

CITY OF NAPLES, FLORIDA

AGREEMENT (PROFESSIONAL SERVICES)

Bid/Proposal No. 032-12

Contract No. _____

Project Name Pump Station Control Panels

THIS AGREEMENT (the "Agreement") is made and entered into this **2nd Day of May, 2012** by and between the **City of Naples**, a Florida municipal corporation, (the "CITY") and **Mader Electric Motors**, A Florida corporation, **18161 Tamiami Trail North, North Fort Myers, Florida 33903**, (the "CONTRACTOR").

WITNESSETH:

WHEREAS, the CITY desires to obtain the services of the CONTRACTOR concerning certain services specified in this Agreement (referred to as the "Project"); and

WHEREAS, the CONTRACTOR has submitted a proposal for provision of those services; and

WHEREAS, the CONTRACTOR represents that it has expertise in the type of professional services that will be required for the Project.

NOW, THEREFORE, in consideration of the mutual covenants and provisions contained herein, the parties hereto agree as follows:

ARTICLE ONE CONTRACTOR'S RESPONSIBILITY

1.1. The Services to be performed by CONTRACTOR are generally described as purchase of **pump station control panels for the sanitary sewer collections system**, and may be more fully described in the Scope of Services, attached as **Exhibit A** and made a part of this Agreement.

1.2. The CONTRACTOR agrees to obtain and maintain throughout the period of this Agreement all such licenses as are required to do business in the State of Florida, the City of Naples, and in Collier County, Florida, including, but not limited to, all licenses required by the respective state boards and other governmental agencies responsible for regulating and licensing the professional services to be provided and performed by the CONTRACTOR pursuant to this Agreement.

1.3. The CONTRACTOR agrees that, when the services to be provided hereunder relate to a professional service which, under Florida Statutes, requires a license, certificate of authorization or other form of legal entitlement to practice such services, it shall employ or retain only qualified personnel to provide such services.

1.4. CONTRACTOR agrees to employ and designate, in writing, within 5 calendar days after receiving its Notice to Proceed, or other directive from the CITY, a qualified licensed professional to serve as the CONTRACTOR's project manager (the "Project Manager"). The Project Manager shall be authorized and responsible to act on behalf of the CONTRACTOR with respect to directing, coordinating and administering all aspects of the services to be provided and performed under this Agreement.

1.5. The CONTRACTOR has represented to the CITY that it has expertise in the type of professional services that will be required for the Project. The CONTRACTOR agrees that all services to be provided by CONTRACTOR pursuant to this Agreement shall be subject to the CITY's review and approval and shall be in accordance with the generally accepted standards of professional practice in the State of Florida, as may be applied to the type of services to be rendered, as well as in accordance with all published laws, statutes, ordinances, codes, rules, regulations and requirements of any governmental agencies which regulate or have jurisdiction over the Project or the services to be provided and performed by CONTRACTOR. In the event of any conflicts in these requirements, the CONTRACTOR shall notify the CITY of such conflict and utilize its best professional judgment to advise CITY regarding resolution of the conflict.

1.6. The CONTRACTOR agrees not to divulge, furnish or make available to any third person, firm or organization, without CITY's prior written consent, or unless incident to the proper performance of the CONTRACTOR's obligations hereunder, or in the course of judicial or legislative proceedings where such information has been properly subpoenaed, any non-public information concerning the services to be rendered by CONTRACTOR hereunder, and CONTRACTOR shall require all of its employees, agents, subconsultants and subcontractors to comply with the provisions of this paragraph. However, the CONTRACTOR shall comply with the Florida Public Records laws.

1.7. The CONTRACTOR agrees not to employ or offer to employ any Elected Officer or City Managerial Employee of the CITY who in any way deals with, coordinates on, or assists with, the professional services provided in this Agreement, for a period of 2 years after termination of all provisions of this Agreement. For purposes of this paragraph, the term "Elected Officer" shall mean any member of the City Council. For purposes of this paragraph, the term "City Managerial Employee" shall mean the City Manager, the Assistant City Manager, the City Clerk, and any City department head or director. If the CONTRACTOR violates the provisions of this paragraph, the CONTRACTOR shall be required to pay damages to the CITY in an amount equal to any and all compensation which is received by the former Elected Officer or City Managerial Employee of the CITY from or on behalf of the contracting person or entity, or an amount equal to the former Elected Officer's or City Managerial Employee's last 2 years of gross compensation from the CITY, whichever is greater.

1.8. The CONTRACTOR agrees not to provide services for compensation to any other party other than the CITY on the same subject matter, same project, or scope of services as set forth in this Agreement without approval from the City Council of the CITY.

1.9. Except as otherwise provided in this Agreement, the CONTRACTOR agrees not to disclose or use any information not available to members of the general public and gained by reason of the CONTRACTOR's contractual relationship with the CITY for the special gain or benefit of the CONTRACTOR or for the special gain or benefit of any other person or entity.

ARTICLE TWO CITY'S RESPONSIBILITIES

2.1. The CITY shall designate in writing a project coordinator to act as the CITY's representative with respect to the services to be rendered under this Agreement (the "Project Coordinator"). The Project Coordinator shall have authority to transmit instructions, receive information, interpret and define the CITY's policies and decisions with respect to the CONTRACTOR's services for the Project. However, the Project Coordinator is not authorized to issue any verbal or written orders or instructions to the CONTRACTOR that would have the effect, or be interpreted to have the effect, of modifying or changing in any way whatever:

- (a) The scope of services to be provided and performed by the CONTRACTOR;
- (b) The time the CONTRACTOR is obligated to commence and complete all such services; or
- (c) The amount of compensation the CITY is obligated or committed to pay the CONTRACTOR.

Any such modifications or changes ((a) (b) or (c)) shall only be made by or upon the authorization of the CITY's city manager as authorized by city council in the enabling legislation or in the CITY's procurement policies.

2.2. The Project Coordinator shall:

(a) Review and make appropriate recommendations on all requests submitted by the CONTRACTOR for payment for services and work provided and performed in accordance with this Agreement;

(b) Arrange for access to and make all provisions for the CONTRACTOR to enter the Project site to perform the services to be provided by the CONTRACTOR under this Agreement; and

(c) Provide notice to the CONTRACTOR of any deficiencies or defects discovered by the CITY with respect to the services to be rendered by the CONTRACTOR hereunder.

2.3. The CONTRACTOR acknowledges that access to the Project Site, to be arranged by the CITY for the CONTRACTOR, may be provided during times that are not the normal business hours of the CONTRACTOR.

ARTICLE THREE TIME

3.1. Services to be rendered by the CONTRACTOR shall be commenced subsequent to the execution of this Agreement upon written Notice to Proceed from the CITY for all or any designated portion of the Project must be completed **before May 2, 2013 with the option to renew for two one-year renewal periods.**

3.2. Should the CONTRACTOR be obstructed or delayed in the prosecution or completion of its services as a result of unforeseeable causes beyond the control of the CONTRACTOR, and not due to its own fault or neglect, including but not restricted to acts of God or of public enemy, acts of government or of the CITY, fires, floods, epidemics, quarantine regulations, strikes or lock-outs, then the CONTRACTOR shall notify the CITY in writing within 5 working days after commencement of such delay, stating the cause or causes thereof, or be deemed to have waived any right which the CONTRACTOR may have had to request a time extension.

3.3. No interruption, interference, inefficiency, suspension or delay in the commencement or progress of the CONTRACTOR's services from any cause whatsoever, including those for which the CITY may be responsible in whole or in part, shall relieve the CONTRACTOR of its duty to perform or give rise to any right to damages or additional compensation from the CITY. The CONTRACTOR's sole remedy against the CITY will be the right to seek an extension of time to its schedule. This paragraph shall expressly apply to claims for early completion, as well as claims based on late completion.

3.4. Should the CONTRACTOR fail to commence, provide, perform or complete any of the services to be provided hereunder in a timely and reasonable manner, in addition to any other rights or remedies available to the CITY hereunder, the CITY at its sole discretion and option may withhold any and all payments due and owing to the CONTRACTOR until such time as the CONTRACTOR resumes performance of its obligations hereunder in such a manner so as to reasonably establish to the CITY's satisfaction that the CONTRACTOR's performance is or will shortly be back on schedule.

ARTICLE FOUR COMPENSATION

4.1. The total compensation to be paid the CONTRACTOR by the CITY for all Services shall not exceed **\$160,000** and shall be paid in the manner set forth in the "Basis of Compensation", which is attached as **Exhibit B** and made a part of this Agreement.

**ARTICLE FIVE
MAINTENANCE OF RECORDS**

5.1. The CONTRACTOR will keep adequate records and supporting documentation which concern or reflect its services hereunder. The records and documentation will be retained by the CONTRACTOR for a minimum of five 5 years from the date of termination of this Agreement or the date the Project is completed, whichever is later. The CITY, or any duly authorized agents or representatives of the CITY, shall have the right to audit, inspect and copy all such records and documentation as often as they deem necessary during the period of this Agreement and during the 5 year period noted above; provided, however, such activity shall be conducted only during normal business hours. If the CONTRACTOR desires to destroy records prior to the minimum period, it shall first obtain permission from the CITY in accordance with the Florida Public Records laws.

**ARTICLE SIX
INDEMNIFICATION**

6.1. The CONTRACTOR agrees to indemnify and hold harmless the City from liabilities, damages, losses and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the CONTRACTOR and persons employer or utilized by the CONTRACTOR in the performance of the Contract.

**ARTICLE SEVEN
INSURANCE**

7.1. CONTRACTOR shall obtain and carry, at all times during its performance under this Agreement, insurance of the types and in the amounts set forth in the document titled General Insurance Requirements, which is attached as Exhibit C and made a part of this Agreement.

**ARTICLE EIGHT
SERVICES BY CONTRACTOR'S OWN STAFF**

8.1. The services to be performed hereunder shall be performed by the CONTRACTOR's own staff, unless otherwise authorized in writing by the CITY. The employment of, contract with, or use of the services of any other person or firm by the CONTRACTOR, as independent contractor or otherwise, shall be subject to the prior written approval of the CITY. No provision of this Agreement shall, however, be construed as constituting an agreement between the CITY and any such other person or firm. Nor shall anything contained in this Agreement be deemed to give any such party or any third party any claim or right of action against the CITY beyond such as may otherwise exist without regard to this Agreement.

**ARTICLE NINE
WAIVER OF CLAIMS**

9.1. The CONTRACTOR's acceptance of final payment shall constitute a full waiver of any and all claims, except for insurance company subrogation claims, by it against the CITY arising out of this Agreement or otherwise related to the Project, except those previously made in writing and identified by the CONTRACTOR as unsettled at the time of the final payment. Neither the acceptance of the CONTRACTOR's services nor payment by the CITY shall be deemed to be a waiver of any of the CITY's rights against the CONTRACTOR.

**ARTICLE TEN
TERMINATION OR SUSPENSION**

10.1. The CONTRACTOR shall be considered in material default of this Agreement and such default will be considered cause for the CITY to terminate this Agreement, in whole or in part, as further set forth in this section,

for any of the following reasons: (a) failure to begin work under the Agreement within the times specified under the Notice(s) to Proceed, or (b) failure to properly and timely perform the services to be provided hereunder or as directed by the CITY, or (c) the bankruptcy or insolvency or a general assignment for the benefit of creditors by the CONTRACTOR or by any of the CONTRACTOR's principals, officers or directors, or (d) failure to obey laws, ordinances, regulations or other codes of conduct, or (e) failure to perform or abide by the terms or spirit of this Agreement, or (f) for any other just cause. The CITY may so terminate this Agreement, in whole or in part, by giving the CONTRACTOR at least 3 calendar days' written notice.

10.2. If, after notice of termination of this Agreement as provided for in paragraph 10.1 above, it is determined for any reason that the CONTRACTOR was not in default, or that its default was excusable, or that the CITY otherwise was not entitled to the remedy against the CONTRACTOR provided for in paragraph 10.1, then the notice of termination given pursuant to paragraph 10.1 shall be deemed to be the notice of termination provided for in paragraph 10.3 below and the CONTRACTOR's remedies against the CITY shall be the same as and limited to those afforded the CONTRACTOR under paragraph 10.3 below.

10.3. The CITY shall have the right to terminate this Agreement, in whole or in part, without cause upon 7 calendar day's written notice to the CONTRACTOR. In the event of such termination for convenience, the CONTRACTOR's recovery against the CITY shall be limited to that portion of the fee earned through the date of termination, together with any retainage withheld and any costs reasonably incurred by the CONTRACTOR that are directly attributable to the termination, but the CONTRACTOR shall not be entitled to any other or further recovery against the CITY, including, but not limited to, anticipated fees or profits on work not required to be performed.

ARTICLE ELEVEN CONFLICT OF INTEREST

11.1. The CONTRACTOR represents that it presently has no interest and shall acquire no interest, either direct or indirect, which would conflict in any manner with the performance of services required hereunder. The CONTRACTOR further represents that no persons having any such interest shall be employed to perform those services.

ARTICLE TWELVE MODIFICATION

12.1. No modification or change in this Agreement shall be valid or binding upon the parties unless in writing and executed by the party or parties intended to be bound by it.

