIT BREAKER (1P-3A)  |
| 4 - PCB2  | - P-2 MOTOR CIRCUIT BREAKER                    | 22 - R2   | - P-1 CALL RELAY (110V, 8PIN)            |
| 5 - VFD1  | - VARIABLE FREQUENCY DRIVE #1                  | 23 - R6   | - P-1 DISABLE RELAY (110V, 8PIN)         |
| 6 - VFD2  | - VARIABLE FREQUENCY DRIVE #2                  | 24 - R13  | - P-1 MOTOR THERMAL RELAY (110V, 11PIN)  |
| 7 - PDB   | - POWER DISTRIBUTION BLOCK<br>(2POLE/MULTITAP) | 25 - R3   | - P-2 CALL RELAY (110V, 8PIN)            |
| 8 - LA    | - LIGHTNING ARRESTER                           | 26 - R7   | - P-2 DISABLE RELAY (110V, 8PIN)         |
| 9 - TB4   | - TERMINAL BLOCK 4: ALARM LIGHT                | 27 - R23  | - P-2 MOTOR THERMAL RELAY (110V, 11PIN)  |
| 10 - GRD  | - GROUND LUG(S)                                | 28 - BINT | - MAIN/GEN. MECHANICAL BREAKER INTERLOCK |
| 11 - TB1A | - TERMINAL BLOCK 1A                            | 29 - NB   | - NEUTRAL BLOCK                          |
| 12 - TB6A | - TERMINAL BLOCK 6A                            | 30 - R11  | - REMOTE VFD RUN RELAY (110V, 8PIN)      |
| 13 - TB6B | - TERMINAL BLOCK 6B                            | 31 - R4   | - VFD#1 RESET RELAY (110V, 8 PIN)        |
| 14 - CCT  | - CONTROL CIRCUIT TRANSFORMER (120V-24V)       | 32 - R21  | - PUMP#2 RELAY (110V, 8 PIN)             |
| 15 - R9   | - HIGH LEVEL OFF RELAY (24V, 11PIN)            | 33 - R5   | - VFD#2 RESET RELAY (110V, 8 PIN)        |
| 16 - R10  | - LOW LEVEL LOCKOUT RELAY (24V, 11PIN)         | 34 - TST  | - FAN THERMOSTAT                         |
| 17 - TD1  | - HIGH LEVEL TIME DELAY RELAY (24V, 8PIN)      |           |  |
| 18 - TB3  | - TERMINAL BLOCK 3                             |           |  |
| 19 - R12  | - PANEL INTRUSION ALARM RELAY(24V,11PIN)       |           |  |
| 20 - FL   | - FLASHER (110V SOLID STATE)                   |           |  |

THIS DETAIL CONSTITUTES  
MINIMUM STANDARDS. DESIGN  
ENGINEERS SHALL PROVIDE  
STANDARDS EQUAL TO OR  
GREATER THAN THESE.

**DUPLEX 1 - 10HP: 220VAC-1PH-3W-60HZ**

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-42
DRAWN: DAG	TYPICAL BACKPLATE LAYOUT	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-42.DWG

**EXHIBIT A**



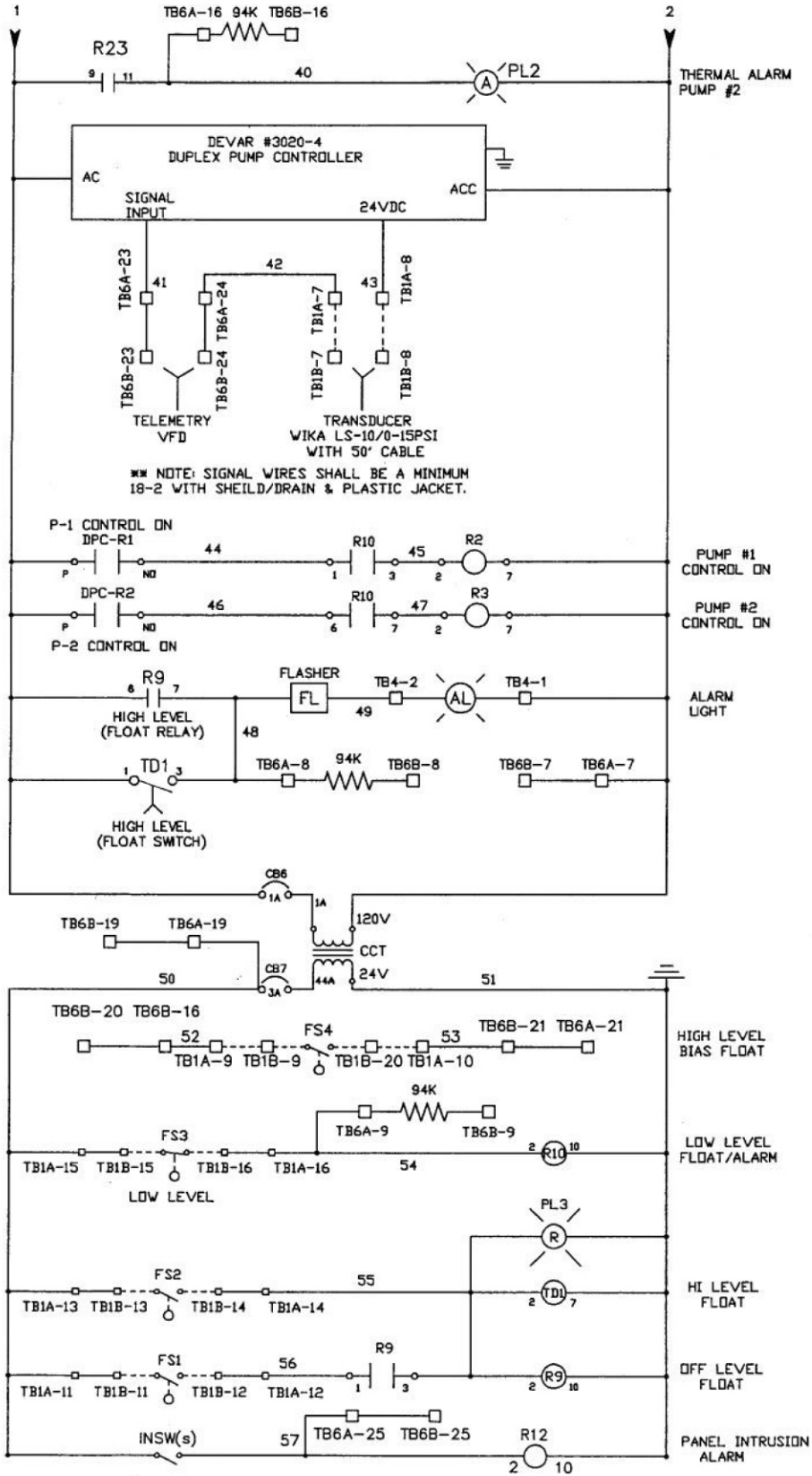
ALL WIRES SHALL BE CLEARLY NUMBERED/LABELLED AT EACH CONNECTION/TERMINATION.

**DUPLEX 1 - 10HP: 220VAC-1PH-3W-60HZ**

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-43
DRAWN: DAG	POWER/CONTROL WIRING LAYOUT 1	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-43.DWG





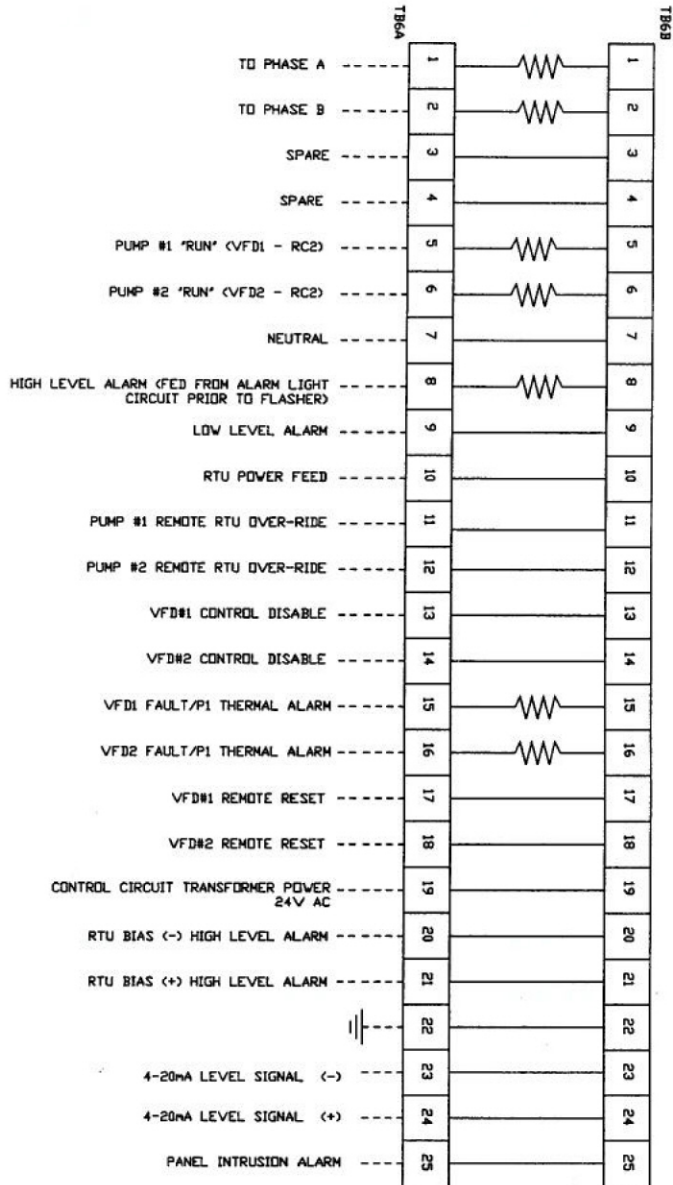
ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

DUPLEX 1 - 10HP: 220VAC-1PH-3W-60HZ

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-44
DRAWN: DAG	POWER/CONTROL WIRING LAYOUT2	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-44.DWG

**EXHIBIT A**



**RTU INTERFACE TERMINAL STRIP**

ALL WIRES SHALL BE CLEARLY NUMBERED/  
LABELED AT EACH CONNECTION/ TERMINATION.

**NOTES:**

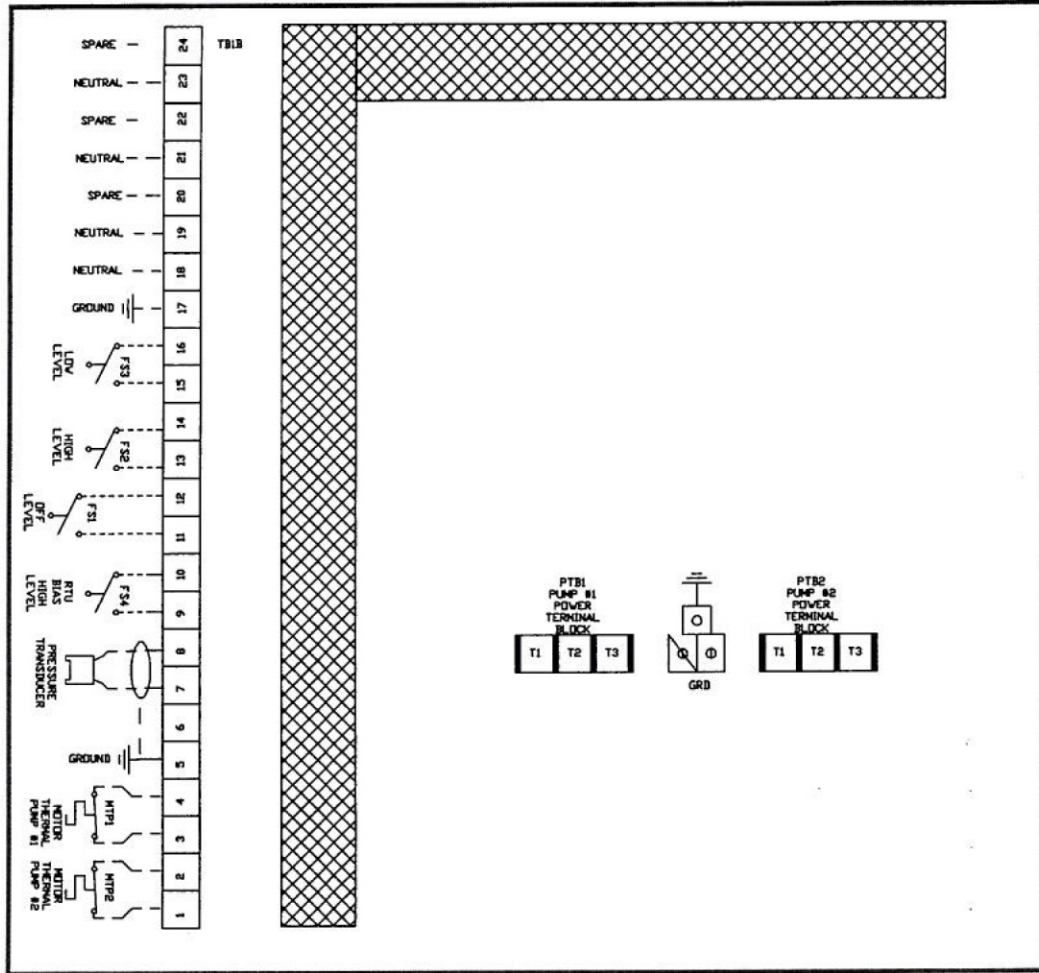
- 5A. TB6A & TB6B SHALL BE INSTALLED IN THE CONTROL PANEL AS DESCRIBED IN DRAWING "WW-42", WITH UN-OBSTRUCTED ACCESS AND A MINIMUM OF 1.5" SEPARATION FOR THE INSTALLATION OF THE RESISTORS AND JUMPER WIRES. THE 1.5" SEPARATION SHALL BE UNIFORM BETWEEN COMPONENTS AND WIREWAYS TO ALLOW ACCESS.
- 5B. ALL REQUIRED RESISTORS SHALL BE RATED AT 94K OHM @ 2 WATTS.
- 5C. TERMINAL BLOCKS TB6A & TB6B SHALL BE SQD 9080 SERIES OR EQUAL