ARTICLE THIRTEEN NOTICES AND ADDRESS OF RECORD

13.1. All notices required or made pursuant to this Agreement to be given by the CONTRACTOR to the CITY shall be in writing and shall be delivered by hand or by United States Postal Service Department, first class mail service, postage prepaid, return receipt requested, addressed to the following CITY's address of record:

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

13.2. All notices required or made pursuant to this Agreement to be given by the CITY to the CONTRACTOR shall be made in writing and shall be delivered by hand or by the United States Postal Service Department, first class mail service, postage prepaid, return receipt requested, addressed to the following CONTRACTOR's address of record:

**Mader Electric Motors
18161 Tamiami Trail North
North Fort Myers, FL 33903
Attn: Jeremy Mader, Vice President**

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

**ARTICLE FOURTEEN
MISCELLANEOUS**

14.1. The CONTRACTOR, in representing the CITY, shall promote the best interest of the CITY and assume towards the CITY a duty of the highest trust, confidence, and fair dealing.

14.2. No modification, waiver, suspension or termination of the Agreement or of any terms thereof shall impair the rights or liabilities of either party.

14.3. This Agreement is not assignable, in whole or in part, by the CONTRACTOR without the prior written consent of the CITY.

14.4. Waiver by either party of a breach of any provision of this Agreement shall not be deemed to be a waiver of any other breach and shall not be construed to be a modification of the terms of this Agreement.

14.5. The headings of the Articles, Exhibits, Parts and Attachments as contained in this Agreement are for the purpose of convenience only and shall not be deemed to expand, limit or change the provisions in such Articles, Exhibits, Parts and Attachments.

14.6. This Agreement constitutes the entire agreement between the parties hereto and shall supersede, replace and nullify any and all prior agreements or understandings, written or oral, relating to the matter set forth herein, and any such prior agreements or understanding shall have no force or effect whatever on this Agreement.

Sec. 14. 7. The CONTRACTOR shall comply fully with all provisions of state and federal law, including without limitation all provisions of the Immigration Reform and Control Act of 1986 ("IRCA") as amended, as well as all related immigration laws, rules, and regulations pertaining to proper employee work authorization in the United States. The CONTRACTOR shall execute the Certification of Compliance with Immigration Laws, attached hereto as **Exhibit "D"**.

**ARTICLE FIFTEEN
APPLICABLE LAW**

15.1. Unless otherwise specified, this Agreement shall be governed by the laws, rules, and regulations of the State of Florida, and by the laws, rules and regulations of the United States when providing services funded by the United States government. Any suit or action brought by either party to this Agreement against the other party relating to or arising out of this Agreement must be brought in the appropriate Florida state court in Collier County, Florida.

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

ATTEST:

CITY:

CITY OF NAPLES, FLORIDA,
A Municipal Corporation

By: _____
Tara A. Norman, City Clerk

By: _____
A. William Moss, City Manager

Approved as to form
and legal sufficiency:

By: _____
Robert D. Pritt, City Attorney

CONTRACTOR:
Mader Electrical Motors
A Florida Corporation

By: _____
Its _____

Witness

(CORPORATE SEAL)

General Contract (not Architects/Engineers)

EXHIBIT A

SCOPE OF SERVICES

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, 60Hz, 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.

TECHNICAL INFORMATION/DOCUMENTATION REQUIRED UPON AWARD

1. Upon award of each unit, the bidder/manufacturer 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 have a servicing office within the Collier or Lee County boundaries and shall provide an address for that office. 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.

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

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.

EXHIBIT B

BASIS OF COMPENSATION

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>35</u> Days ARO	\$ <u>8,700.00</u>
2.	One (1) Duplex Pump Station Control Panel as Specified herein for 3HP 230V. Delivery of Unit <u>35</u> Days ARO	\$ <u>9,500.00</u>
3.	One (1) Duplex Pump Station Control Panel as Specified herein for 5HP 230V. Delivery of Unit <u>35</u> Days ARO	\$ <u>9,750.00</u>
4.	One (1) Duplex Pump Station Control Panel as Specified herein for 7.5 HP 230V. Delivery of Unit <u>35</u> Days ARO	\$ <u>10,100.00</u>
5.	One (1) Duplex Pump Station Control Panel as Specified herein for 10HP 230V. Delivery of Unit <u>35</u> Days ARO	\$ <u>10,300.00</u>
6.	One (1) Duplex Pump Station Control Panel as Specified herein for 15 HP 230V. Delivery of Unit <u>35</u> Days ARO	\$ <u>12,300.00</u>
7.	One (1) Duplex Pump Station Control Panel as Specified herein for 20HP 230V. Delivery of Unit <u>35</u> Days ARO	\$ <u>13,500.00</u>

8. One (1) Duplex Pump Station Control Panel as Specified herein for 10HP 480V. \$ 12,600.⁰⁰
 Delivery of Unit 35 Days ARO
9. One (1) Duplex Pump Station Control Panel as Specified herein for 15HP 480V. \$ 13,100.⁰⁰
 Delivery of Unit 35 Days ARO
10. One (1) Duplex Pump Station Control Panel as Specified herein for 20HP 480V. \$ 13,600.⁰⁰
 Delivery of Unit 35 Days ARO
11. One (1) Duplex Pump Station Control Panel as Specified herein for 30HP 480V. \$ 17,400.⁰⁰
 Delivery of Unit 35 Days ARO
12. One (1) Duplex Pump Station Control Panel as Specified herein for 35HP 480V. \$ 16,500.⁰⁰
 Delivery of Unit 35 Days ARO
13. One (1) Duplex Pump Station Control Panel as Specified herein for 47HP 480V. \$ 18,550.⁰⁰
 Delivery of Unit 35 Days ARO
14. One (1) Triplex Pump Station Control Panel as Specified herein for 20HP 480V. \$ 19,000.⁰⁰
 Delivery of Unit 35 Days ARO
15. One (1) Triplex Pump Station Control Panel as Specified herein for 50HP 480V. \$ 26,000.⁰⁰
 Delivery of Unit 35 Days ARO
- GRAND TOTAL** \$ 210,900.⁰⁰

LOCAL SERVICE Area for REPAIR

Address: Mader Electric Motors
18161 N. Tamiami Tr.
N. Ft. Myers, FL. 33903

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. *Not required with bid per addendum #1, item 10.*

PUMP STATION CONTROL PANEL SPECIFICATIONS

JTY DETAILS:

tion

- Limerock Road & Open Terrain
- Paved Roadways
- Paved Backfill
- Rock No. 1
- Rock No. 2
- Encasement
- ver
- Conflict Crossing
- Schedule
- Stone Detail
- Horizontal Directional Drill Under A Roadway
- Subaqueous Horizontal Directional Drill
- out Main Valve Vault
- In-Line Valve (Water/Sewer/Rense)
- and Detail
- nition Control No. 1
- nition Control No. 2
- nition
- ocal Street 60' Roadway
- Minor Collector 80' Roadway
- Major Collector 100' Roadway
- Major Collector 100' Divided Highway
- Major Collector 120' Divided Highway
- Divided Arterial 120' Divided Roadway
- 0' Right of Way)
- 0' Right of Way)
- out 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 Combustion Fire & Domestic Meter Assembly
- W-04 4" and Larger Combustion Fire & Domestic Meter Assembly
- W-05 Temporary Backflow Preventers & Construction Tie-In Assembly
- W-06 Temporary Water Service - Hottap & Jumper Meter Connection
- W-07 Temporary Water Service - Fire Hydrant Connection
- W-08 Fire System Detector Check Assembly
- W-09 2" & 3" Fire System Detector Check Assembly w/o FH Downstream
- 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 Temporary Blowoff Hydrant
- W-16 Air Release Valve Detail (Potable Water)
- W-17 Main Ending & Sample Station
- W-18 Meter Series (All.) Fire System Detector Check
- W-19 3" to 2" Pressure Vacuum Breaker
- W-20 3" & Larger Pipe Support Detail
- W-21 Automatic Water Main Flushing Device
- 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 Manhole Cut-In
- WW-08 Drop Manhole
- WW-09 Standard Manhole Cover
- WW-10 Manholes at Line Intersections
- WW-11 Air Release Valve (Sanitary)
- WW-12 Grease Interceptor
- WW-13 Typical Residential Sanitary Disposal System
- WW-14 Private RM 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 Sub00Details
- 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

(/ DETAILS:

tion

- ating Detail Irrigation or Reclaimed
- use Valve (Reclaimed Water)
- Pressure Reducing Valve 3" & Larger-Irrigation or
- ad
-) for Reclaimed & Irrigation Water

WASTEWATER UTILITY DETAILS:

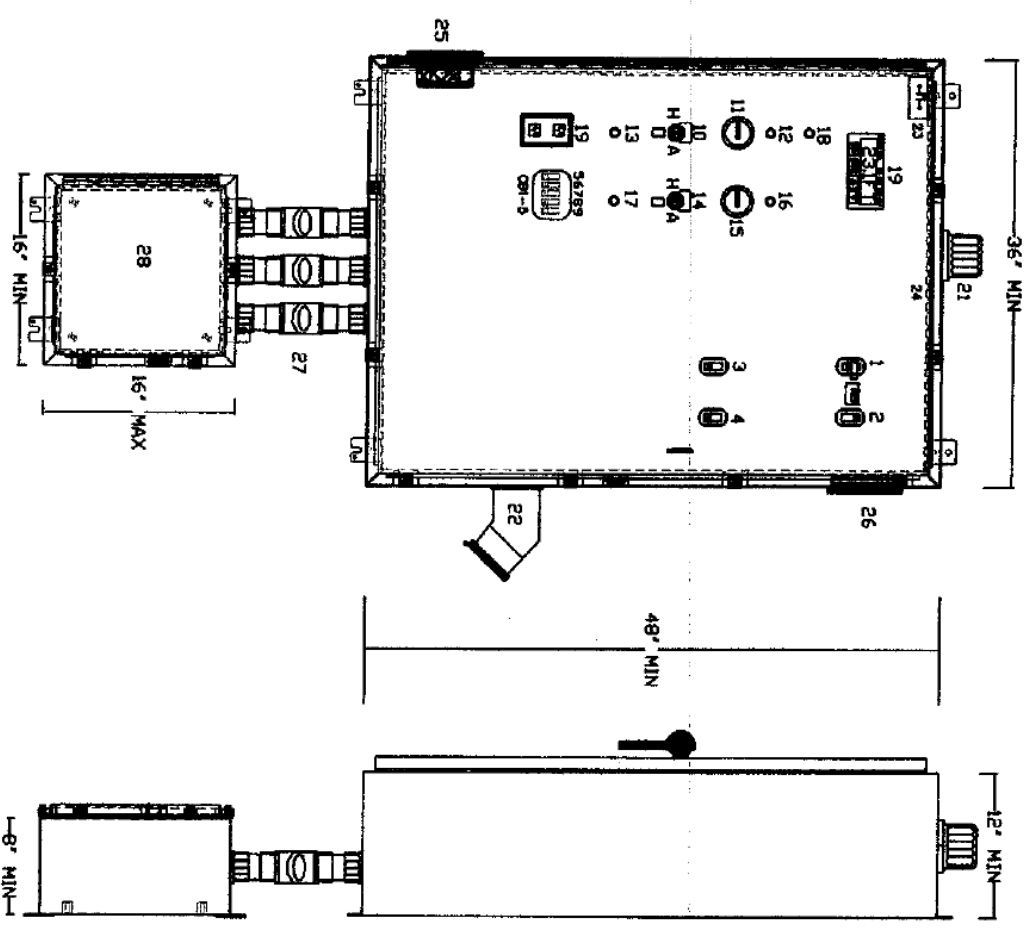
Detail No. Description


- 220 VAC - 3 PH: 20HP & BELOW DUPEX CONTROL PANEL
- WW-23 Duplex Pump Control Panel Typical Dead Front Panel (230VAC/3PH: <=20HP)
- WW-24 Duplex Pump Control Panel Typical Back Plate (230VAC/3PH: <=20HP)
- WW-25 Duplex Pump Control Panel Power/Control Wiring Layout1 (230VAC/3PH: <=20HP)
- WW-26 Duplex Pump Control Panel Power/Control Wiring Layout2 (230VAC/3PH: <=20HP)
- WW-27 Duplex Pump Control Panel RTU Interface Terminal Detail (230VAC/3PH: <=20HP)
- WW-28 Duplex Pump Control J-Box Backplate Layout (230VAC/3PH: <=20HP)
- WW-29 Duplex Pump Control Schedule of Materials (230VAC/3PH: <=20HP)
- WW-30 Duplex Pump Control Panel Notes (230VAC/3PH: <=20HP)
- WW-31 Duplex Pump Control Panel Labeling Details (230VAC/3PH: <=20HP)
- 460 VAC - 3 PH: DUPEX CONTROL PANEL
- WW-32 Duplex Pump Control Panel Typical Dead Front Panel (460VAC/3PH)
- WW-33 Duplex Pump Control Panel Typical Back Plate (460VAC/3PH)
- WW-34 Duplex Pump Control Panel Power/Control Wiring Layout1 (460VAC/3PH)
- WW-35 Duplex Pump Control Panel Power/Control Wiring Layout2 (460VAC/3PH)
- WW-36 Duplex Pump Control Panel RTU Interface Terminal Detail (460VAC/3PH)
- WW-37 Duplex Pump Control J-Box Backplate Layout (460VAC/3PH)
- WW-38 Duplex Pump Control Schedule of Materials (460VAC/3PH)
- WW-39 Duplex Pump Control Panel Notes (460VAC/3PH)
- WW-40 Duplex Pump Control Panel Labeling Details (460VAC/3PH)
- 220 VAC - 1 PH: DUPEX CONTROL PANEL
- WW-41 Duplex Pump Control Panel Typical Dead Front Panel (220VAC/1PH)
- WW-42 Duplex Pump Control Panel Typical Back Plate (220VAC/1PH)
- WW-43 Duplex Pump Control Panel Power/Control Wiring Layout1 (220VAC/1PH)
- WW-44 Duplex Pump Control Panel Power/Control Wiring Layout2 (220VAC/1PH)
- WW-45 Duplex Pump Control Panel RTU Interface Terminal Detail (220VAC/1PH)
- WW-46 Duplex Pump Control J-Box Backplate Layout (220VAC/1PH)
- WW-47 Duplex Pump Control Schedule of Materials (220VAC/1PH)
- WW-48 Duplex Pump Control Panel Notes (220VAC/1PH)
- WW-49 Duplex Pump Control Panel Labeling Details (220VAC/1PH)
- 460 VAC - 3 PH: TRIPLEX CONTROL PANEL
- WW-50 Triplex Pump Control Panel Typical Dead Front Panel (460VAC/3PH)
- WW-51 Triplex Pump Control Panel Typical Back Plate (460VAC/3PH)
- WW-52 Triplex Pump Control Panel Power Wiring Layout (460VAC/3PH)
- WW-53 Triplex Pump Control Panel Control Wiring Layout1 (460VAC/3PH)
- WW-54 Triplex Pump Control Panel Control Wiring Layout2 (460VAC/3PH)
- WW-55 Triplex Pump Control Panel RTU Interface Terminal Detail (460VAC/3PH)
- WW-56 Triplex Pump Control J-Box Backplate Layout (460VAC/3PH)
- WW-57 Triplex Pump Control Schedule of Materials (460VAC/3PH)
- WW-58 Triplex Pump Control Panel Notes (460VAC/3PH)
- WW-59 Triplex Pump Control Panel Labeling Details (460VAC/3PH)

FOR: DATE: 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 PUMP STATION CONTROL PANEL SPECIFICATIONS

- 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/SUBMERSTIBLE TRANSDUCER
- 21 - EXTERNAL ALARM LIGHT
- 22 - GENERATOR RECEPTACLE
- 23 - PANEL INTRUSION ALARM SWITCH
- 24 - PANEL CONVENIENCE LIGHT BAR
- 25 - COOLING FAN PACKAGE




 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.

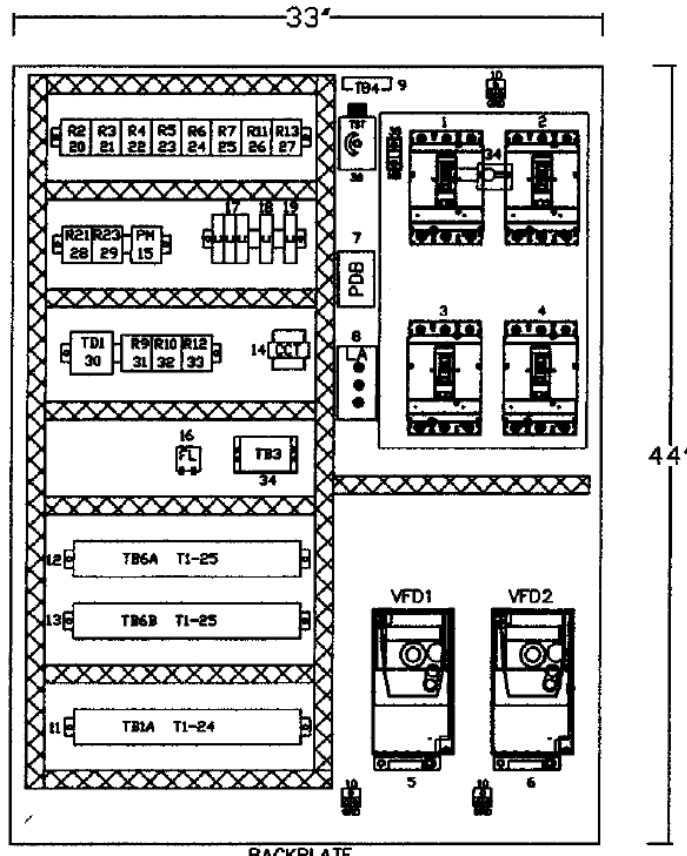
- KEY NOTES:**
- * OUTER DOOR HAS BEEN REMOVED FOR CLARITY
 - * PANEL ENCLOSURE SIZE SHALL BE DETERMINED BY PROPER SPACING & CODE REQUIREMENTS OF ALL SPECIFIED COMPONENTS TO BE INSTALLED. CONFIGURATION MAY VARY, FOR A TYPICAL 10 HP, 450 VAC, 3 PH PANEL, MAINTAINING A 1.5" SEPARATION BETWEEN COMPONENTS & 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 CLEARLY 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.

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

THIS PANEL COMPLETED BASED ON SPECIFICATIONS, WHICH MAY BE SUBJECT TO CHANGE WITHOUT NOTICE.

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

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



BACKPLATE

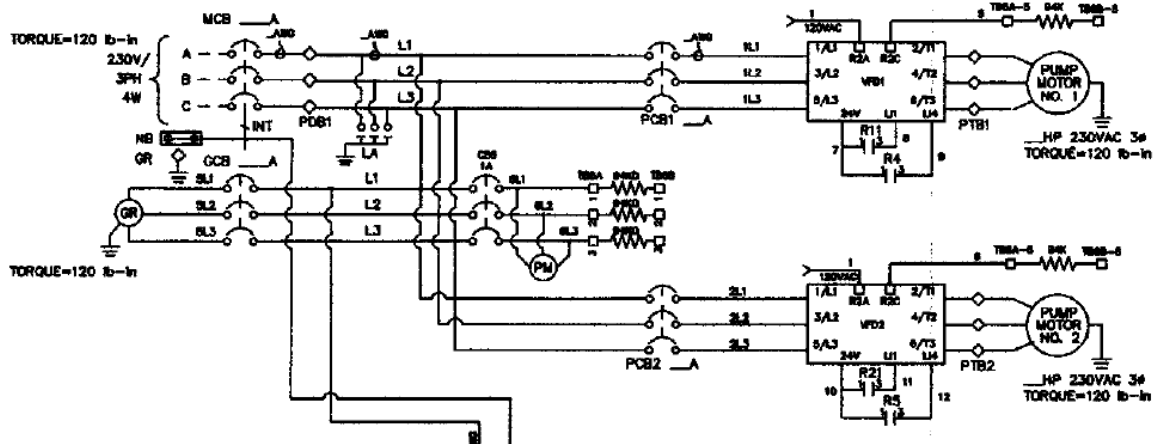
- | | | | |
|-----------|---|-----------|--|
| 1 - MCB | - MAIN CIRCUIT BREAKER | 20 - R2 | - P-1 CALL (CONTROLLER) RELAY (110V, 8PIN) |
| 2 - GCB | - GENERATOR CIRCUIT BREAKER | 21 - R3 | - P-2 CALL (CONTROLLER) RELAY (110V, 8PIN) |
| 3 - PCB1 | - P-1 MOTOR CIRCUIT BREAKER | 22 - R4 | - VFD#1 RESET 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.

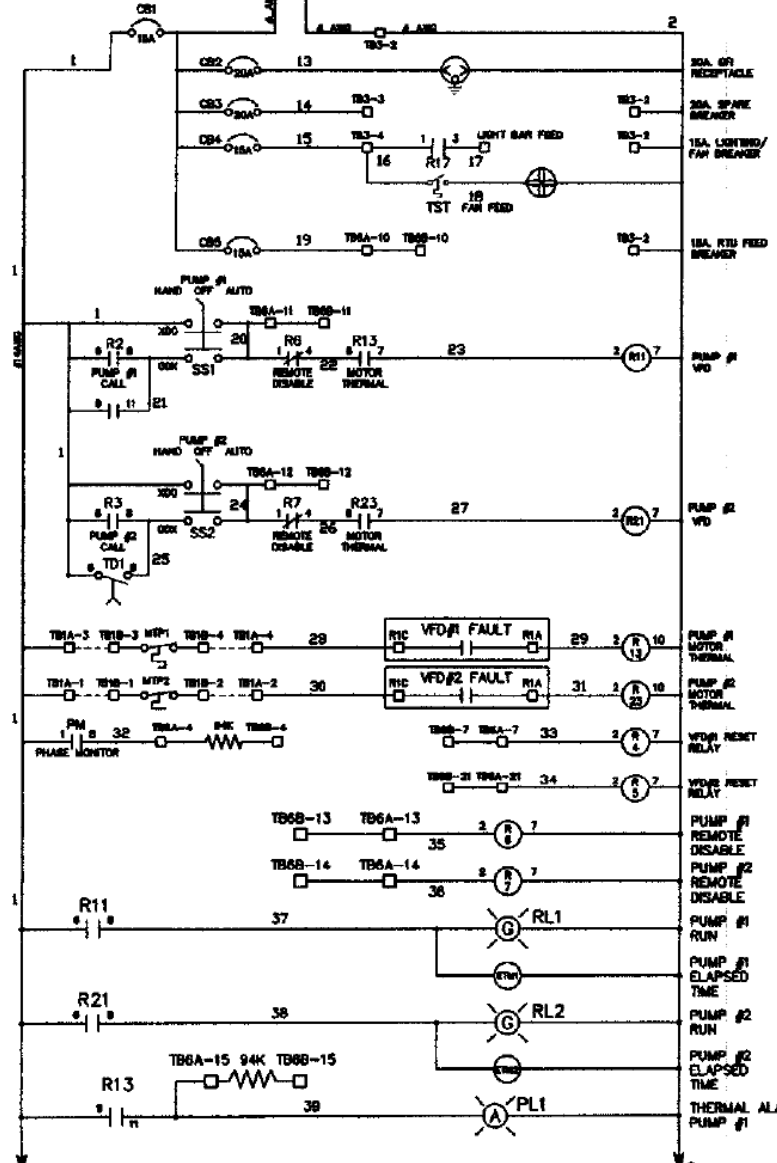
20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY

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 PUMP STATION CONTROL PANEL SPECIFICATIONS



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

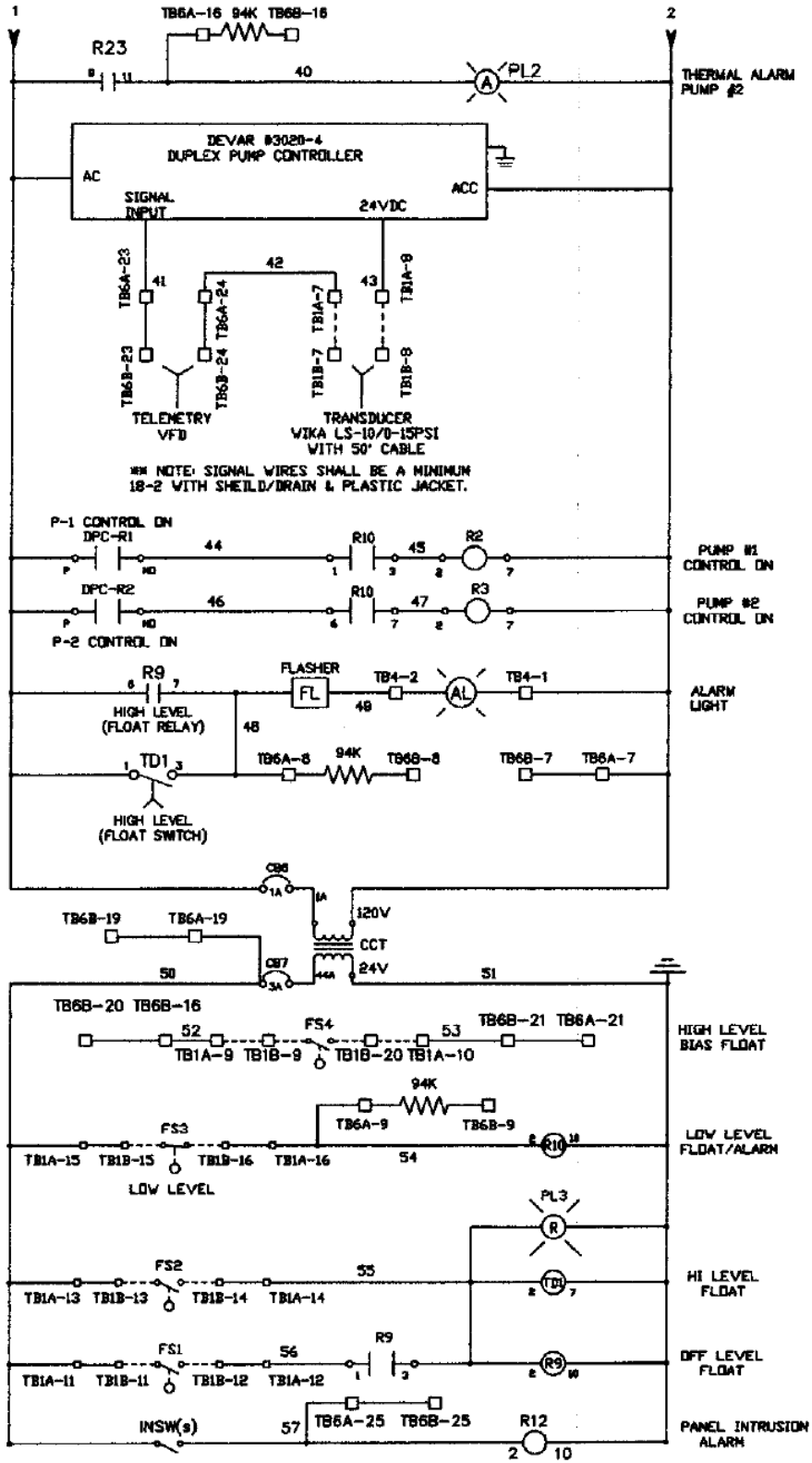


20HP & BELOW: 230VAC-3PH-4W-60HZ ONLY

THIS SYMBOL CONSTITUTES
NEITHER A WARNING,
NOR A NOTICE. IT SHALL
NOT BE USED UNLESS
IT IS CLEARLY IDENTIFIED
AS SUCH.