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

**DUPLEX 1 - 10HP: 220VAC-1PH-3W-60HZ**

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	<b>DUPLEX PUMP CONTROL PANEL</b>	SHEET: WW-45
DRAWN: DAG	<b>RTU INTERFACE TERMINAL DETAIL</b>	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-45.DWG





**JUNCTION BOX BACKPLATE LAYOUT**

**REQUIRED TERMINATIONS IN SPECIFIED JUNCTION BOX**

- 6A. LAYOUT MAY VARY SLIGHTLY AS REQUIRED
- 6B. BACKPLATE SHALL BE ALUMINUM.
- 6C. THE J-BOX SHALL BE ALUMINUM, 3, 4, OR 4X AS REQUIRED, WITH EXTERNAL MOUNTING BRACKETS, HINGED DOOR, GASKET SEAL, DRIP EDGE, & LOCKABLE.
- 6D. THE J-BOX SHALL BE SIZED TO PROPERLY ACCOMMODATE ALL CONDUITS, FITTINGS, TERMINAL BLOCKS, AND SPECIFIED WIRING WITH ADEQUATE CLEARANCES AND SPACING. MINIMUM OR 16"X16"X 8"D. JUNCTION BOX CAN NOT EXCEED 16" HIGH. IF SPACING REQUIREMENTS REQUIRE MORE AREA, THE J-BOX SHALL BE MADE WIDER INSTEAD OF HIGHER; OR USE TWO MATCHING J-BOXES PER SPACE FILL REQUIREMENTS.
- 6E. THE TERMINAL BLOCKS, POWER BLOCKS, LUGS, AND WIRE RACE SHALL BE MOUNTED AS SHOWN IN THE ABOVE DETAIL. TB1B SHALL BE SQ D SERIES 9080, 30AMP RATED OR EQUAL. POWER BLOCKS AND LUGS SHALL BE SIZED ONE SIZE LARGER THAN REQUIRED LOADS.
- 6F. FOR CITY IN-HOUSE INSTALLATIONS: THE SPECIFIED J-BOX SHALL BE SUPPLIED WITH THE CONTROL PANEL; ALONG WITH THE REQUIRED MYERS HUBS, AL/SS NIPPLES, SEAL-OFFS AS REQUIRED BY CITY UTILITY STANDARDS; BUT WILL BE FIELD INSTALLED AND WIRED BY CITY PERSONNEL.
- 6G. FOR CONTRACTOR/DEVELOPER INSTALLED PROJECTS: THE SPECIFIED J-BOX SHALL BE SUPPLIED/INSTALLED WITH THE CONTROL PANEL; ALONG WITH THE REQUIRED MYERS HUBS, ALL/SS NIPPLES, SEAL-OFFS, AND WIRING; AS REQUIRED BY CITY UTILITY STANDARDS

ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

*DUPLEX 1 - 10HP: 220VAC-1PH-3W-60HZ*

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	<i>DUPLEX PUMP CONTROL PANEL J-BOX BACKPLATE LAYOUT</i>	SHEET: WW-46
DRAWN: DAG		DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-46.DWG

**EXHIBIT A**

AR = AS REQUIRED

Part No	Qty	TAG LABEL	DESC
AAE-A201L	8	R2,3,4,5,6,7,11,21	Control Relay 115 Vac 8 Pin. with lamp Indicator
AAE-A304L	3	R9,10,12	Control Relay 24 Vac 11 Pin. with lamp Indicator
AAE-A301L	2	R13,23	Control Relay 115 Vac 11 Pin. with lamp Indicator
FS127	1	FL	5sec Flasher 120 Vac, 90 Fpm
PF083E	9	R2,3,4,5,6,7,11,21,TD1	8 Pin Round Relay Base
PF113A	5	R9,10,12,13,23	11 Pin Round Relay Base
GE1A-C10HAD24	1	TD1	Time Delay Relay, adjustable, 24 Vac
1UHH2	1	TST	FAN THERMOSTAT (DAYTON)
480-2079-ND	2	ETM1 & 2	Hour Meter
9080L BA162101	1	NEU	AB Power Block 1 Pole
9080L BA-----	1	PDB	Power Block, 2 POLE MULTI-TAP
LRX-40	1	AL	Alarm Light Red
9001-SKP38A9	2	PL1,2	SQD Pilot Light120Vac Amber Lens Corrosion Resistant Plastic
9001-SKS43BH1	2	SS1,2	SQD 3 Pos. Selector SW. with Contacts on Both Side, Cam C,
9001-SKP38G9	2	RL1,2	SQD Pilot Light 120Vac Green Lens Corrosion resistant plastic.
9001-SKP35R9	1	PL3	SQD Pilot Light 24Vac, Red Lens corrosion resistant plastic.
9070T50D23	1	CCT	SQD 50VA Transformer 120V/24VAC.
HDL26----	2	PCB1,2	SQD MOTOR Breaker 2 Pole ---Amp, 600 Vac Rating (SIZED FOR SPECIFIED HP)
HDL26----	2	MCB, ECB	SQD MAIN/GEN Breaker 3 Pole ---Amp, 600Vac Rating (SIZED FOR FULL LOAD RATING)
QDU115	2	CB1,CB3	SQD Breaker 1 Pole 15 Amps 120/240 Vac
QDU120	2	CB2,CB4	SQD Breaker 1 Pole 20 Amps 120/240 Vac
AR	1	LA	Advanced Protection Technologies Lightning Arrestor 220 VAC 1 PH
PAS2091W	1	DR	GFCI Receptacle 20 Amps
3020-4	1	DLPC	Devor Controller
LS-10/0-15PSI	1	PT	WKA pressure Transducer, 50' Cable
C4100R9W	1	GR	Hubbel 100 Amp Generator Receptacle with angle BBI02W
ATV312-----	2	VFD1,2	VFD ALTIVAR312 ___HP 220VAC BY SQD. RATED FOR SPECIFIED HP)
1492-J4	AR	TB1A,1B,6A,6B,4	Terminal Blocks 30 amps
1492-EBJ3	AR	TBEB	Terminal Blocks end barrier.
AB1AB8M35	AR	TBEC	Terminal Blocks end clamp.
9080L BA-----	2	PTB1,2	2 pole Power Terminal Block by SQD.
282-91K-RC	10	RES	Resistor 94K OHM 2 watts
MG24140	1	CB5	Circuit Breaker 3 poles 1 Amps.
MG24500	1	CB6	Circuit Breaker 1 pole 1 Amp.
MG24502	1	CB7	Circuit Breaker 1 pole 3 Amps.
K2A25U	4	GRD	Double Ground Lug.
-----	1	ENC	Nema 3R, 4,or 12 Enclosure 48"Hx36"Wx12"D wall mount w/hold open arms. AL supanel.
-----	1	J-BDX	J-Box Nema 3, 4,or 4X enclosure 16"Hx16"Wx8"D Hinged,drip edge, & gasketed. AL supanel.
-----	6	EYE INSTALL	1 1/5" Min ALUMINUM OR STAINLESS closed nipple PER UTILITY STANDARDS.
-----	6	EYE INSTALL	1 5/8" Min MYERS HUBS to both enclosures.
EY150	3	EYE INSTALL	Cast Aluminum Vertical sealing fitting 1 1/2" Min
29125	1	LTB	PORTFOLIO LED LIGHT BAR
TFP41	1	FAN	4" COOLING FAN ASSEMBLY BY HOFFMAN
TEP4	1	EXH	EXHAUST VENT ASSEMBLY BY HOFFMAN
AS REQUIRED	1	ALL DIN RAIL, SEWS, BOLTS, NUTS, SEALANTS, ADHESIVES, AND MISC. HARWARE AND SUPPLIES NECESSARY FOR JOB.	

**DUPLEX 1 - 10HP: 220VAC-1PH-3W-60HZ**

PANEL MANUFACTURER MUST PROVIDE SUBMITTALS FOR ALL MATERIALS AND COMPONENTS TO BE UTILIZED FOR THIS PROJECT BEFORE ANY ASSEMBLY IS INITIATED. THE CITY RESERVES THE RIGHT TO REJECT ANY AND ALL MATERIAL OR COMPONENT NOT MEETING STANDARDS.

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL SCHEDULE OF MATERIALS	SHEET: WW-47
DRAWN: DAG		DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-47.DWG



**CONTROL PANEL NOTES:**

Panel designer may make changes in materials and component manufacturer, with City Utilities Engineer's approval only.

Manufacturer shall list any additional equipment necessary to provide a clean, neat, professional, and Code compliant control panel; such as: Lugs, distribution terminals, wire races, etc..

The panel manufacturer shall provide two (2) sets of As-Built drawings in hard copy, and the drawings shall be provided in Dwg 2004 format, on a CD.

A laminated As-Built Ladder Diagram shall be attached to the inside of the outer control panel door.

The Control Panel Enclosure shall be Type 14 gauge minimum Aluminum, NEMA 3R, 4, or 12 as required, gasketed, with: A padlockable hasp, three point latch system, wind restrainer arm(s) that includes all hardware to restrain both the main and dead front door(s) when open; backplate(s), and drip edge that extends the entire length of the top of the enclosure.

The Junction Box Enclosure shall be Type 14 gauge minimum Aluminum, NEMA 3, 4, or 4X as required, gasketed, drip edge with: A padlockable hasp, hinged door. The Junction Box shall have a back plate for component mounting. The Junction Box shall have industrial grade terminal strips of sufficient size and spacing, as required by these specifications. The Junction Box shall be isolated from the Control Panel with the properly sized seal-off fittings (not to exceed 80% capacity), pre-wired, and supplied with epoxy sealant per manufacturer recommendations. The epoxy sealant shall be supplied with but installed on site after all connections are made, confirmed, and accepted by the City. The J-Box shall be mounted to the panel using Myers Hubs at both panels, threaded nipples, and Cast AL Vertical EYE fittings.

The Control Panel Enclosure and the Junction Box Enclosure shall be shipped: Pre-wired, Pre-tested, and complete as one unit, unless this creates a shipping hazard. If the J-Box requires removal for shipping, all wires shall be properly tagged and protected during shipping. The enclosures and components shall be properly packed to prevent damage and loss during shipment to our Naples location.

All Panduit (or equal) wire raceways shall not be filled in excess of 80% capacity. All wires extending outside of a raceway in excess of 5" shall be held in place with plastic wire ties. All wiring shall be neat and un-tangled.

All wires shall be properly labeled at each termination point. All wires and terminals shall be rated according to NEC standards.