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

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



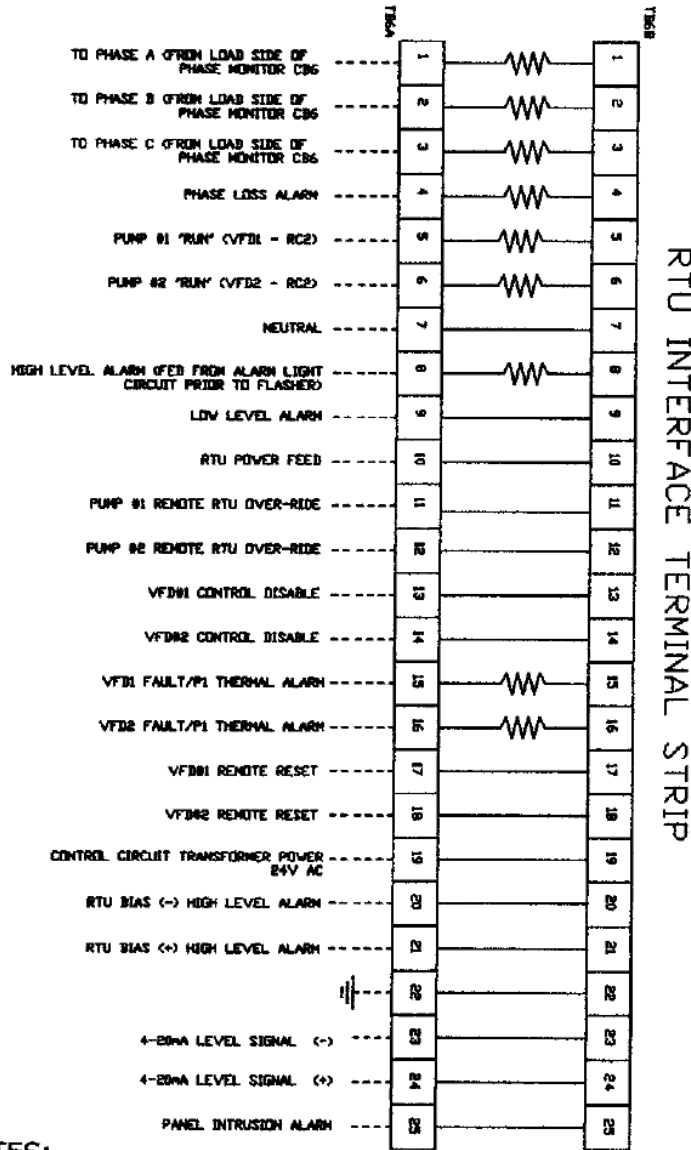
ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

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 PUMP STATION CONTROL PANEL SPECIFICATIONS



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

RTU INTERFACE TERMINAL STRIP

NOTES:

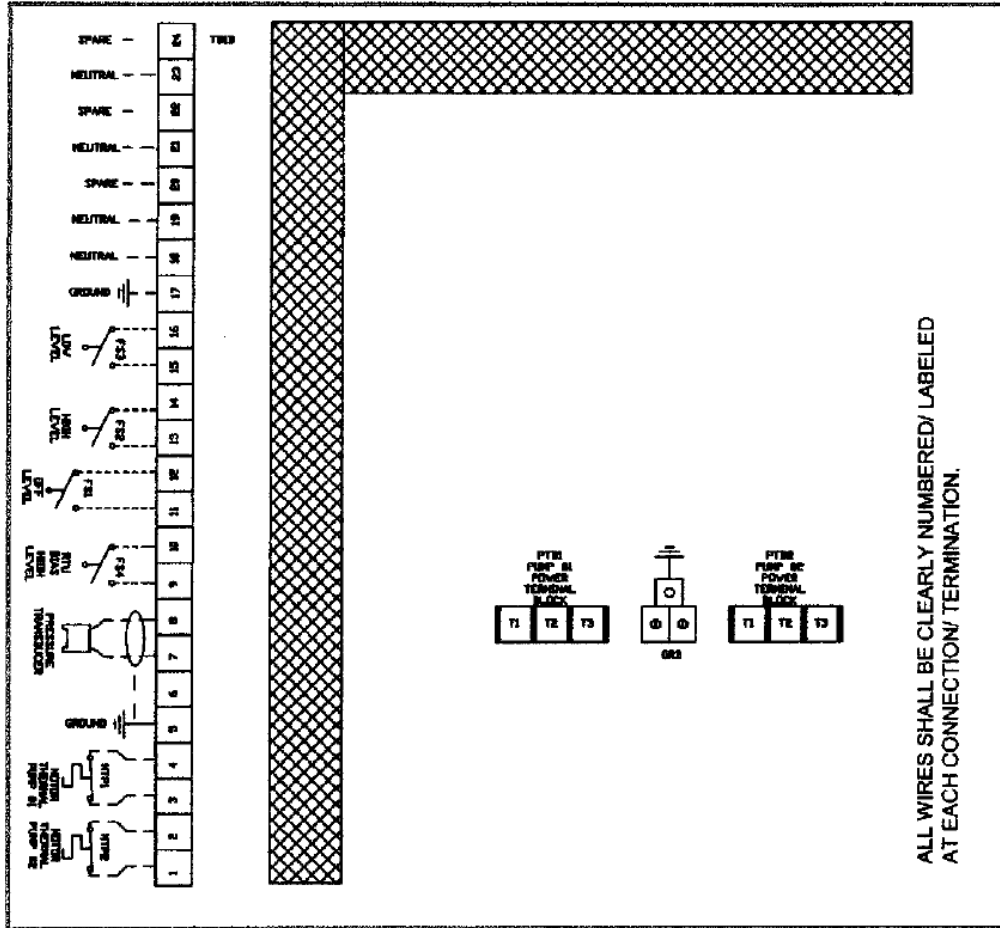
- 5A. TB6A & TB6B SHALL BE INSTALLED IN THE CONTROL PANEL AS DESCRIBED IN DRAWING "WW-24", WITH UN-OBSTRUCTED ACCESS AND A MINIMUM OF 1.5" SEPARATION FOR THE INSTALLATION OF THE RESISTORS AND JUMPER WIRES. THE 1.5" SEPARATION SHALL BE UNIFORM BETWEEN COMPONENTS AND WIREWAYS TO ALLOW ACCESS.
- 5B. ALL 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

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

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



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, AL/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	DUPLEX PUMP CONTROL PANEL	SHEET: WW-28
DRAWN: DAG	J-BOX BACKPLATE LAYOUT	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-28.DWG

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS

Part No	Qty	TAG LABEL	DESC
AAE-AE01L	8	R2,3,4,5,6,7,11,21	Control Relay 115 Vac 8 Pn. with lamp Indicator
AAE-A301L	3	R9,10,12	Control Relay 24 Vac 11 Pn. with lamp Indicator
AAE-A301L	2	R13,23	Control Relay 115 Vac 11 Pn. with lamp Indicator
FS127	1	FL	5sec Flasher 120 Vac, 90 FPM
PF083E	9	R2,3,4,5,6,7,11,21,101	8 Pn Round Relay Base
PF113A	5	R9,10,12,13,23	11 Pin Round Relay Base
CE1A-C10HAD24	1	T01	Time Delay Relay, adjustable, 24 Vac
PHPU-E-678 CCT2040	1	PM	Phase Monitor, 8 Pn 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-SKP39A9	2	PL1,2	SDD Pilot Light 120Vac Amber Lens Corrosion Resistant Plastic
9001-SKS43BH1	2	SSI,2	SDD 3 Pos. Selector SV. with Contacts on Both Side, Cam C.
9001-SKP38G9	2	RL1,2	SDD Pilot Light 120Vac Green Lens corrosion resistant plastic.
9001-SKP3569	1	PL3	SDD Pilot Light 24Vac, Red Lens corrosion resistant plastic.
9070T50023	1	CCT	SDD 50VA Transformer 120V/24VAC.
HDL36	2	PCB1,2	SDD MOTOR Breaker 3 Pole Amp. 600 Vac Rating (SIZED FOR SPECIFIED HP)
ODU115	2	MCB, ECB	SDD MAIN/GEN Breaker 3 Pole Amp. 600Vac Rating (SIZED FOR FULL LOAD RATING)
ODU120	2	CB1/CB3	SDD Breaker 1 Pole 15 Amps 120/240 Vac
TE02XC5104X	1	CB2/CB4	SDD Breaker 1 Pole 20 Amps 120/240 Vac
PAS2091V	1	LA	Advanced Protection Technologies Lightning Arrestor 230 VAC 3 PH
3020-4	1	DR	GFCI Receptacle 20 Amps
LS-10/0-15PS1	1	DLPC	Devor Controller
CA10069W	1	PT	WKA pressure Transducer, 50' Cable
ATV312	1	GR	Hobblet 100 Amp Generator Receptacle with angle BBI002V
149C-J4	2	VFD1,2	VFD ALTIVAR312 HP 240VAC BY SDD. 61AR FOR 20HP+ (RATED FOR SPECIFIED HP)
149C-EBJ3	AR	TB1A,1B,5A,5B,4	Terminal Blocks 30 amps
AB1A8B4M35	AR	TBEB	Terminal Blocks end barrier.
9090L BA362101	2	TBEC	Terminal Blocks end clamp.
288-91K-RC	AR	PTB	3 pole Power Terminal Block by SDD.
MG24140	1	RES	Resistor 94K OHM 2 watts
MG24500	1	CBS	Circuit Breaker 3 poles 1 Amps.
MG24502	1	CB6	Circuit Breaker 1 pole 1 Amp.
K2A25U	4	CB7	Circuit Breaker 1 pole 3 Amps.
	1	GRDL	Double Ground Lug
	1	J-BOX	Nema 3R, 4or 12 Enclosure 48/14x36/14x12"D wall mount w/hold open arms, Al supanel.
	6	EYE INSTALL	J-Box Nema 3, 4or 4X enclosure 16/14x16/14x8"D Hinged/drip edge, & gasketed. Al supanel.
EY150	3	EYE INSTALL	1 1/2" Min ALUMINUM OR STAINLESS closed nipple PER UTILITY STANDARDS.
29125	1	LTB	Cast Aluminum Vertical sealing fitting 1 1/2" Min
TFP41	1	FAN	PORTULITO LED LIGHT BAR
TEP4	1	EXH	4" CODING FAN ASSEMBLY BY HOFFMAN
LUH42	1	TST	EXHAUST VENT ASSEMBLY BY HOFFMAN
AS REQUIRED	1		FAN THERMOSTAT (DAYTON)
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.

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.	360 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-29.DWG

~~EXHIBIT A - PUMP STATION CONTROL PANEL SPECIFICATIONS~~

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

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

EXHIBIT A - PUMP STATION CONTROL PANEL SPECIFICATIONS

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
CBI-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 THERMSTAT
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

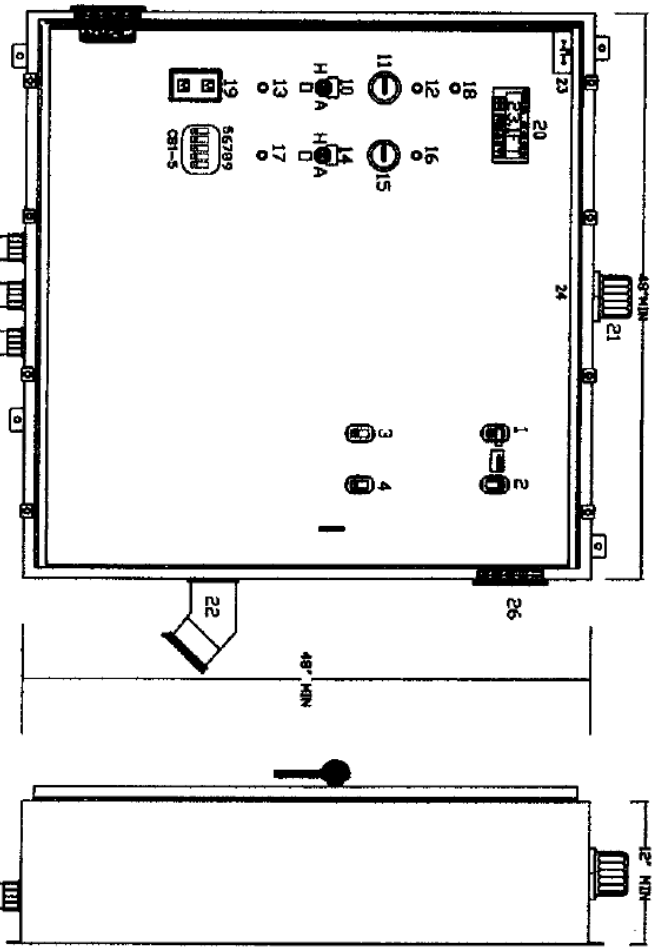
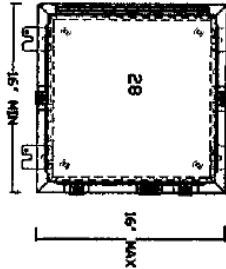
FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-31
DRAWN: DAG	PANEL LABELING DETAILS	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102	DWG. WW-31.DWG

EXHIBIT A - PUMP STATION CONTROL PANEL SPECIFICATIONS

- 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 BIASED TIME METER

- 12 - P-1 RUN PILOT LIGHT (GREEN)
- 13 - P-1 MOTOR THERMAL ALARM P.L.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 - GFCL 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



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.

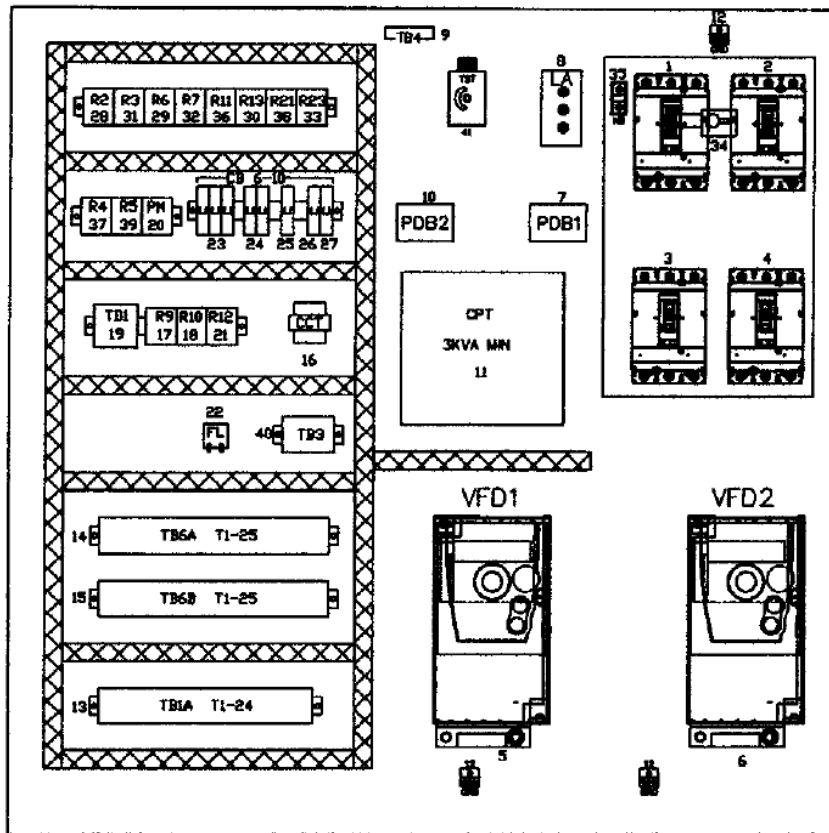
- KEY NOTES:**
- * OUTER DOOR HAS BEEN REMOVED FOR CLARITY
 - * PANEL ENCLOSURE SIZE SHALL BE DETERMINED BY PROPER SPACING & CODE REQUIREMENTS OF ALL SPECIFIED COMPONENTS TO BE INSTALLED. CONFIGURATION MAY VARY. FOR A TYPICAL 10 HP, 460 VAC, 3 PH PANEL, MAINTAINING A 1.5" SEPARATION BETWEEN COMPONENTS & 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.

THIS PANEL CONSTRUCTION SPECIFICATIONS SHALL BE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENTS.

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 - PUMP STATION CONTROL PANEL SPECIFICATIONS



TYPICAL BACKPLATE LAYOUT

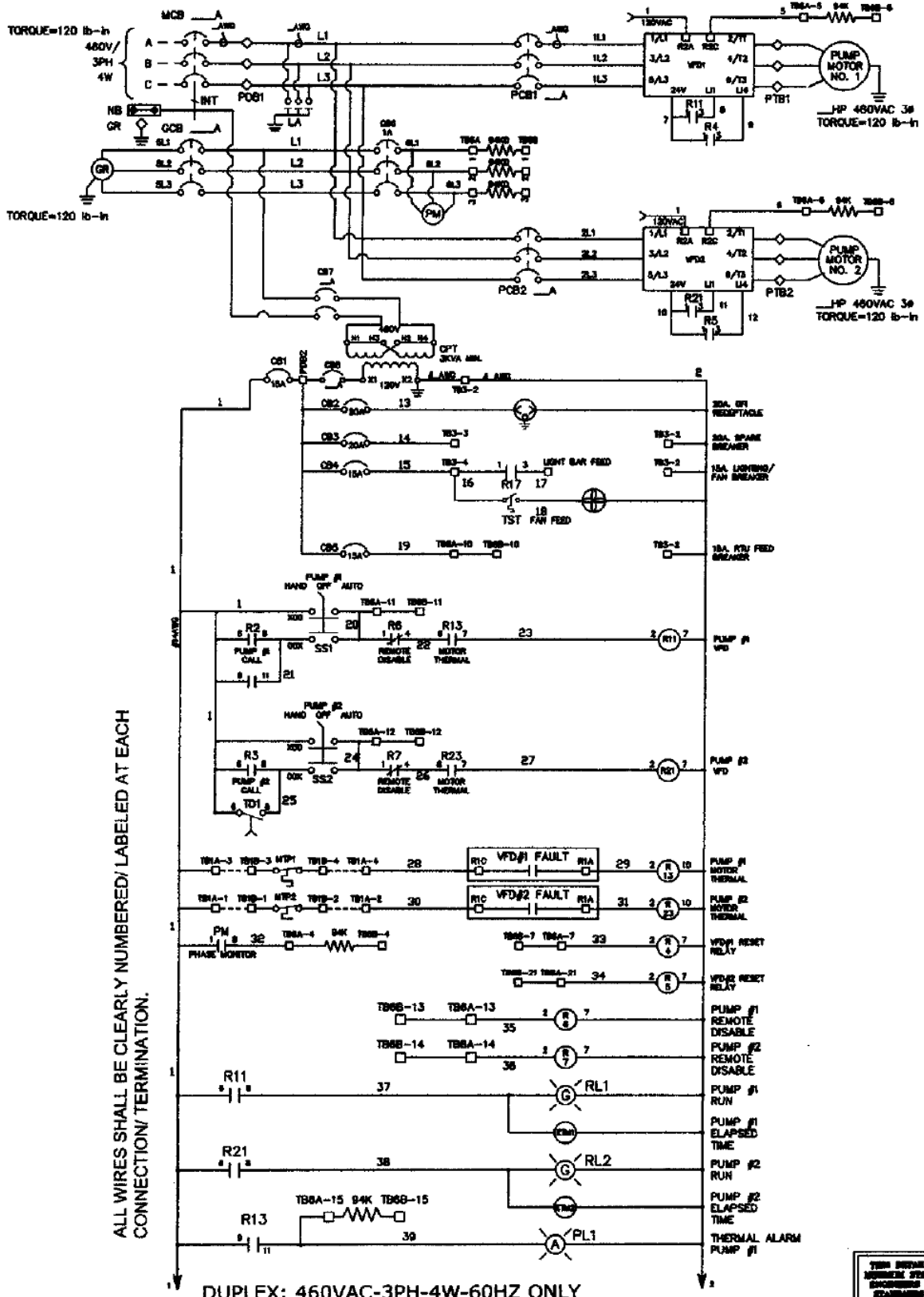
- | | | |
|---|--|---|
| <p>1 - MCB - MAIN CIRCUIT BREAKER
 2 - GCB - GENERATOR CIRCUIT BREAKER
 3 - PCB1 - P-1 MOTOR CIRCUIT BREAKER
 4 - PCB2 - P-2 MOTOR CIRCUIT BREAKER
 5 - VFD1 - VARIABLE FREQUENCY DRIVE #1
 6 - VFD2 - VARIABLE FREQUENCY DRIVE #2
 7 - PDB1 - POWER DISTRIBUTION BLOCK (3POLE/MULTITAP)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

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-33
DRAWN: DAG	TYPICAL BACKPLATE LAYOUT	DIR: WASTEWATER
SCALE: 1"=1'-0"	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-33.DWG

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS

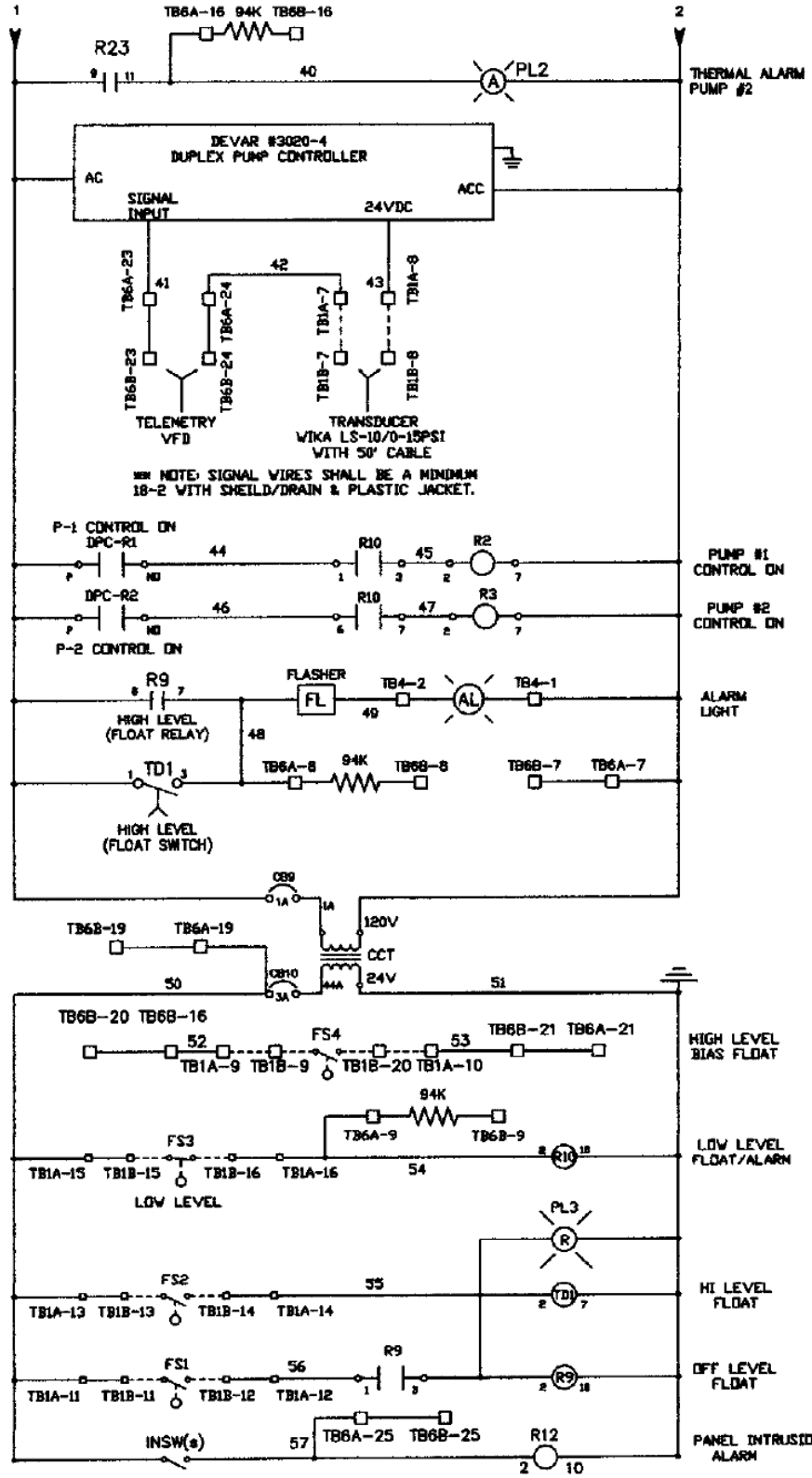


ALL WIRES SHALL BE CLEARLY NUMBERED/LABELLED AT EACH CONNECTION/TERMINATION.

THIS INITIAL CONNECTIONS DOCUMENT STANDARDS. ENGINEER'S SHALL PROVIDE EXHAUSTIVE DETAILS TO BE OBTAINED FROM USER.