***DUPLEX 1 - 10HP: 220VAC-1PH-3W-60HZ***

<b>FOR:</b>	<b>UTILITIES DEPARTMENT</b>	<b>CITY OF NAPLES</b>
<b>DATE: NOV. 2011</b>	<b>DUPLEX PUMP CONTROL PANEL</b>	<b>SHEET: WW-48</b>
<b>DRAWN: DAG</b>	<b>CONTROL PANEL NOTES</b>	<b>DIR: WASTEWATER</b>
<b>SCALE: N.T.S.</b>	<b>380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102</b>	<b>DWG. WW-48.DWG</b>

**EXHIBIT A**

**CONTROL PANEL MINIMUM LABELING REQUIREMENTS**

LABEL	QUANT	COLOR	DESCRIPTION
MCB	2	BLACK	MAIN CIRCUIT BREAKER
GCB	2	BLACK	GENERATOR CIRCUIT BREAKER
PCB1	2	BLACK	PUMP 1 CIRCUIT BREAKER
PCB2	2	BLACK	PUMP 2 CIRCUIT BREAKER
CB1-4	1	BLACK	CONTROL CB, RECEPTICLE CB, SPARE CB, LIGHTING CB
CB1	1	BLACK	CONTROL CIRCUIT BREAKER
CB2	1	BLACK	RECEPTICLE CIRCUIT BREAKER
CB3	1	BLACK	SPARE CIRCUIT BREAKER
CB4	1	BLACK	LIGHTING CIRCUIT BREAKER
VFD1	1	BLACK	VARIABLE FREQUENCY DRIVE 1
VFD2	1	BLACK	VARIABLE FREQUENCY DRIVE 2
CB6	1	BLACK	CONTROL CIRCUIT TRANSFORMER LINE CIRCUIT BREAKER
CB7	1	BLACK	CONTROL POWER TRANSFORMER LOAD CIRCUIT BREAKER
CCT	1	BLACK	CONTROL CIRCUIT TRANSFORMER
R1	1	BLUE	CONTROL CIRCUIT POWER RELAY
R2	1	BLUE	P1 CONTROL ON RELAY
R3	1	BLUE	P2 CONTROL ON RELAY
R4	1	BLUE	VFD1 REMOTE RESET RELAY
R5	1	BLUE	VFD2 REMOTE RESET RELAY
R6	1	BLUE	P1 REMOTE DISABLE RELAY
R7	1	BLUE	P2 REMOTE DISABLE RELAY
R9	1	BLUE	HIGH LEVEL ON/OFF FLOAT RELAY
R10	1	BLUE	LOW LEVEL ALARM OVER-RIDE RELAY
R11	1	BLUE	VFD1 RUN RELAY
R12	1	BLUE	INTRUSION ALARM/CONVIENENCE LIGHT RELAY
R13	1	BLUE	P1 THERMAL ALARM RELAY
R21	1	BLUE	VFD2 RUN RELAY
R23	1	BLUE	P2 THERMAL ALARM RELAY
TD1	1	BLUE	FLOAT OPERATED SECOND PUMP ON TIME DELAY RELAY
TB4	1	BLUE	ALARM LIGHT TERMINAL BLOCK
TB1A	1	BLUE	PANEL CONTROLS TERMINAL BLOCK
TB1B	1	BLUE	J-BOX CONTROLS TERMINAL BLOCK
TB6A	1	BLUE	RTU INTERFACE TERMINAL BLOCK A
TB6B	1	BLUE	RTU INTERFACE TERMINAL BLOCK B
P1 RUN	1	BLUE	P1 RUN PILOT LIGHT
P2 RUN	1	BLUE	P2 RUN PILOT LIGHT
TST	1	BLUE	FAN THERMOSTAT
FLASH	1	RED	FLASHER FOR HIGH LEVEL
P1 THERMAL	1	RED	P1 THERMAL OVERLOAD ALARM PILOT LIGHT
P2 THERMAL	1	RED	P2 THERMAL OVERLOAD ALARM PILOT LIGHT
HIGH LEVEL	1	RED	HIGH LEVEL ALARM PILOT LIGHT

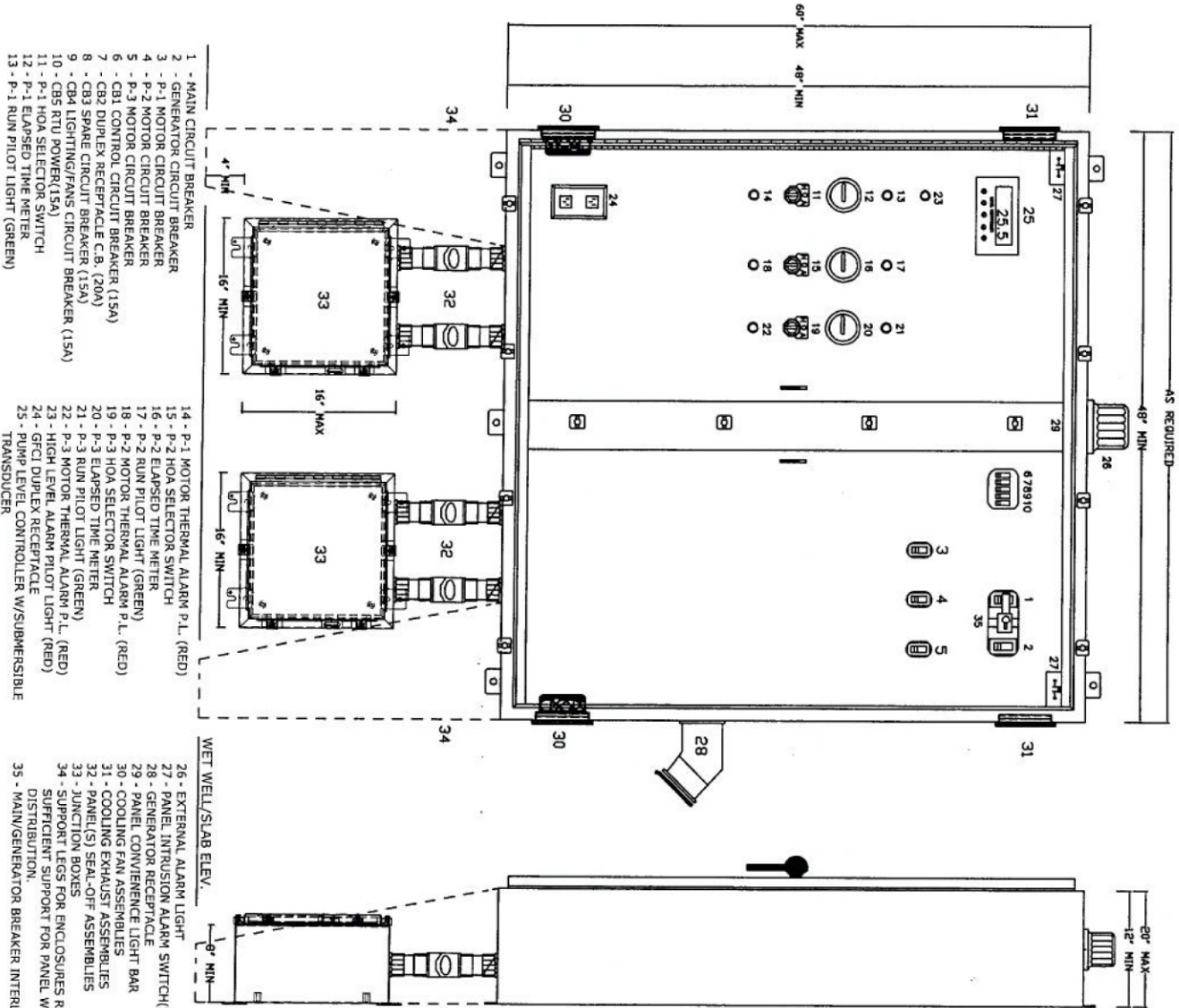
Each switch, circuit breaker, indicating light, push button, relay, etc., shall have an engraved laminated plastic color coded nameplate mounted above or below the device for proper indentification; RED for alarm, BLACK for Power, and BLUE for level and controls. Letters shall be a minimum of 1/4" in height. A quality, long lasting adhesive shall be used for mounting the labels.

**DUPLEX 1 - 10HP: 220VAC-1PH-3W-60HZ**

<b>FOR:</b>	<b>UTILITIES DEPARTMENT</b>	<b>CITY OF NAPLES</b>
<b>DATE: NOV. 2011</b>	<b>DUPLEX PUMP CONTROL PANEL</b>	<b>SHEET: WW-49</b>
<b>DRAWN: DAG</b>	<b>PANEL LABELING DETAILS</b>	<b>DIR: WASTEWATER</b>
<b>SCALE: N.T.S.</b>	<b>380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102</b>	<b>DWG. WW-49.DWG</b>



**EXHIBIT A**



- 1 - MAIN CIRCUIT BREAKER
- 2 - GENERATOR CIRCUIT BREAKER
- 3 - P-1 MOTOR CIRCUIT BREAKER
- 4 - P-2 MOTOR CIRCUIT BREAKER
- 5 - P-3 MOTOR CIRCUIT BREAKER
- 6 - CB1 CONTROL CIRCUIT BREAKER (15A)
- 7 - CB2 DUPEX RECEPRACLE C.B. (20A)
- 8 - CB3 SPARE CIRCUIT BREAKER (15A)
- 9 - CB4 LIGHTING/FANS CIRCUIT BREAKER (15A)
- 10 - CBS RTU POWER(15A)
- 11 - P-1 HOA SELECTOR SWITCH
- 12 - P-1 ELAPSED TIME METER
- 13 - P-1 RUN PILOT LIGHT (GREEN)
- 14 - P-1 MOTOR THERMAL ALARM P.L. (RED)
- 15 - P-2 HOA SELECTOR SWITCH
- 16 - P-2 ELAPSED TIME METER
- 17 - P-2 RUN PILOT LIGHT (GREEN)
- 18 - P-2 MOTOR THERMAL ALARM P.L. (RED)
- 19 - P-3 HOA SELECTOR SWITCH
- 20 - P-3 ELAPSED TIME METER
- 21 - P-3 RUN PILOT LIGHT (GREEN)
- 22 - P-3 MOTOR THERMAL ALARM P.L. (RED)
- 23 - HIGH LEVEL ALARM PILOT LIGHT (RED)
- 24 - GFCI DUPEX RECEPRACLE
- 25 - PUMP LEVEL CONTROLLER W/SUBMERSIBLE TRANSDUCER

- 26 - EXTERNAL ALARM LIGHT
- 27 - PANEL INTRUSION ALARM SWITCH(S)
- 28 - GENERATOR RECEPRACLE
- 29 - PANEL CONVENIENCE LIGHT BAR
- 30 - COOLING FAN ASSEMBLIES
- 31 - COOLING EXHAUST ASSEMBLIES
- 32 - PANEL(S) SEAL-OFF ASSEMBLIES
- 33 - JUNCTION BOXES
- 34 - SUPPORT LEGS FOR ENCLOSURES REQUIRING SUFFICIENT SUPPORT FOR PANEL WEIGHT DISTRIBUTION.
- 35 - MAIN/GENERATOR BREAKER INTERLOCK

A DATA PACKET SHALL BE MOUNTED TO THE INSIDE OF THE PANEL ENCLOSURE OUTER DOOR. NO PENETRATIONS THROUGH THE DOOR SHALL BE ALLOWED FOR MOUNTING THE DATA PACKET SHALL BE HOFFMAN ADP2 OR APPROVED EQUAL. DOUBLE DOOR ENCLOSURES SHALL BE SUPPLIED WITH 1 EA DATA PACKET PER DOOR.

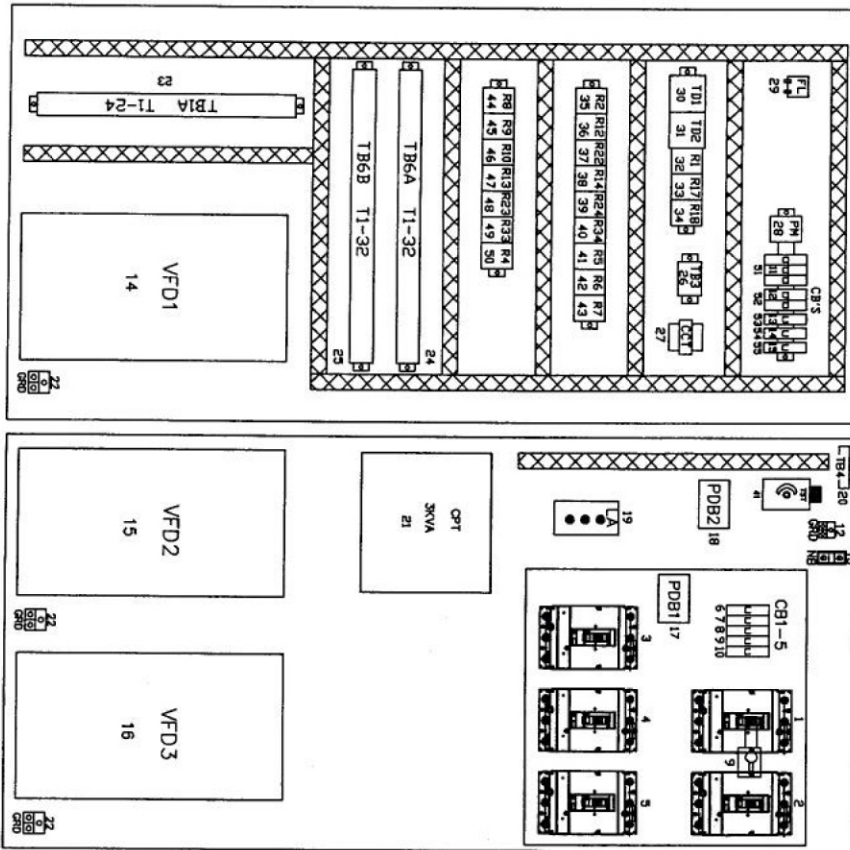
- KEY NOTES:**
- \* OUTER DOOR(S) HAVE BEEN REMOVED FOR CLARITY
  - \* PANEL ENCLOSURE SIZE SHALL BE DETERMINED BY PROPER SPACING & CODE REQUIREMENTS OF ALL SPECIFIED COMPONENTS TO BE INSTALLED. CONFIGURATION MAY VARY. MAINTAIN A 1.5" SEPARATION BETWEEN COMPONENTS & CABLE TRAYS.
  - \* PROJECTS WITH HP RATINGS GREATER THAN 20 HP MAY REQUIRE LARGER ENCLOSURES UP TO 60" MAX X AS REQUIRED W X 16"-20" D, AND REQUIRE SUPPORT LEGS TO DISTRIBUTE THE WEIGHT OF THE ENCLOSURE.
  - \* THE SUB-PANEL DOOR SHALL BE EQUIPPED WITH A WIND (HOLD OPEN) RESISTANT MECHANISM.
  - \* THE PANEL ENCLOSURE SHALL BE SUPPLIED WITH A CONTINUOUS DRIP EDGE.
  - \* THE ENCLOSURE SHALL BE ALUMINUM NEMA 3R, 4, OR 12 AS REQUIRED, GASKET SEAL DOORS, A MINIMUM OF A THREE POINT LATCH SYSTEM, LOCKING HASP, AND STAINLESS STEEL HINGES & HARDWARE.
  - \* SINGLE DOOR ENCLOSURES SHALL REQUIRE ONE (1) EA INTRUSION DOOR SWITCH. PANEL INTRUSION DOOR SWITCH: SWITCH SHALL BE CLEANLY AND SECURELY MOUNTED. SWITCH SHALL BE WEATHER RESISTANT, NON-EXPOSED CONTACTS/TERMINALS, IMPACT RESISTANT. SWITCH CAN BE MAGNETIC, MECHANICAL, ETC.
  - \* DOUBLE DOOR ENCLOSURES SHALL REQUIRE ONE (1) EA INTRUSION DOOR SWITCH FOR EACH DOOR. DOUBLE DOOR ENCLOSURES SHALL REQUIRE ONE (1) EA INTRUSION DOOR SWITCH FOR EACH DOOR, PANEL INTRUSION DOOR SWITCH(S): SWITCH SHALL BE CLEANLY AND SECURELY MOUNTED. SWITCH SHALL BE WEATHER RESISTANT, NON-EXPOSED CONTACTS/TERMINALS, IMPACT RESISTANT. SWITCH CAN BE MAGNETIC, MECHANICAL, ETC.
  - \* ITEM 29 PANEL CONVENIENCE LIGHT BAR: THE SPECIFIED PORTFOLIO 27" LED LIGHT STRIP SHALL BE MOUNTED: AND UNDER THE TOP OF PANEL.
  - \* DOUBLE DOOR PANEL: BEHIND THE CENTER DIVIDER SUPPORT.
  - \* THE UTILITY ENGINEER AND/OR THE MAINTENANCE SUPERVISOR MAY REQUEST A DEDUCT OF THE FOLLOWING ITEMS FOR INSTALLATIONS THAT HAVE A ON SITE STANDBY GENERATOR:
    - ITEM 2 - GENERATOR CIRCUIT BREAKER
    - ITEM 28 - GENERATOR RECEPRACLE
    - ITEM 35 - M/G BREAKER INTERLOCK

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

**TRIPLEX: 460VAC - 3PH - 4W - 60HZ**

<b>FOR:</b>	<b>UTILITIES DEPARTMENT</b>	<b>CITY OF NAPLES</b>
<b>DATE:</b> NOV. 2011	<b>TRIPLEX PUMP CONTROL PANEL</b>	<b>SHEET:</b> WW-50
<b>DRAWN:</b> DAG	<b>TYPICAL DEAD FRONT PANEL</b>	<b>DIR:</b> WASTEWATER
<b>SCALE:</b> N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	<b>DWG.</b> WW-50.DWG

LAYOUT MAY VARY AS DETERMINED BY SIZE & SPACING REQUIREMENTS



- 1 - MCB - MAIN CIRCUIT BREAKER
- 2 - GCB - GENERATOR CIRCUIT BREAKER
- 3 - PCB1 - P-1 CIRCUIT BREAKER
- 4 - PCB2 - P-2 CIRCUIT BREAKER
- 5 - PCB3 - P-3 CIRCUIT BREAKER
- 6 - CB1 - CONTROL CIRCUIT BREAKER
- 7 - CB2 - DUPLX RECEPTACLE CIRCUIT BREAKER 1P/15 AMP
- 8 - CB3 - SPARE CIRCUIT BREAKER 1P/20 AMP
- 9 - CB4 - LIGHTING CIRCUIT BREAKER 1P/15 AMP
- 10 - CB5 - MAIN/GENERATOR CIRCUIT BREAKER INTERLOCK
- 11 - GTB - GROUND TERMINAL BLOCK
- 12 - TTK - NEUTRAL TERMINAL BLOCK
- 13 - NTB - NEUTRAL TERMINAL BLOCK
- 14 - VFD1 - P-1 VARIABLE FREQUENCY DRIVE
- 15 - VFD2 - P-2 VARIABLE FREQUENCY DRIVE
- 16 - VFD3 - P-3 VARIABLE FREQUENCY DRIVE
- 17 - PDB1 - POWER DISTRIBUTION BLOCK 3 POLE MULTI-TAP
- 18 - PDB2 - POWER DISTRIBUTION BLOCK 1 POLE MULTI-TAP
- 19 - LA - LIGHTING ARRESTER
- 20 - TB4 - TERMINAL BLOCK 4: ALARM LIGHT
- 21 - CPT - CONTROL POWER TRANSFORMER (480V-120V)
- 22 - PGND - GROUND LUG(S)
- 23 - TB1A - TERMINAL BLOCK 1A
- 24 - TB6A - TERMINAL BLOCK 6A
- 25 - TB6B - TERMINAL BLOCK 6B
- 26 - TB3 - TERMINAL BLOCK 3
- 27 - CCT - CONTROL CIRCUIT TRANSFORMER (120V-24V)
- 28 - PM - PHASE MONITOR 480V, 8PIN AS REQ.
- 29 - FL - FLASHER (110V SOLID STATE)
- 30 - TD1 - HIGH LEVEL TIME DELAY RELAY 2ND PUMP (24V, 8PIN)
- 31 - TD2 - HIGH LEVEL TIME DELAY RELAY 3RD PUMP (24V, 8PIN)
- 32 - R1 - FLOAT PUMP START/LATCH RELAY (24V, 8PIN)
- 33 - R17 - PANEL INTRUSION RELAY (24V, 8PIN)
- 34 - R18 - LOW LEVEL CUT OFF RELAY (24V, 11PIN)
- 35 - R2 - VFD-1 RUN COMMAND (110V, 11PIN)
- 36 - R12 - VFD-2 RUN COMMAND (110V, 11PIN)
- 37 - R22 - VFD-3 RUN COMMAND (110V, 11PIN)
- 38 - R14 - VFD-1 REMOTE RESET RELAY (110V, 8PIN)
- 39 - R24 - VFD-2 REMOTE RESET RELAY (110V, 8PIN)
- 40 - R34 - VFD-3 REMOTE RESET RELAY (110V, 8PIN)
- 41 - R5 - P-1 CALL RELAY (110V, 8PIN)
- 42 - R6 - P-2 CALL RELAY (110V, 8PIN)
- 43 - R7 - P-3 CALL RELAY (110V, 8PIN)
- 44 - R8 - P-1 DISABLE RELAY (110V, 8PIN)
- 45 - R9 - P-2 DISABLE RELAY (110V, 8PIN)
- 46 - R10 - P-3 DISABLE RELAY (110V, 8PIN)
- 47 - R13 - P-1 MOTOR THERMAL FAIL RELAY (110V, 11PIN)
- 48 - R23 - P-2 MOTOR THERMAL FAIL RELAY (110V, 11PIN)
- 49 - R33 - P-3 MOTOR THERMAL FAIL RELAY (110V, 11PIN)
- 50 - R4 - HIGH LEVEL ALARM CONTROLLER RELAY (110V, 11PIN)
- 51 - CB11 - PM MINI CIRCUIT BREAKER 3 POLE, 460V DIN 1A
- 52 - CB12 - CPT LINE MINI CIRCUIT BREAKER 2 POLE 460V DIN 25A
- 53 - CB13 - CPT LOAD MINI CIRCUIT BREAKER 1 POLE 460V DIN 30A
- 54 - CB14 - CCT LINE MINI CIRCUIT BREAKER 1 POLE 120V DIN 1A
- 55 - CB15 - CCT LOAD MINI CIRCUIT BREAKER 1 POLE 24V DIN 3A

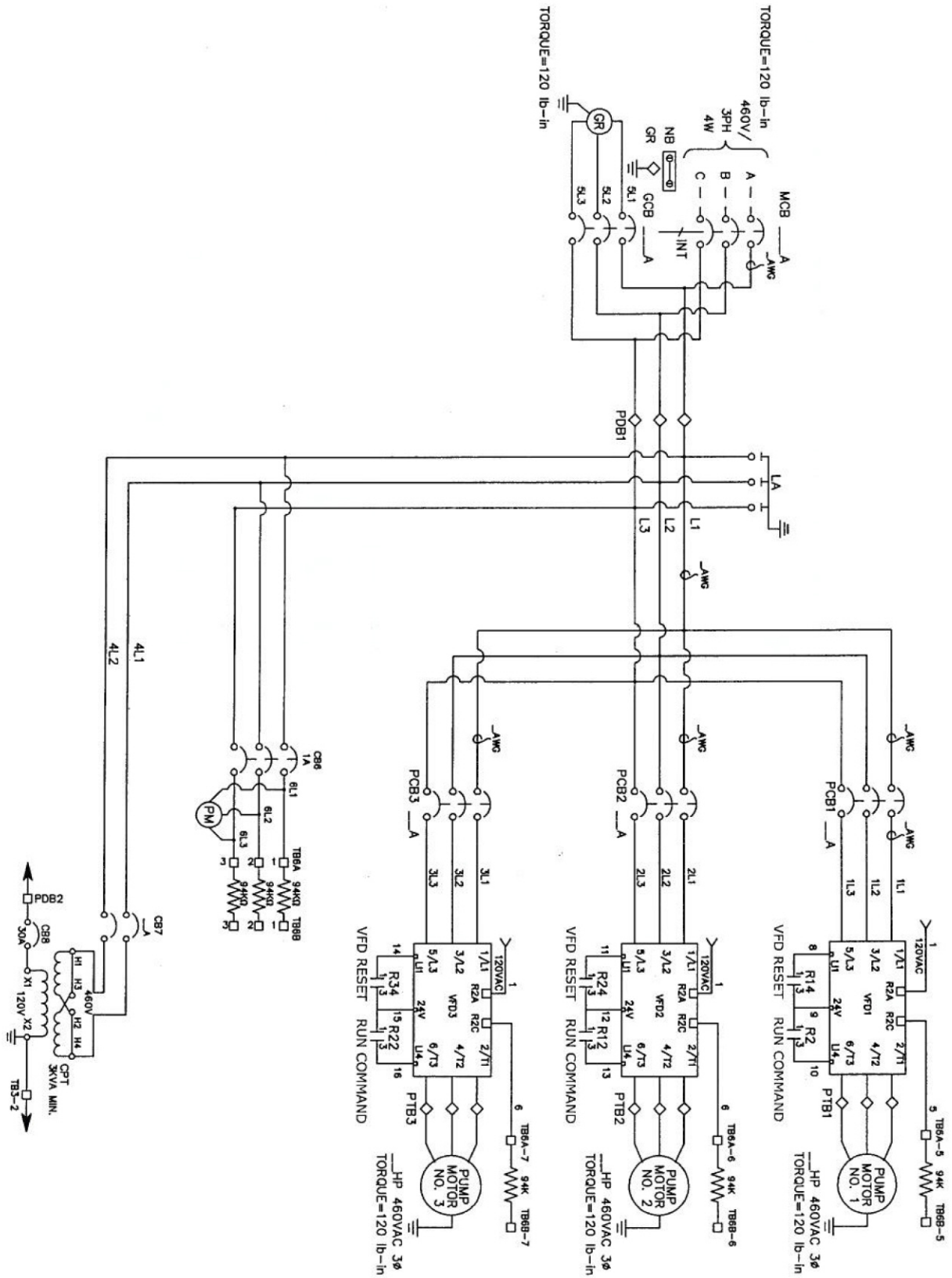
THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

TRIPLEX: 460VAC - 3PH - 4W - 60HZ

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	TRIPLEX PUMP CONTROL PANEL	SHEET: WW-51
DRAWN: DAG	TYPICAL BACKPLATE(S) LAYOUT	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-51.DWG



ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.