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.	360 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-34.DWG

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



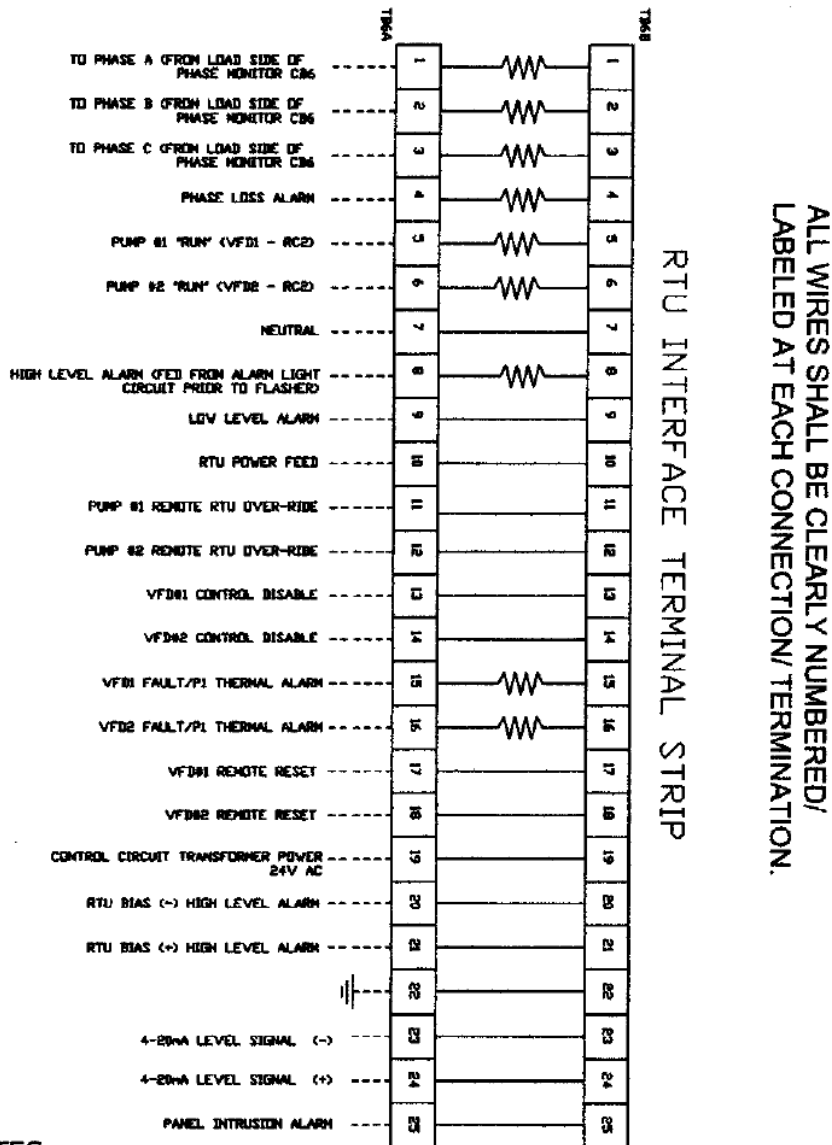
ALL WIRES SHALL BE CLEARLY NUMBERED/LABELLED AT EACH CONNECTION/TERMINATION.

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-35
DRAWN: DAG	POWER/CONTROL WIRING LAYOUT2	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-35.DWG

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



NOTES:

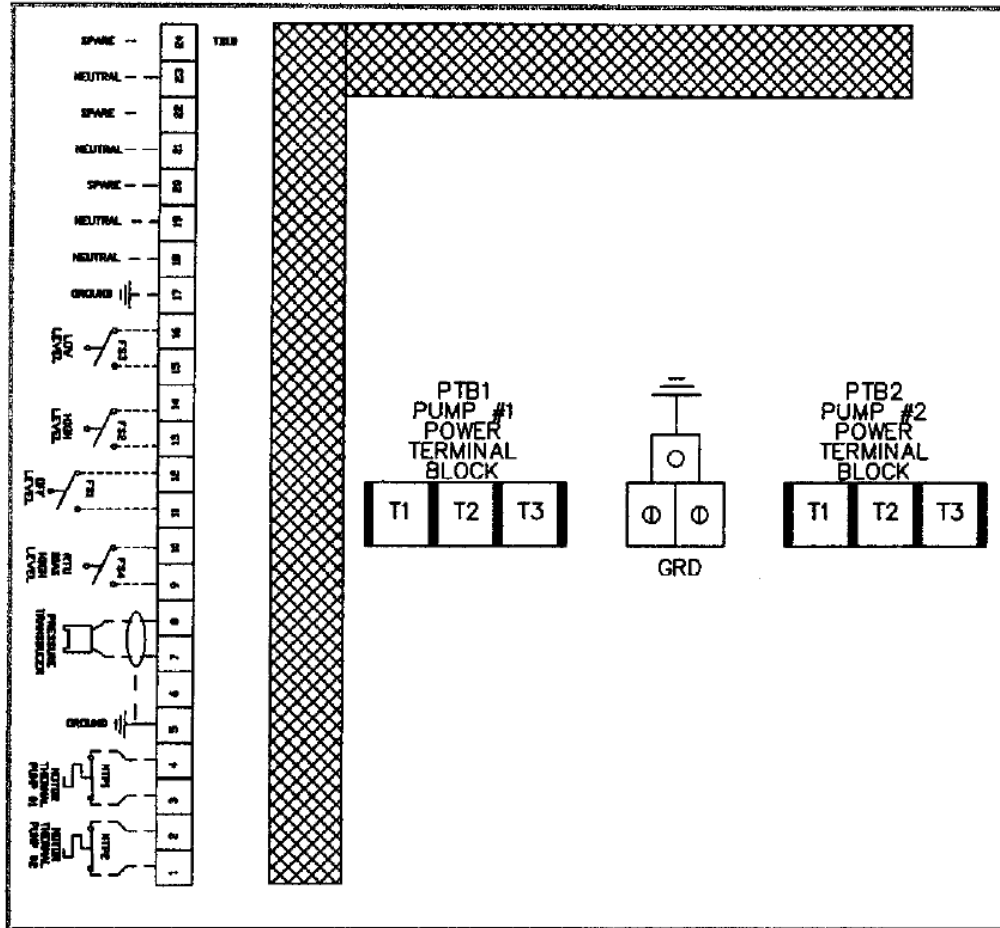
- 5A. TB6A & TB6B SHALL BE INSTALLED IN THE CONTROL PANEL AS DESCRIBED IN DRAWING "WW-33", WITH UN-OBSTRUCTED ACCESS AND A MINIMUM OF 1.5" SEPARATION FOR THE INSTALLATION OF THE RESISTORS AND JUMPER WIRES. THE 1.5" SEPARATION SHALL BE UNIFORM BETWEEN COMPONENTS AND WIREWAYS TO ALLOW ACCESS.
- 5B. ALL 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.

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

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

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



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 REQUIRMENTS.
- 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, AL/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: 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, FLORIDA, 34102	DWG. WW-37.DWG

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS

Part No	Qty	TAG LABEL	DESC
AAE-4201L	8	R2,3,4,5,6,7,11,21	Control Relay 115 Vac 8 Pn. with Lamp Indicator
AAE-4304L	3	R9,10,12	Control Relay 24 Vac 11 Pn. with Lamp Indicator
AAE-4301L	2	R13,23	Control Relay 115 Vac 11 Pn. with Lamp Indicator
FS127	1	FL	Secd Flasher 120 Vac, 90 Fpm
PF083E	9	R2,3,4,5,6,7,11,21,TD1	8 Pn Round Relay Base
PF113A	5	R9,10,12,13,23	11 Pn Round Relay Base
GE1A-C10H4D24	1	TD1	Time Delay Relay, adjustable, 24 Vac
SLA-440ALE	1	PH	Phase Monitor, 9 Pn Plug In Type (460VAC, 3 POLE) DIVERSIFIED
480-2079-ND	2	ETH1 & 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	SDD Pilot Light 120Vac Amber Lens Corrosion Resistant Plastic
9001-SKS43BH1	2	SSI,2	SDD 3 Pos. Selector SW. with Contacts on Both Side, Can C.
9001-SKP38G9	2	RL1,2	SDD Pilot Light 120Vac Green Lens Corrosion Resistant Plastic
9001-SKP35R9	1	PL3	SDD Pilot Light 24Vac, Red Lens Corrosion Resistant Plastic
9070150D23	1	CCT	SDD 50VA Transformer 120V/24VAC.
907013000D1	1	CPT	SDD Control Power Transformer 3kva min 460V/120VAC.
HDI.36	2	PCB1,2	SDD MOTOR Breaker 3 Pole --- Amp, 600 Vac Rating (SIZED FOR SPECIFIED HP)
HDI.36	2	MCB, ECB	SDD MAIN/GEN Breaker 3 Pole --- Amp, 600Vac Rating (SIZED FOR FULL LOAD RATING)
QDU115	2	CB1,CB3	SDD Breaker 1 Pole 15 Amps 120/240 Vac
QDU120	2	CB2,CB4	SDD Breaker 1 Pole 20 Amps 120/240 Vac
TE04XCS104X	1	LA	ADVANCED PROTECTION TECHNOLOGIES Lightning Arrestor 460Vac 3 PH
PAS2091V	1	BR	Receptacle 20 Amps
1U4H2	1	TST	FAN THERMOSTAT (DAYTIME)
3020-4	1	BLPC	Devac Controller
LS-10/0-1SPSI	1	PT	Vika Pressure Transducer, 50' Cable
C4100R9V	1	GR	Habbollet 100 Amp Generator Receptacle with angle BR100V
ATV312	2	VFD1,2	VFD ALTIVAR312 ---HP 460VAC BY SDD. GATED FOR SPECIFIED HP)
1492-J4	AR	TBA1,1B,6A,6B,4	Terminal Blocks 30 amps
1492-EB13	AR	TBB3	Terminal Blocks end barrier.
AB1ABM35	AR	TBC3	Terminal Blocks end clamp.
9080L BA362101	1	PTB1	3 pole Multi-Tap Power Terminal Block by SDD.
9080L BA	1	PTB2	1 pole Multi-Tap Power Terminal Block by SDD.
288-91K-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 Load Circuit Breaker 1 pole 1 Amp.
MG24502	1	CB10	CCT Load Circuit Breaker 1 pole 3 Amps.
KEA2SU	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-BOX	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 modules PER UTILITY STANDARDS.
	6	EYE INSTALL	1 1/5" MIN MYERS HUBS TO BOTH ENCLOSURES.
EV150	3	EYE INSTALL	CAST ALUMINUM Vertical sealing fitting 1 1/2" MIN
ES125	1	LTB	PORTFOLIO LED LIGHT BAR
TEP41	1	FAN	COOLING FAN ASSM (HOFFMANN)
TEP4	1	EXH	EXHAUST ASSEM (HOFFMANN)
AS REQUIRED	1	ALL DIN RAIL, SCREWS, 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 PUMP STATION CONTROL PANEL SPECIFICATIONS

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	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 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
CPY	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

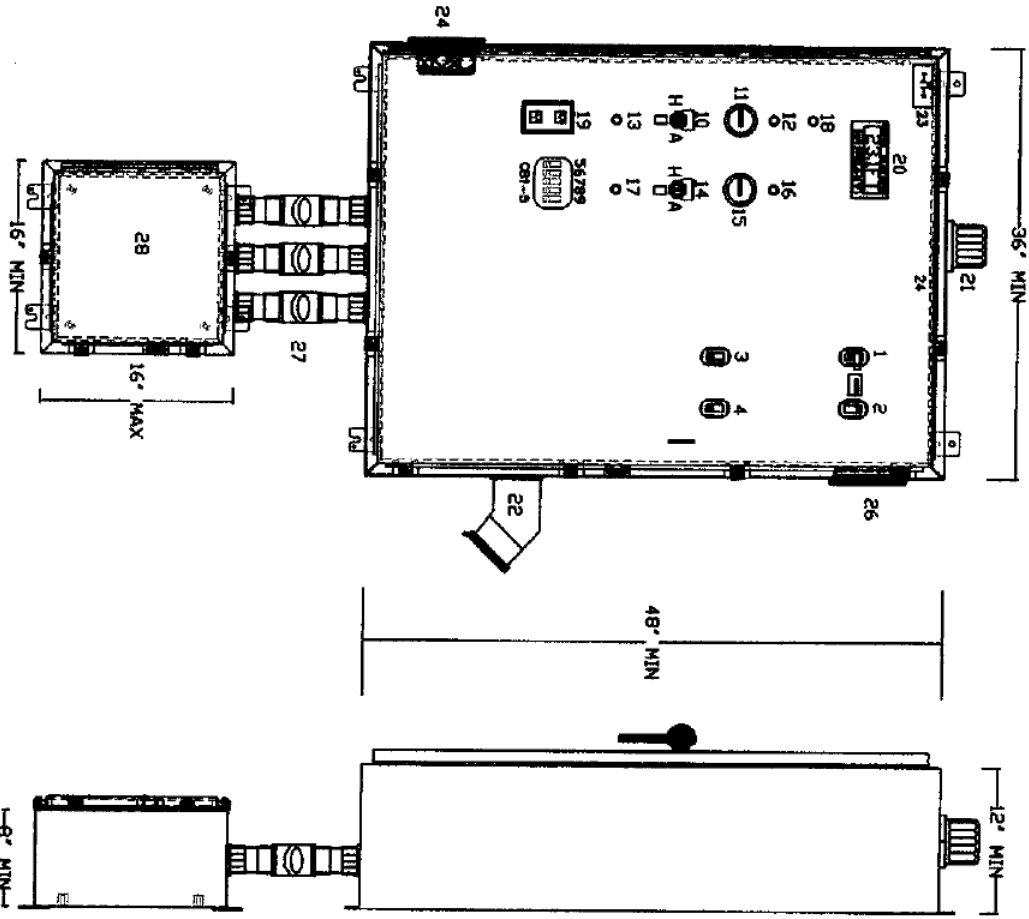
Each switch, circuit breaker, indicating light, push button, relay, etc., shall have an engraved laminated plastic color coded nameplate mounted above or below the device for proper indentification; RED for alarm, BLACK for Power, and BLUE for level and controls. Letters shall be a minimum of 1/4" in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

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

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

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS

- 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 FEED CIRCUIT BREAKER (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.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 - GFCI DUPLEX RECEPTACLE W/SUBMERGIBLE TRANSUDICER
- 20 - LEVEL PUMP CONTROLLER W/SUBMERGIBLE TRANSUDICER
- 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 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 PORTULICO 27" LED LIGHT STRIP SHALL BE MOUNTED BEHIND THE SUB-DOOR AND UNDER THE TOP OF PANEL.