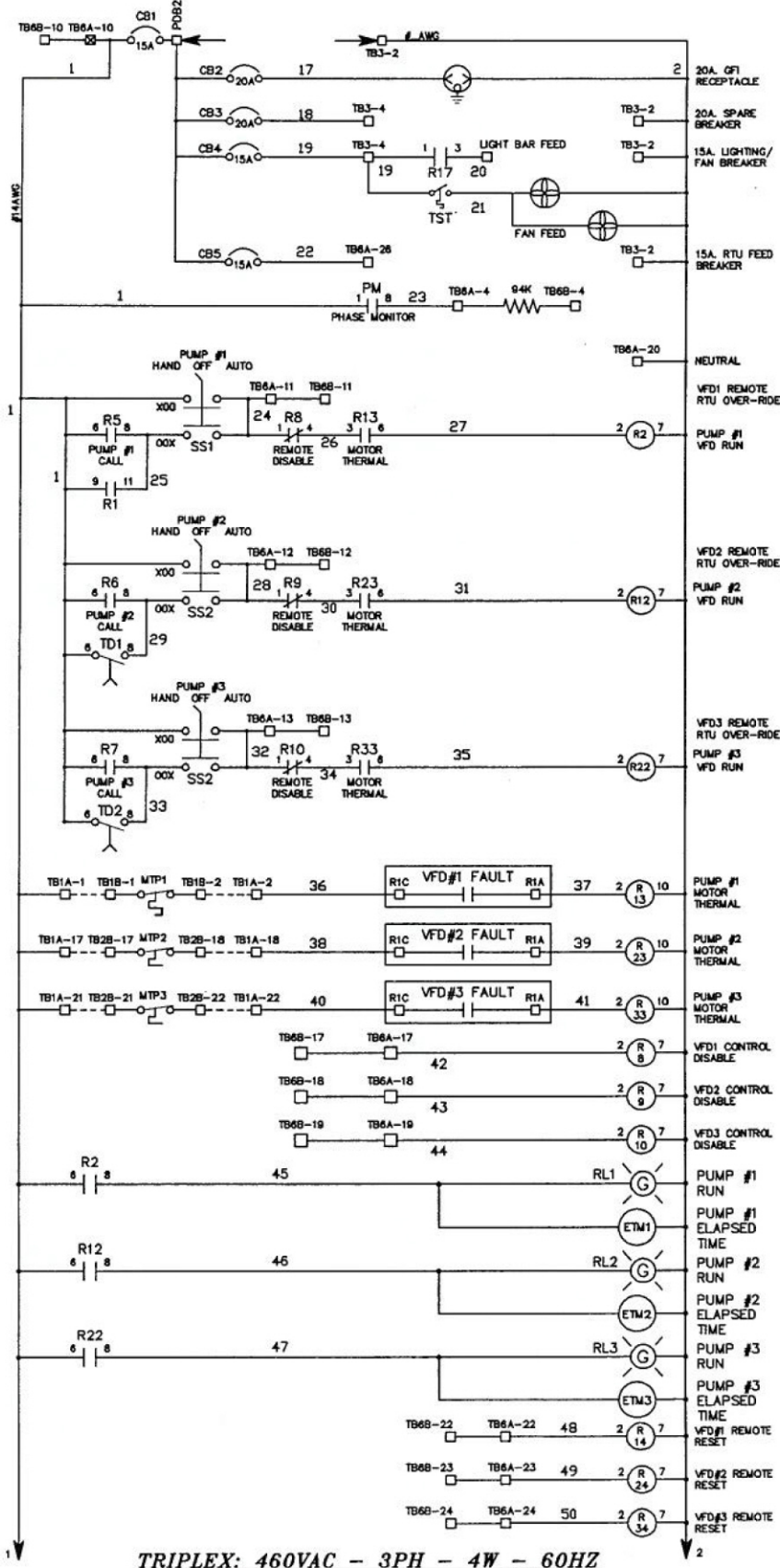
THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

TRIPLEX: 460VAC - 3PH - 4W - 60HZ

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	TRIPLEX PUMP CONTROL PANEL	SHEET: WW-52
DRAWN: DAG	POWER WIRING LAYOUT	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-52.DWG

**EXHIBIT A**

ALL WIRES SHALL BE CLEARLY NUMBERED/LABELLED AT EACH CONNECTION/TERMINATION.

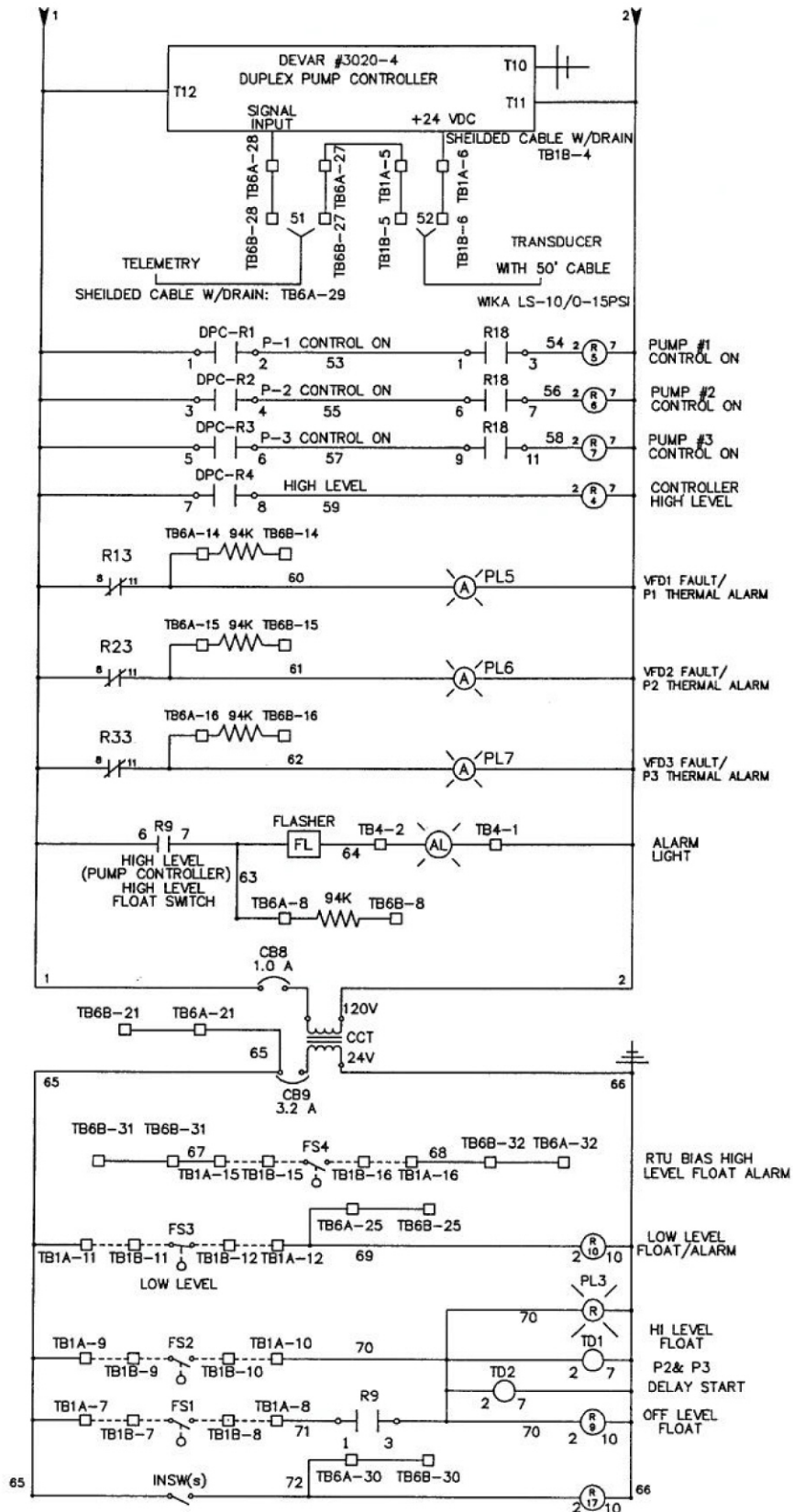


TRIPLEX: 460VAC - 3PH - 4W - 60HZ

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	TRIPLEX PUMP CONTROL PANEL	SHEET: WW-53
DRAWN: DAG	CONTROL WIRING LAYOUT1	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW534.DWG





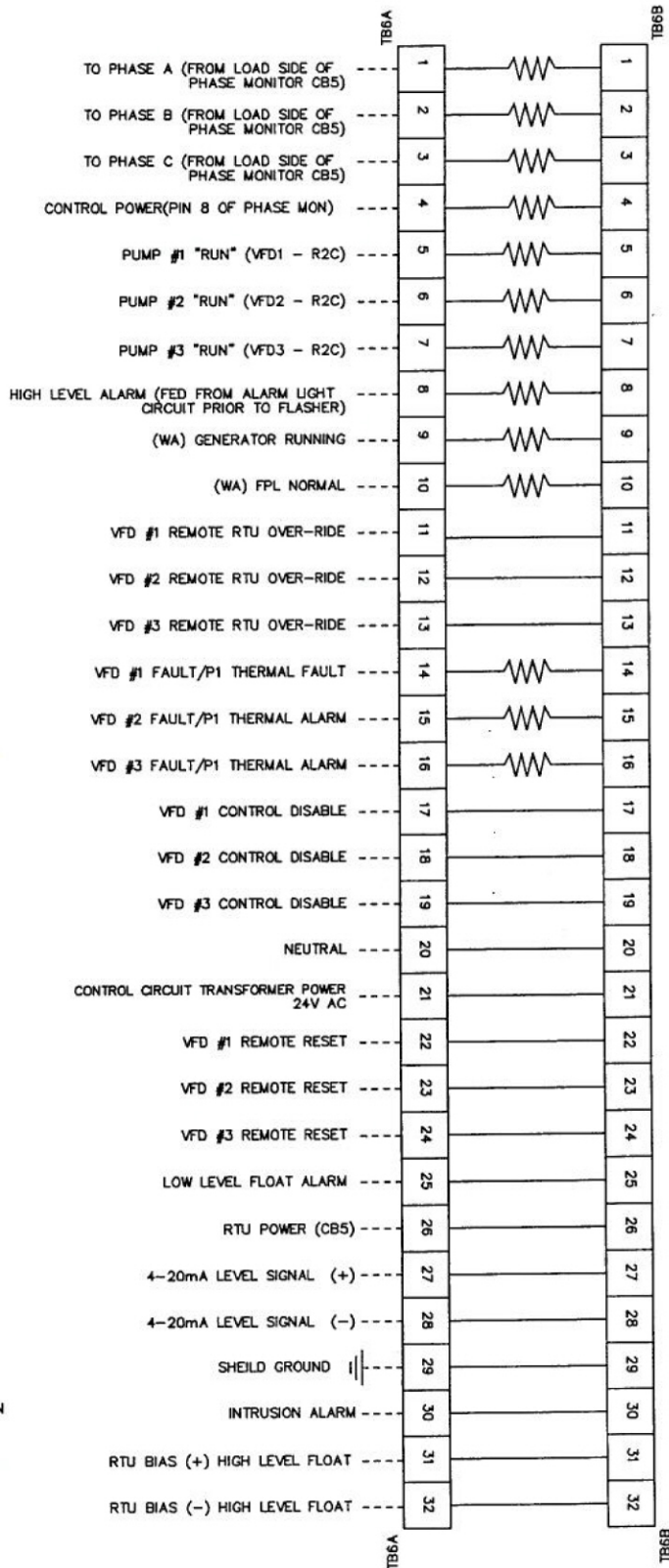
ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

TRIPLEX: 460VAC - 3PH - 4W - 60HZ

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	TRIPLEX PUMP CONTROL PANEL CONTROL WIRING LAYOUT2	SHEET: WW-54
DRAWN: DAG		DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-54.DWG

**EXHIBIT A**



ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

**NOTES:**

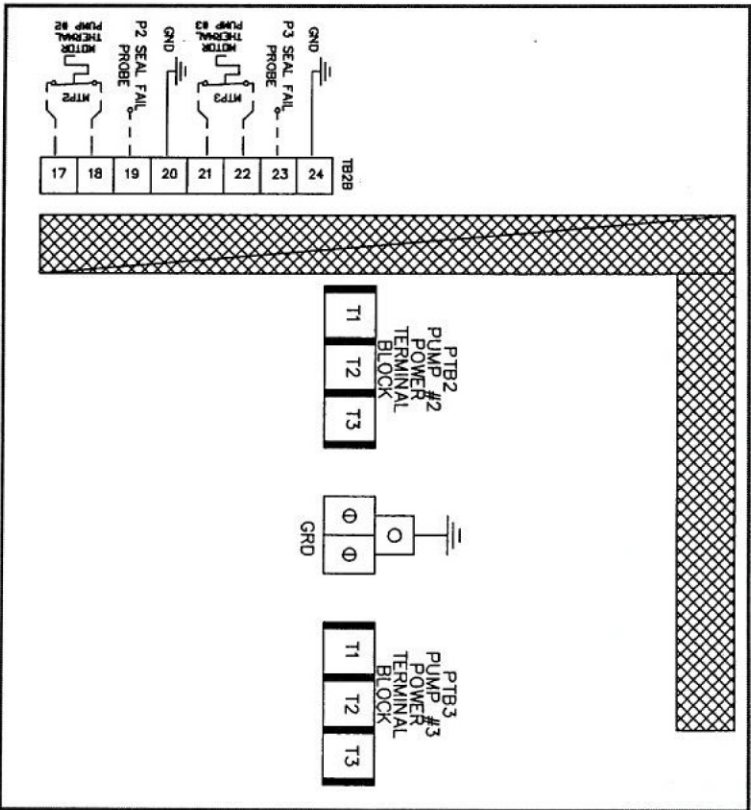
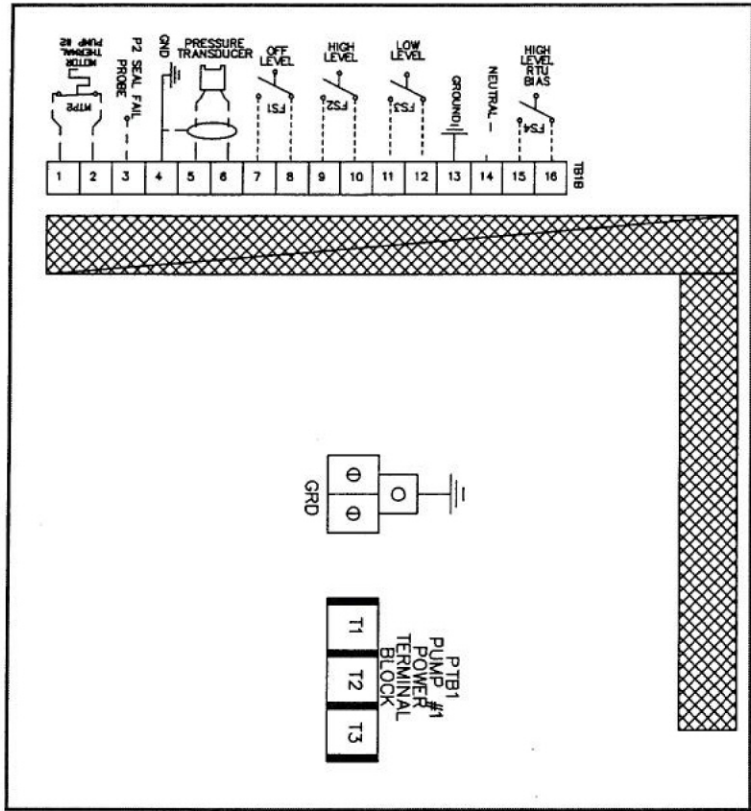
- \*\*5A. TB6A & TB6B SHALL BE INSTALLED IN THE CONTROL PANEL AS DESCRIBED IN DRAWING WW-51, WITH UN-OBSTRUCTED ACCESS AND A MINIMUM OF 1.5" SEPARATION FOR THE INSTALLATION OF THE RESISTORS AND JUMPER WIRES.
- \*\*5B. ALL REQUIRED RESISTORS SHALL BE RATED AT 94K OHM @ 2 WATTS +/-5% MINIMUM.
- \*\*5C. TERMINAL BLOCKS TB6A & TB6B SHALL BE SQ D 9080 SERIES OR EQUAL.

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

**TRIPLEX: 460VAC - 3PH - 4W - 60HZ**

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	TRIPLEX PUMP CONTROL PANEL	SHEET: WW-55
DRAWN: DAG	RTU INTERFACE TERMINAL DETAIL	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102	DWG. WW-55.DWG





**TRIPLEX: 460VAC - 3PH - 4W - 60HZ**

THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	<b>TRIPLEX PUMP CONTROL PANEL J-BOX BACKPLATE(S) LAYOUT</b>	SHEET: WW-56
DRAWN: DAG		DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-56.DWG

ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.



**EXHIBIT A**

QTY	TAG LABEL	ITEM DESCRIPTION	ITEM PART NO.
2	MCB/GCB	SQD MAIN/GEN CIRCUIT BREAKER 3POLE, ___AMP, ___VAC SIZED FOR TOTAL LOAD	FAL34_____
3	PCB1/PCB2\PCB3	SQD PUMP1/PUMP2/PUMP3 CIRCUIT BREAKER 3POLE, ___AMP, ___VAC SIZED FOR PUMP LOAD	FAL34_____
3	CB1/CB4/CB5	SQD: 1POLE, 15AMP, 120VAC	QU0115 15 AMP
2	CB2/CB3	SQD: 1POLE, 20AMP, 120VAC	QU0120 20 AMP
1	CB11	SQ D DIN MOUNT MINI 3 POLE - PHASE MONITOR BREAKER	MG SERIES ___ AMP 480V
1	CB12	SQ D DIN MOUNT MINI 2 POLE - CP TRANSFORMER LINE BKR	MG SERIES ___ AMP 480V
1	CB13	SQ D DIN MOUNT MINI 1 POLE - CP TRANSFORMER LOAD BKR	MG SERIES ___ AMP 120V
1	CB14	SQ D DIN MOUNT MINI 1 POLE - CC TRANSFORMER LINE BKR	MG SERIES ___ AMP 120V
1	CB15	SQ D DIN MOUNT MINI 1 POLE - CC TRANSFORMER LOAD BKR	MG SERIES ___ AMP 24V
1	PDB1	3POLE,600V, MULTI-TAP (SIZED AS REQUIRED)	AS REQUIRED
1	PDB2	MULTI-TAP (SIZED AS REQUIRED)	AS REQUIRED
1	LA	ADVANCE PROTECTION TECHNOLOGIES: 480V, 3 PHASE	TE04XCS104X
3	VFD1/VFD2/VFD3	SQD/SHNIDERLECT: ALTVAR312 FDR (20HP, 61AR FOR >/=20HP	ALTVAR NO EQUAL
1	PM	PHASE MONITOR 8-PIN, 480VOLT/3 PHASE AS REQUIRED	AS REQUIRED
1	CPT	SQD: CONTROL POWER TRANSFORMER 460V-120V, ___KVA, 1PH , AS REQUIRED BY LOAD.	9070-K_____
1	CCT	SQD: CONTROL CIRCUIT TRANSFORMER 50VA, 120V-24V, 1 PH	9070-KF50D23
1	FL	SSAC FLASHER - 90 FPM, 120V, SS	FS127
1	AL	ALARM LIGHT RED 120V	LRX40
1	DLPC	DEVAR, INC.: DUPLEX PUMP CONTROLLER	3020-4
1	PT	WIKA PRESSURE TRANSDUCER	LS-10/0-15PSI W/50' CABL
14	RB8	OMRON 8 PIN OCTAL RELAY BASE	PF083A
5	RB11	OMRON 11 PIN OCTAL RELAY BASE	PF113A
1	R1	8 PIN,24V W/LAMP FLDAT PUMP 'ON' RELAY	AS REQUIRED
1	R17	11 PIN,24V W/LAMP PANEL INTRUSION RELAY	AS REQUIRED
3	R2/R12/R22	8 PIN,115V W/LAMP VFD1/2/3 RUN COMMAND RELAY	AS REQUIRED
3	R14/R24/R34	8 PIN,115V W/LAMP VFD1/2/3 REDMT RESE RELAY	AS REQUIRED
3	R5/R6/R7	8 PIN,115V W/LAMP P1/P2/P3 CALL RELAY	AS REQUIRED
3	R8/R9/R10	8 PIN,115V W/LAMP P1/P2/P3 DISABLE RELAY	AS REQUIRED
1	R4	8 PIN,115V W/LAMP CONTROLLER HIGH LEVEL ALARM RELAY	AS REQUIRED
3	R13/R23/R33/R18	11 PIN, 24V W/LAMP P1/P2/P3 VFD FAULT/THERMALN & LOW LEVEL FLDAT CUT OFF RELAYS	AS REQUIRED
2	TD1/TD2	SSAC: 60SEC,24VAC, SS, ON, 8-PIN, 24V TIME DELAY RELAY	PRM-23
3	SS1/2/3	SQD: H.O.A. PUMP 1, 2, & 3 SELECTOR SWITCH	9001-SKS43BH1
3	RL13/17/21	SQD: PUMP 1, 2, & 3 RUN PILOT LIGHTS 'GREEN' 110V	9001-SKP38G9
3	PL14/18/22	SQD: PUMP 1, 2, & 3 THERMAL ALARM PILOT LIGHTS 'RED' 110V	9001-SKP38R9
1	PL23	SQD: HIGH LEVEL ALARM PILOT LIGHT 'RED' 24V	9001-SKP35R9
3	ETM1/2/3	P1/2/3 ELAPSE TIME HOUR METER	480-2079-ND
4	GRDL	ANDERSON: DOUBLE GROUND LUG	3306-DU-0
AR	TB1A,TB1B, TB2B, TB6A,TB6B,TB4	SQD: TERMINAL BLOCKS 30AMP	9080-GM6
AR	TBEB	SQD: TERMINAL BLOCK END BARRIER	9080-GM6B
AR	TBEC	SQD: TERMINAL BLOCK END CLAMP	9080-GH10
1	DR	DUPLEX RECEPTICLE 20AMP GFCI W/COVER PLATE	AR
AR	DS	DDDR SWITCH(S): INTRUSION ALARM. HD MAGNETIC OR MECHANICAL	AR
1	LB	LIGHT BAR: 27' LED STRIP	PORTFOLIO 29125
1	NEU	BUCHANAN: #12-1/0 WIRE 1 POLE	824 DR EQUAL
AR	RES	RESISTORS: 94K OHM, 2 WATT, +/- 5% MIN.	
3	PTB1/2/3	3 POLE, 600 VOLT, SIZED TO WIRE REQUIREMENTS	AS REQUIRED
1	FAN	COOLING FAN ASSEMBLY. BY HOFFMAN OR APPROVED EQUAL.	TFP41
1	EXH	EXHAUST ASSEMBLY. BY HOFFMAN OR APPROVED EQUAL.	TEP4
AR	EYE	CAST ALUMUNUM: SEAL OFF SIZED AS REQUIRED BY FILL CODE. 2" MIN	AS REQUIRED
AR	HB	MYERS HUBS: SIZED AS REQUIRED BY FILL. 2" MIN. (1 PER PUMP, 1 FOR CONTROLS)	AS REQUIRED
AR	NP	S.S. OR AL THREADED NIPPLES. 2" MIN	AS REQUIRED
AR	J-BOX	BY MANUFACTURER (MIN 16"x16"x8") MIN SIZE PER FILL REQUIREMENT. NEMA 3R, 4, DR 4X AS REQUIRED AL, SS HINGES, GASKETED, & DRIP EDGE. (LARGER UNITS MAY REQUIRE 2 J-BOX)	AS REQUIRED
1	ENC	BY MANUFACTURER: SIZED PER ALIGNMENT, SPACING, AND FILL REQUIREMENTS. NEMA 3R, 4, DR 12 AS REQUIRED. 3 POINT LATCH SYSTEM ON DDOR. AL BACKPLATE, SS HARDWARE.	AS REQUIRED
1	GR	GENERATOR RECEPTICLE W/ANGLE: MINIMUM OF 100 AMP. SIZE AS REQUIRED	HUBBLE:
1	MISC HARDWARE	ALL DIN RAIL, SCEWS, BOLTS, NUTS, SEALANTS, ADHEASIVES, AND MISC. HARWARE AND SUPPLIES NECESSARY FOR JOB.	