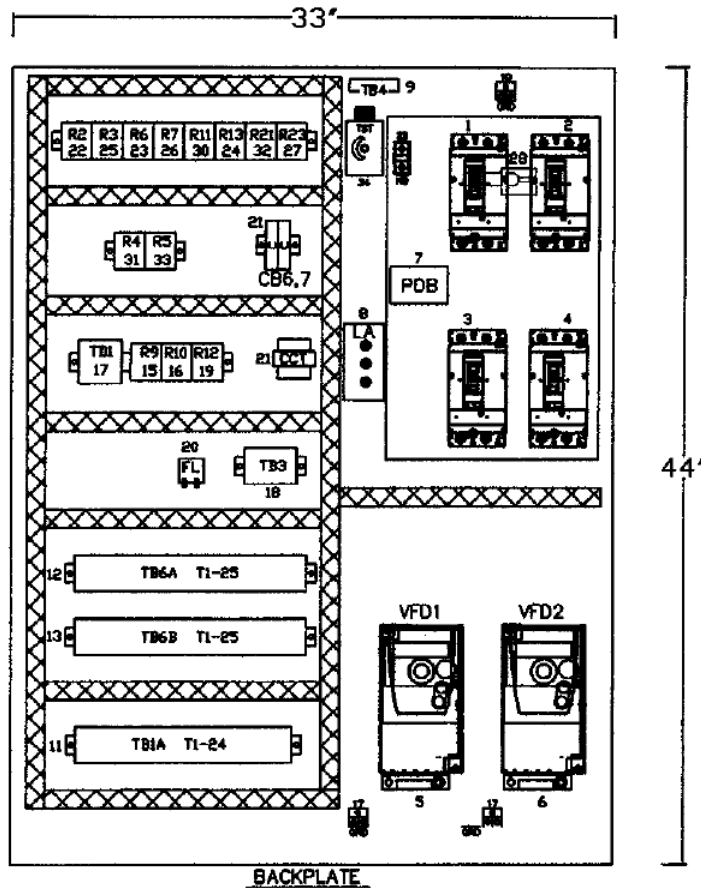
A DATA POCKET SHALL BE MOUNTED TO THE INSIDE OF THE PANEL ENCLOSURE OUTER DOOR. NO PENETRATIONS THROUGH THE DOOR SHALL BE ALLOWED FOR MOUNTING. THE DATA POCKET SHALL BE HOFFMAN ADPZ OR APPROVED EQUAL.

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

THIS DRAWING CONSTITUTES AN OFFICIAL RECORD OF THE PROJECT. ANY CHANGES SHALL BE MADE BY A REGISTERED PROFESSIONAL ENGINEER OR ARCHITECT. THE DRAWING SHALL BE KEPT ON FILE FOR THE LIFE OF THE PROJECT.

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-41
DRAWN: DAG	TYPICAL DEAD FRONT PANEL	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-41.DWG

EXHIBIT A - PUMP STATION CONTROL PANEL SPECIFICATIONS



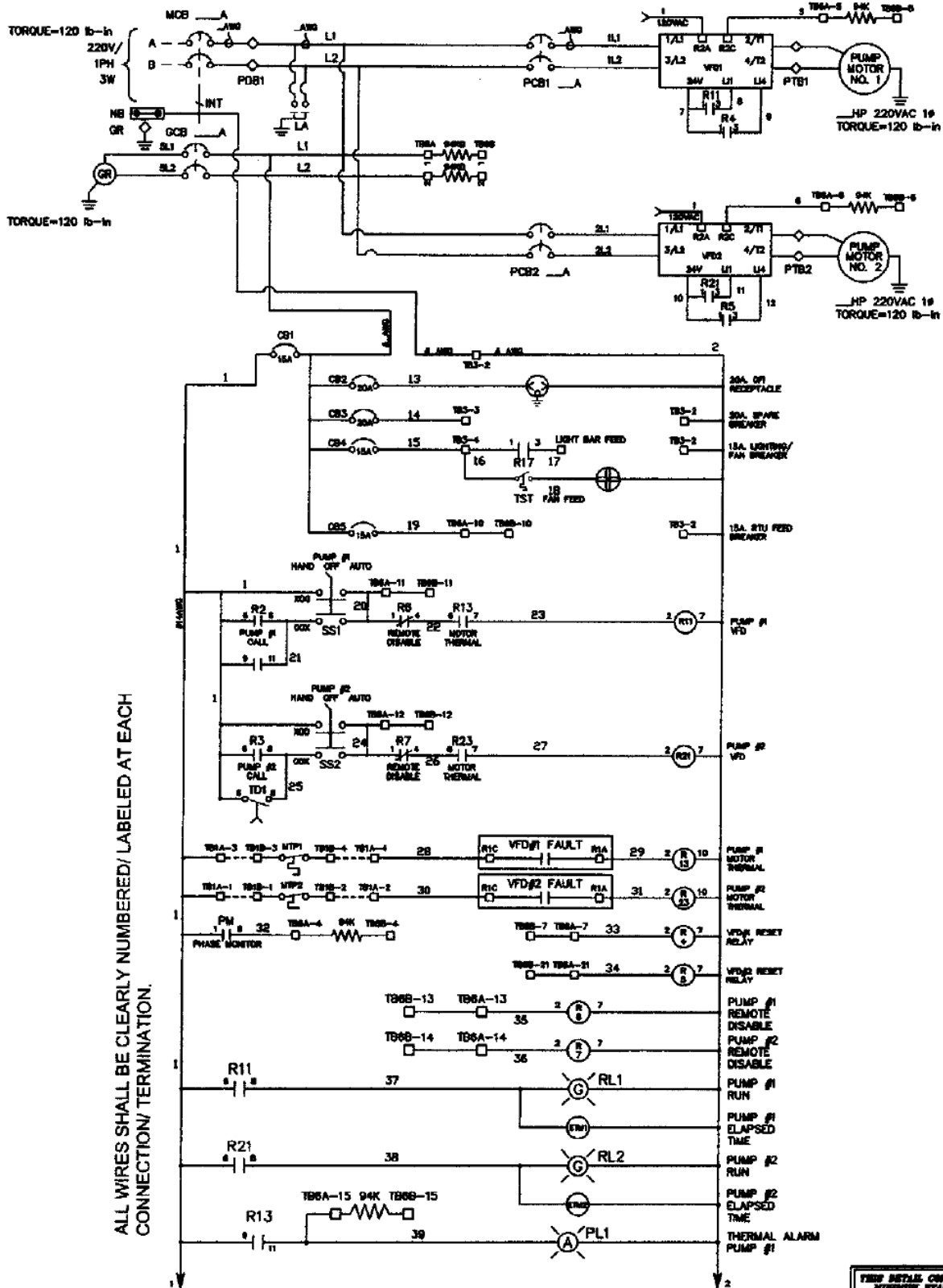
- | | | | |
|-----------|--|-----------|--|
| 1 - MCB | - MAIN CIRCUIT BREAKER | 21 - CB | - CIRCUIT BREAKERS |
| 2 - GCB | - GENERATOR CIRCUIT BREAKER | - CB6 | - CCT PRIMARY CIRCUIT BREAKER (1P-1A) |
| 3 - PCB1 | - P-1 MOTOR CIRCUIT BREAKER | - CB7 | - CCT SECONDARY CIRCUIT BREAKER (1P-3A) |
| 4 - 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
(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 PUMP STATION CONTROL PANEL SPECIFICATIONS



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

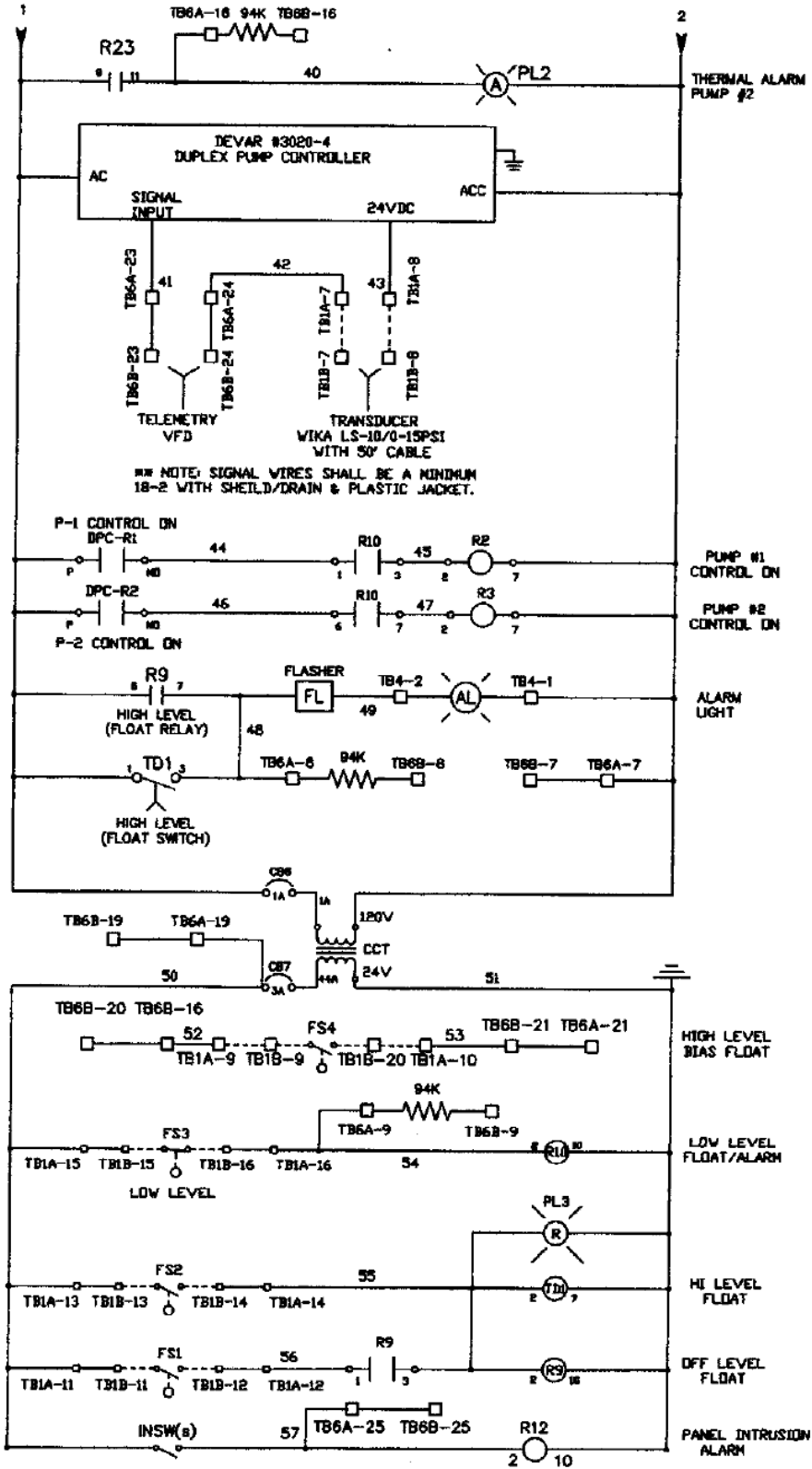
DUPLEX 1 - 10HP: 220VAC-1PH-3W-60HZ

THIS PANEL CONSTITUTES A COMPLETE SYSTEM. ALL WIRING SHALL BE CLEARLY NUMBERED/LABELED AT EACH CONNECTION/TERMINATION.