AR = AS REQUIRED

TRIPLEX: 460VAC - 3PH - 4W - 60HZ

**PANEL MANUFACTURER MUST PROVIDE SUBMITTALS FOR ALL MATERIALS AND COMPONENTS TO BE UTILIZED FOR THIS PROJECT BEFORE ANY ASSEMBLY IS INITIATED. THE CITY RESERVES THE RIGHT TO REJECT ANY AND ALL MATERIAL OR COMPONENT NOT MEETING STANDARDS.**

<b>FOR:</b>	<b>UTILITIES DEPARTMENT</b>	<b>CITY OF NAPLES</b>
<b>DATE:</b> NOV. 2011	<b>TRIPLEX PUMP CONTROL PANEL</b>	<b>SHEET:</b> WW-57
<b>DRAWN:</b> DAG		<b>DIR:</b> WASTEWATER
<b>SCALE:</b> N.T.S.	<b>380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102</b>	<b>DWG.</b> WW-57.DWG



**CONTROL PANEL NOTES:**

Panel designer may make changes in materials and component manufacturer, with City Utilities Engineer's approval only.

Manufacturer shall list any additional equipment necessary to provide a clean, neat, professional, and Code compliant control panel; such as: Lugs, distribution terminals, wire races, etc..

The panel manufacturer shall provide two (2) sets of As-Built drawings in hard copy, and the drawings shall be provided in Dwg 2004 format, on a CD.

A laminated As-Built Ladder Diagram shall be attached to the inside of the outer control panel door.

The Control Panel Enclosure shall be Type 14 gauge minimum Aluminum, NEMA 3R, 4, or 12 as required, gasketed, with: A padlockable hasp, three point latch system ( one each per door if more than one door is required), wind restrainer arm(s) that includes all hardware to restrain both the main and dead front door(s) when open; backplate(s), and drip edge that extends the entire length of the top of the enclosure.

The Junction Box Enclosure shall be Type 14 gauge minimum Aluminum, NEMA 3, 4, or 4X as required, gasketed, with: A padlockable hasp, hinged door. The Junction Box shall have an Aluminum back plate for component mounting. The Junction Box shall have industrial grade terminal strips of sufficient size and spacing, as required by these specifications. The Junction Box shall be isolated from the Control Panel with the properly sized seal-off fittings (not to exceed 80% capacity), pre-wired, and supplied with epoxy sealant per manufacturer recommendations. The epoxy sealant shall be supplied with but installed on site after all connections are made, confirmed, and accepted by the City. The J-Box shall be mounted to the panel using Myers Hubs at both panels, Al or SS threaded nipples, and Cast AL Vertical EYE fittings.

The Control Panel Enclosure and the Junction Box Enclosure shall be shipped: Pre-wired, Pre-tested, and complete as one unit, unless this creates a shipping hazard. If the J-Box requires removal for shipping, all wires shall be properly tagged and protected during shipping. The enclosures and components shall be properly packed to prevent damage and loss during shipment to our Naples location.

All Panduit (or equal) wire raceways shall not be filled in excess of 80% capacity. All wires extending outside of a raceway in excess of 5" shall be held in place with plastic wire ties. All wiring shall be neat and un-tangled.

All wires shall be properly labeled at each termination point. All wires and terminals shall be rated according to NEC standards.

*TRIPLEX: 460VAC - 3PH - 4W - 60HZ*

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	<i>TRIPLEX PUMP CONTROL PANEL CONTROL PANEL NOTES</i>	SHEET: WW-58
DRAWN: DAG		DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-58.DWG

**EXHIBIT A**

**CONTROL PANEL MINIMUM LABELING REQUIREMENTS**

LABEL	QUANT	COLOR	DESCRIPTION
MCB	2	BLACK	MAIN CIRCUIT BREAKER
GCB	2	BLACK	GENERATOR CIRCUIT BREAKER
PCB1	2	BLACK	PUMP 1 CIRCUIT BREAKER
PCB2	2	BLACK	PUMP 2 CIRCUIT BREAKER
PCB3	2	BLACK	PUMP 3 CIRCUIT BREAKER
CB1	1	BLACK	CONTROL CIRCUIT BREAKER
CB2	1	BLACK	RECEPTACLE CIRCUIT BREAKER
CB3	1	BLACK	SPARE CIRCUIT BREAKER
CB4	1	BLACK	LIGHTING/FAN CIRCUIT BREAKER
CB5	2	BLACK	RTU POWER CIRCUIT BREAKER
VFD1	1	BLACK	VARIABLE FREQUENCY DRIVE 1
VFD2	1	BLACK	VARIABLE FREQUENCY DRIVE 2
VFD3	1	BLACK	VARIABLE FREQUENCY DRIVE 3
CB11	1	BLACK	PHASE MONITOR CIRCUIT BREAKER
CB12	1	BLACK	CONTROL POWER TRANSFORMER LINE CIRCUIT BREAKER
CB13	1	BLACK	CONTROL POWER TRANSFORMER LOAD CIRCUIT BREAKER
CB14	1	BLACK	CONTROL CIRCUIT TRANSFORMER LINE CIRCUIT BREAKER
CB15	1	BLACK	CONTROL POWER TRANSFORMER LOAD CIRCUIT BREAKER
PM	1	BLACK	PHASE MONITOR
CPT	1	BLACK	CONTROL POWER TRANSFORMER
CCT	1	BLACK	CONTROL CIRCUIT TRANSFORMER
R1	1	BLUE	FLOAT PUMP START/LATCH RELAY
R17	1	BLUE	PANEL INTRUSION RELAY
R2	1	BLUE	VFD1 RUN COMMAND RELAY
R12	1	BLUE	VFD2 RUN COMMAND RELAY
R22	1	BLUE	VFD3 RUN COMMAND RELAY
R14	1	BLUE	VFD1 REMOTE RESET RELAY
R24	1	BLUE	VFD2 REMOTE RESET RELAY
R34	1	BLUE	VFD3 REMOTE RESET RELAY
R5	1	BLUE	P1 CALL RELAY
R6	1	BLUE	P2 CALL RELAY
R7	1	BLUE	P3 CALL RELAY
R8	1	BLUE	P1 DISABLE RELAY
R9	1	BLUE	P2 DISABLE RELAY
R10	1	BLUE	P3 DISABLE RELAY
R13	1	BLUE	P1 VFD FAULT/THERMAL FAIL ALARM RELAY
R23	1	BLUE	P2 VFD FAULT/THERMAL FAIL ALARM RELAY
R33	1	BLUE	P3 VFD FAULT/THERMAL FAIL ALARM RELAY
R18	1	BLUE	LOW LEVEL FLOAT CUT OFF RELAY
R4	1	RED	HIGH LEVEL ALARM (CONTROLLER) RELAY
TD1	1	BLUE	FLOAT OPERATED SECOND PUMP ON TIME DELAY RELAY
TD2	1	BLUE	FLOAT OPERATED THIRD PUMP ON TIME DELAY RELAY
TB4	1	BLUE	ALARM LIGHT TERMINAL BLOCK
TB1A	1	BLUE	PANEL CONTROLS TERMINAL BLOCK
TB1B	1	BLUE	J-BOX1 CONTROLS TERMINAL BLOCK
TB2B	1	BLUE	J-BOX2 CONTROLS TERMINAL BLOCK
TB6A	1	BLUE	RTU INTERFACE TERMINAL BLOCK A
TB6B	1	BLUE	RTU INTERFACE TERMINAL BLOCK B
P1 RUN	1	BLUE	P1 RUN PILOT LIGHT
P2 RUN	1	BLUE	P2 RUN PILOT LIGHT
FLASH	1	RED	FLASHER FOR HIGH LEVEL
P1 THERML	1	RED	P1 THERMAL OVERLOAD ALARM PILOT LIGHT
P2 THERML	1	RED	P2 THERMAL OVERLOAD ALARM PILOT LIGHT
HIGH LEVEL	1	RED	HIGH LEVEL ALARM PILOT LIGHT

Each switch, circuit breaker, indicating light, push button, relay, etc., shall have an engraved laminated plastic color coded nameplate mounted above of below the device for proper identification; RED for alarm, BLACK for Power, and BLUE for level and controls. Letters shall be a minimum of 1/4" in height. A quality, long lasting adhesive shall be used for mounting the labels.

**TRIPLEX: 460VAC - 3PH - 4W - 60HZ**

<b>FOR:</b>	<b>UTILITIES DEPARTMENT</b>	<b>CITY OF NAPLES</b>
<b>DATE: NOV. 2011</b>	<b>TRIPLEX PUMP CONTROL PANEL</b>	<b>SHEET: WW-59</b>
<b>DRAWN: DAG</b>	<b>PANEL LABELING DETAILS</b>	<b>DIR: WASTEWATER</b>
<b>SCALE: N.T.S.</b>	<b>380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102</b>	<b>DWG. WW-59.DWG</b>



**THE FOLLOWING INFORMATION IS HEREBY INCORPORATED INTO,  
AND MADE AN OFFICIAL PART OF THE AGREEMENT.**

1. *The generator receptacle specified (Hubbell C4100R9W) is rated at 3-phase / 250V 100 Amps.*

This make and model of GR was used as a standard minimum. The actual GR Model supplied with the control panel will be sized as to the required load and voltage of the specified panel.

2. *This GR will only work on panels rated at 230V (1 & 3-phase) and 100A or less. Even at 230V; we need a GR rated @ 200A for 15HP and 20HP applications.*

This make and model of GR was used as a standard minimum. The actual GR Model supplied with the control panel will be sized as to the required load and voltage of the specified panel.

3. *What about for 480VAC applications?*

This make and model of GR was used as a standard minimum. The actual GR Model supplied with the control panel will be sized as to the required load and voltage of the specified panel.

4. *All the drawings show Variable Frequency Drives; ATV312 Schneider series. There are no across-the-line starters; just want to be clear.*

Correct

5. *For 480VAC applications; the ATV312 goes up to 20HP. What about for 30, 35 and 47 HP applications? See attachment.*

All panels servicing motors greater than 20 HP should be equipped with ATV61 model Variable Frequency Drive. However, the vendor shall be ultimately responsible for insuring that applicable components and parts are being used with the appropriate horse-power ratings.

6. *The drawings show the analog signal from the transducer being looped in series between the RTU, VFD's and Devar Duplex controller. What about using signal isolators?*

The use of signal isolators is not a requirement.

7. *On double door panels; there is going to be a lot of stress on the supporting legs since there should be enough clearance to install two j-boxes with seal-off and Myers hubs. The panel and legs are made of aluminum.*

The plans require mounting eyelets for all panels with the statement that due to size and weight requirements, panel legs may be required to be supplied with the panels. The bidder must provide the necessary mounting apparatuses as required for a safe installation.

8. *The highest enclosure rating that you can obtain is NEMA 3R; hoods need to be installed covering the fan and exhaust grille in order to maintain the NEMA rating.*

With the penetrations specified in the plans, the NEMA 3R rating is correct for the control enclosures. The J-Box enclosures are required to be 4X per Code . As noted in the plans, the enclosures shall be

IMPORTANT MESSAGE

PLEASE ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON THE BID COVER SHEET.

## EXHIBIT A

NEMA rated so if the fan and exhaust require hoods for the NEMA Rating then they shall be included and noted.

9. *Are the panels to be UL 508 listed?*

The City Standards do not require the control panels to be UL Certified, however; all components used to construct the panel must have a UL Rating. The reason for this is that any field modifications performed during installation of a UL Certified panel would negate the UL Certification, which is deemed cost prohibitive to the City.

10. *Item # 6, "Required Documentation", asks for the bidder to provide documentation with their proposal which you spell out in item# 6, parts A through H. These items basically require that the bidder submit a completely engineered submittal package for each of the control panels listed on the bid. This engineered submittal package is typically done at the time of order, not the time of bid as it would require about 50 hours of engineering in order to draw these out just for bidding purposes, and the City has already supplied these required drawings, wiring schematics, and lists of materials in the "Exhibit A Pump Station Control Panel Specifications" section of this bid. So if the bidder is bidding these control panels exactly per the documents that The City has already provided in this bid then can the bidder just call out in our bid that we are bidding per specification, rather than making copies of the documents that the City has already supplied and just attaching our name to them? If this is acceptable then the successful bidder will be able to provide the City with these documents when the bid is awarded.*

The successful Bidder, upon award and issuance of a City of Naples Purchase Order, shall provide City Staff with Submittals as defined in a. through h. below for review and approval within 14 days. No construction or purchase of materials for the project panels shall be performed until final City approval is provided.

### IMPORTANT MESSAGE

PLEASE ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON THE BID COVER SHEET.



**EXHIBIT B**

032-12

Pump Station Control Panels

		FJ Nugent Low Bid						
		Simmonds Electrical	Xylem Water Solutions	CEC Motor & Utility Service	HD Supply Electrical	F. J. Nugent & Assoc, Inc	Mader Electric Motors	
1	Control Panel for 2HP 230V Delivery	\$25,951.00 90 days	\$10,790.00 45 days	\$11,065.00 30 days	\$16,813.39 42 days	\$9,277.00 45 days	\$8,700.00 35 days	
2	Control Panel for 3HP 230V Delivery	\$25,951.00 90 days	\$10,882.00 45 days	\$11,300.00 30 days	\$16,966.37 42 days	\$9,353.00 45 days	\$9,500.00 35 days	
3	Control Panel for 5HP 230V Delivery	\$25,951.00 90 days	\$11,165.00 45 days	\$11,485.00 30 days	\$17,283.22 42 days	\$9,578.00 45 days	\$9,750.00 35 days	
4	Control Panel for 7.5 HP 230V Delivery	\$27,775.00 90 days	\$11,480.00 45 days	\$11,830.00 30 days	\$17,814.59 42 days	\$9,901.00 45 days	\$10,100.00 35 days	
5	Control Panel for 10HP 230V Delivery	\$28,500.00 90 days	\$12,780.00 45 days	\$12,145.00 30 days	\$18,204.19 42 days	\$10,126.00 45 days	\$10,300.00 35 days	
6	Control Panel for 15HP 230V Delivery	\$29,500.00 90 days	\$13,360.00 45 days	\$12,737.00 30 days	\$19,458.17 42 days	\$12,416.00 45 days	\$12,300.00 35 days	
7	Control Panel for 20HP 230V Delivery	\$30,150.00 90 days	\$13,960.00 45 days	\$13,440.00 30 days	\$20,236.43 42 days	\$13,315.00 45 days	\$13,500.00 35 days	
8	Control Panel for 10HP 480V Delivery	\$26,500.00 90 days	\$12,987.00 45 days	\$13,485.00 30 days	\$19,214.84 42 days	\$12,513.00 45 days	\$12,600.00 35 days	
9	Control Panel for 15HP 480V Delivery	\$27,100.00 90 days	\$13,510.00 45 days	\$14,098.00 30 days	\$21,379.43 42 days	\$13,023.00 45 days	\$13,100.00 35 days	
10	Control Panel for 20HP 480V Delivery	\$28,500.00 90 days	\$14,035.00 45 days	\$14,708.00 30 days	\$21,966.51 42 days	\$13,463.00 45 days	\$13,600.00 35 days	
11	Control Panel for 30HP 480V Delivery	\$36,750.00 90 days	\$19,340.00 45 days	\$17,138.00 30 days	\$26,575.17 42 days	\$17,268.00 45 days	\$17,400.00 35 days	
12	Control Panel for 35HP 480V Delivery	\$38,500.00 90 days	\$20,505.00 45 days	\$18,420.00 30 days	\$28,223.31 42 days	\$18,653.00 45 days	\$16,500.00 35 days	
13	Control Panel for 47HP 480V Delivery	\$48,000.00 90 days	\$21,612.00 45 days	\$19,628.00 30 days	\$30,865.53 42 days	\$19,374.00 45 days	\$18,550.00 35 days	
14	Control Panel for 20HP 480V Delivery	\$51,750.00 90 days	\$19,052.00 45 days	\$16,295.00 30 days	\$30,474.80 42 days	\$21,636.00 45 days	\$19,000.00 35 days	
15	Control Panel for 50HP 480V Delivery	\$55,000.00 90 days	\$28,040.00 45 days	\$27,504.00 30 days	\$39,200.62 42 days	\$28,654.00 45 days	\$26,000.00 35 days	
	<b>Grand Total</b>	<b>\$505,878.00</b>	<b>\$233,498.00</b>	<b>\$225,278.00</b>	<b>\$344,706.57</b>	<b>\$218,550.00</b>	<b>\$210,900.00</b>	

EXHIBIT B

BID SCHEDULE

**PUMP STATION CONTROL PANELS**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>DELIVERED PRICE</u>
1.	One (1) Duplex Pump Station Control Panel as Specified herein for 2HP 230V. Delivery of Unit <u>45</u> Days ARO	\$ <u>9277.-</u>
2.	One (1) Duplex Pump Station Control Panel as Specified herein for 3HP 230V. Delivery of Unit <u>45</u> Days ARO	\$ <u>9353.-</u>
3.	One (1) Duplex Pump Station Control Panel as Specified herein for 5HP 230V. Delivery of Unit <u>45</u> Days ARO	\$ <u>9578.-</u>
4.	One (1) Duplex Pump Station Control Panel as Specified herein for 7.5 HP 230V. Delivery of Unit <u>45</u> Days ARO	\$ <u>9901.-</u>
5.	One (1) Duplex Pump Station Control Panel as Specified herein for 10HP 230V. Delivery of Unit <u>45</u> Days ARO	\$ <u>10,126.-</u>
6.	One (1) Duplex Pump Station Control Panel as Specified herein for 15 HP 230V. Delivery of Unit <u>45</u> Days ARO	\$ <u>12,416.-</u>
7.	One (1) Duplex Pump Station Control Panel as Specified herein for 20HP 230V. Delivery of Unit <u>45</u> Days ARO	\$ <u>13,315.-</u>



EXHIBIT B

8. One (1) Duplex Pump Station Control Panel as Specified herein for 10HP 480V. \$ 12,513.-  
Delivery of Unit 45 Days ARO
9. One (1) Duplex Pump Station Control Panel as Specified herein for 15HP 480V. \$ 13,023.-  
Delivery of Unit 45 Days ARO
10. One (1) Duplex Pump Station Control Panel as Specified herein for 20HP 480V. \$ 13,463.-  
Delivery of Unit 45 Days ARO
11. One (1) Duplex Pump Station Control Panel as Specified herein for 30HP 480V. \$ 17,268.-  
Delivery of Unit 45 Days ARO
12. One (1) Duplex Pump Station Control Panel as Specified herein for 35HP 480V. \$ 18,653.-  
Delivery of Unit 45 Days ARO
13. One (1) Duplex Pump Station Control Panel as Specified herein for 47HP 480V. \$ 19,374.-  
Delivery of Unit 45 Days ARO
14. One (1) Triplex Pump Station Control Panel as Specified herein for 20HP 480V. \$ 21,636.-  
Delivery of Unit 45 Days ARO
15. One (1) Triplex Pump Station Control Panel as Specified herein for 50HP 480V. \$ 28,654.-  
Delivery of Unit 45 Days ARO
- GRAND TOTAL** \$ 218,550.-

**EXHIBIT B**

LOCAL SERVICE Area for REPAIR

Address: F.J. NUGENT  
9076 ALFRED BLVD  
PUNTA GORDA FL 33982

Required Documentation as listed on pages 15 and 16.

- |        |        |        |        |
|--------|--------|--------|--------|
| a. Y/N | b. Y/N | c. Y/N | d. Y/N |
| e. Y/N | f. Y/N | g. Y/N | h. Y/N |

**Attach all bid exceptions, drawings, and required documentation to this page.**



## EXHIBIT C

### GENERAL INSURANCE REQUIREMENTS

The Contractor shall not commence work until he has obtained all the insurance required under this heading, and until such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work until all similar insurance required of the subcontractor has also been obtained and approved by the Owner.

Certificates of insurance must be issued by an authorized representative of the insurance company at the request and direction of the policyholder and must include sufficient information so as to identify the coverage and the contract for Owner's improvements for which they are issued. Certificates of insurance must be issued by a nationally recognized insurance company with a Best's Rating of no less than B+VII, satisfactory to the Owner, and duly licensed to do business in the state of said Contract.

The Contractor shall procure and maintain, during the life of this Contract, Workmen's Compensation Insurance for all of his employees to be engaged in work under this Contract, and he shall require any subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work, unless such employees are covered by the protection afforded by the Contractor's insurance. In case any employees are to be engaged in hazardous work under this Contract, and are not protected under this Workmen's Compensation statute, the Contractor shall provide, and shall cause each subcontractor to provide, adequate coverage for the protection of such employees. It is acceptable to use a State-approved Workmen's Compensation Self-Insurance fund.

The Contractor shall take out and maintain during the life of this Contract, Public Liability and Property Damage and shall include Contractual Liability, Personal Injury, Libel, Slander, False Arrest, Malicious Prosecution, Wrongful Entry or Eviction, Broad Form Property Damage, Products, Completed Operations and XCU Coverage to be included on an occurrence basis, and to the full extent of the Contract to protect him, the Owner, and any subcontractor performing work covered by this Contract from damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under this contract, whether such operations be by himself or by a subcontractor, or by anyone directly or indirectly employed by either of them. The Contractor shall also maintain automobile liability insurance including "non-owned and hired" coverage. The entire cost of this insurance shall be borne by the Contractor.

The amount of such insurance shall be no less than \$1,000,000 annual aggregate for bodily injury and property damage combined per occurrence.

The City of Naples must be named as **Additional Insured** on the insurance certificate **and the following must also be stated on the certificate.** "These coverage's are primary to all other coverage's the City possesses for this contract only." The City of Naples shall be named as the Certificate Holder. **The Certificate Holder shall read as follows:**

**The City of Naples  
735 Eighth Street South  
Naples, Florida 34102**

No City Division, Department, or individual name should appear on the Certificate.  
No other format will be acceptable.

The Certificate must state the bid number and title.

When using the "Accord"- 25 Certificate of Insurance only the most current version will be accepted.

The City of Naples requires a copy of a cancellation notice in the event the policy is cancelled. The City of Naples shall be expressly endorsed onto the policy as a cancellation notice recipient must be deleted: "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company"

*[If other insurance or insurance requirements or any waivers, attach as Exhibit C-1 through C-\_\_]*

**END OF EXHIBIT C**

Rev. 8/13/08

**EXHIBIT D**

**CERTIFICATION OF COMPLIANCE WITH IMMIGRATION LAWS**

The undersigned, is the President of the \_\_\_\_\_ **F.J. Nugent & Associates, Inc**  
("the CONTRACTOR"), and hereby certifies to the following:

1. The CONTRACTOR is in full compliance with all provisions of the Immigration Reform and Control Act of 1986 ("IRCA"), as well as all related immigration laws, rules, regulations pertaining to proper employee work authorization in the United States.

2. The undersigned has verified that the CONTRACTOR has obtained and maintains on file, and will continue to obtain and maintain on file, all documentation required by law, including but not limited to, Form I-9, Employment Eligibility Verification, for all persons employed by or working for the CONTRACTOR in any capacity on any project for the City of Naples (CITY). All such persons have provided evidence of identity and eligibility to work to the CONTRACTOR in accordance with the IRCA and related law. The undersigned hereby affirms that no person has been or will be employed by the CONTRACTOR to work on projects for the CITY who is not authorized to work under law. The undersigned further affirms that the CONTRACTOR's files will be updated by written notice any time that additional employees work on projects for the CITY.

3. The CONTRACTOR will have its contractors, subcontractors, suppliers and vendors who are involved in projects for the CITY to sign a written acknowledgment that they too are in compliance with immigration law. It is understood that failure to do so could result in the CONTRACTOR being liable for any violation of the law by such third parties.


4. The CONTRACTOR will fully cooperate with and have its contractors, subcontractors, suppliers and vendors to fully cooperate with, all inquiries and investigations conducted by any governmental agency in connection with proper compliance with the laws pertaining to appropriate work authorization in the United States.

5. The undersigned, on behalf of the CONTRACTOR, acknowledges that this Certification may be relied upon by the CITY, its officers, directors, employees, and affiliates or related persons and entities.

6. If it is found that the CONTRACTOR has not complied with the laws pertaining to proper employment authorization, and any legal and administrative action ensues against the CITY, the CONTRACTOR will indemnify, defend and hold the CITY harmless along with their officers, directors, employees, and affiliated or related persons and entities.

7. The CONTRACTOR acknowledges that the CITY by their authorized representatives shall have the right, at any time, upon 24 hours notice, to examine the CONTRACTOR's books and records to confirm that the CONTRACTOR is in compliance with the terms of this certification.

Executed this 2 day of May, 2012.

By:  F.J. Nugent, President



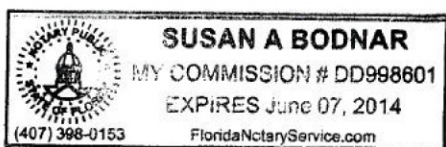
**ACKNOWLEDGMENT**

STATE OF FLORIDA

COUNTY OF Seminole

SWORN TO AND SUBSCRIBED before me this 2<sup>ND</sup> day of May, 2012.

The Affiant, TRED Nugent, is [] personally known to me or [] has produced \_\_\_\_\_ as identification, which is current or has been issued within the past five years and bears a serial number of other identifying number.



Susan A. Bodnar  
Print Name:

Susan A. Bodnar  
NOTARY PUBLIC - STATE

OF FLORIDA

Commission Number: DD998601

My Commission Expires: 6/7/14

(Notary Seal)