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: 1/8" = 1'-0"	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-43.DWG

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS

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

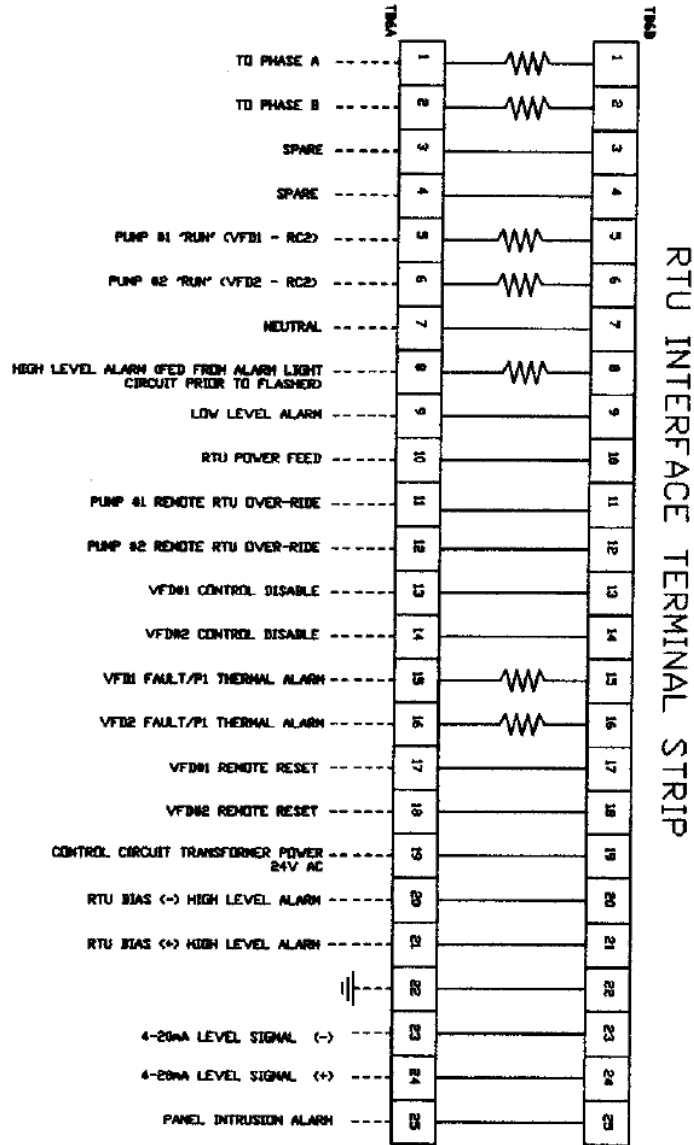


THIS DETAIL CONSTITUTES MINIMUM STANDARDS. DESIGN ENGINEERS SHALL PROVIDE STANDARDS EQUAL TO OR GREATER THAN THESE.

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 - PUMP STATION CONTROL PANEL SPECIFICATIONS



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

NOTES:

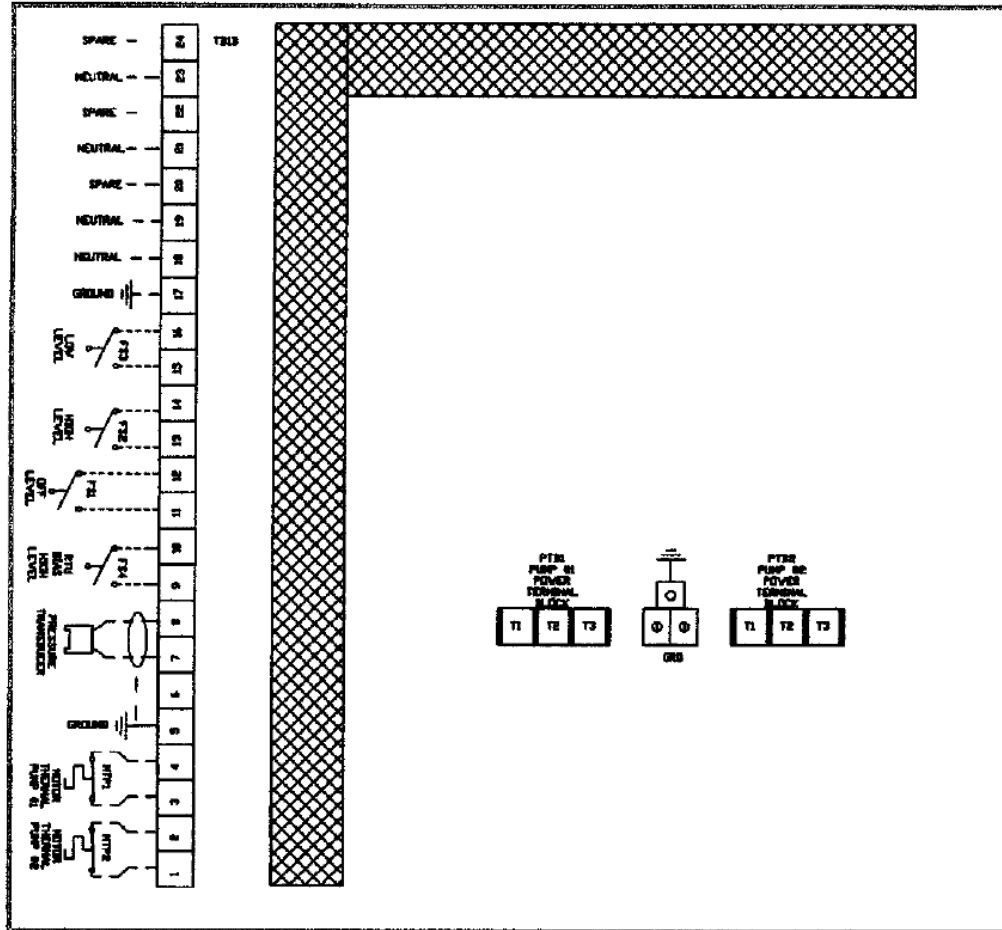
- 5A. TB6A & TB6B SHALL BE INSTALLED IN THE CONTROL PANEL AS DESCRIBED IN DRAWING "WW-42", WITH UN-OBSTRUCTED ACCESS AND A MINIMUM OF 1.5" SEPARATION FOR THE INSTALLATION OF THE RESISTORS AND JUMPER WIRES. THE 1.5" SEPARATION SHALL BE UNIFORM BETWEEN COMPONENTS AND WIREWAYS TO ALLOW ACCESS.
- 5B. ALL 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	DUPLEX PUMP CONTROL PANEL	SHEET: WW-45
DRAWN: DAG	RTU INTERFACE TERMINAL DETAIL	DIR: WASTEWATER
SCALE: N.T.S.	360 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-45.DWG

EXHIBIT A - PUMP STATION CONTROL PANEL SPECIFICATIONS



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

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

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS

AR = AS REQUIRED

Part No	Qty	TAG LABEL	DESC
AAE-AE01L	8	R2,3,4,5,6,7,11,21	Control Relay 115 Vac 9 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	9 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
1LHH2	1	TST	FAN THERMOSTAT (DAYTON)
480-2079-ND	2	ETH1 & 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	SOD Pilot Light 120Vac Amber Lens Corrosion Resistant Plastic
9001-SKS43BH1	2	SSL,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-SKP38R9	1	PL3	SOD Pilot Light 24Vac, Red Lens corrosion resistant plastic.
9070TSD023	1	CCT	SOD 50VA Transformer 120V/24VAC.
HDL26	2	PCB1,2	SOD MOTOR Breaker 2 Pole --- Amp, 600 Vac Rating (SIZED FOR SPECIFIED HP)
HDL26	2	MCB, ECB	SOD MAIN/GEN Breaker 3 Pole --- Amp, 600Vac Rating (SIZED FOR FULL LOAD RATINGS)
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
AR	1	LA	Advanced Protection Technologies Lighting Arrestor 220 VAC 1 PH
PAS091V	1	DR	GFI Receptacle 20 Amps
3020-4	1	DLPc	Devor Controller
LS-10/0-1SPSI	1	PT	WKA Pressure Transducer, 50' Cable
C410089W	1	GR	Habelel 100 Amp Generator Receptacle with angle BBI002V
ATV312	2	VF/D1,2	VFD AT1VAR312 --- hp 220VAC BY SOD (GRADED FOR SPECIFIED HP)
1492-J4	AR	TB1A,1B,6A,6B,4	Terminal Blocks 30 amps
1492-ERJ3	AR	TBEB	Terminal Blocks end barrier.
AB1A8B8A35	AR	TBEC	Terminal Blocks end clamp.
9080L BA	2	PTB1,2	2 pole Power Terminal Block by SOD.
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	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-BDX	J-Box Nema 3, 4 or 4X enclosure 16"Hx16"Wx8"D Hinged/drip edge, & gasketed, AL supanel.
	6	EYE INSTALL	1 1/2" Min ALUMINUM OR STAINLESS closed nipple PER UTILITY STANDARDS.
	6	EYE INSTALL	1 1/2" Min MYERS HUBS to both enclosures.
EY150	3	EYE INSTALL	Cast Aluminum Vertical sealing fitting 1 1/2" Min
29125	1	LTB	PORTFOLD LED LIGHT BAR
TTP41	1	FAN	4" COOLING FAN ASSEMBLY BY HOFFMAN
TEP4	1	EXH	EXHAUST VENT ASSEMBLY BY HOFFMAN
AS REQUIRED	1	ALL DIN RAIL, SCREWS, BOLTS, NUTS, SEALANTS, ADHESIVES, AND MISC. HARDWARE AND SUPPLIES NECESSARY FOR JOB.	

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

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

EXHIBIT A - PUMP STATION CONTROL PANEL SPECIFICATIONS

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

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

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS

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/CONVENIENCE 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.

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

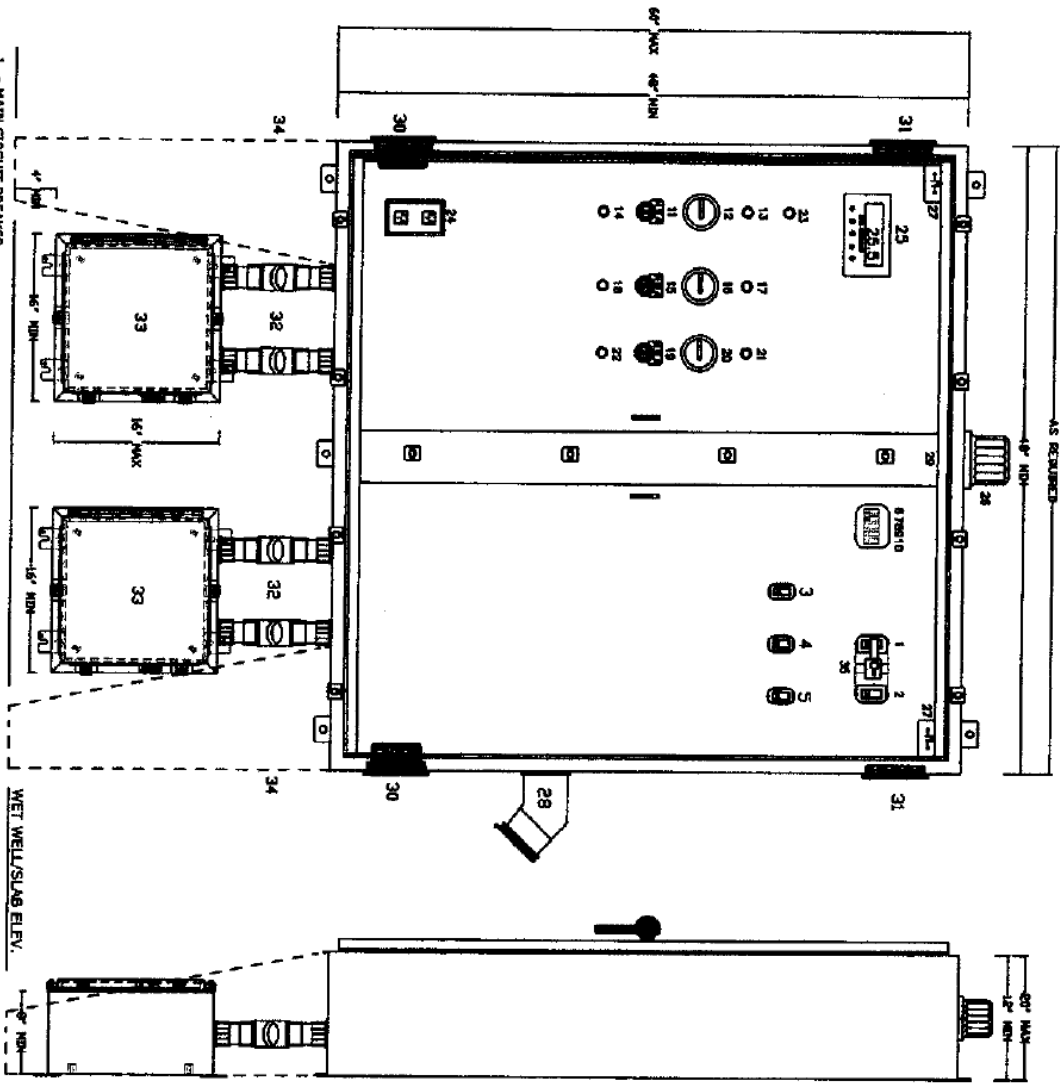
FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	DUPLEX PUMP CONTROL PANEL	SHEET: WW-49
DRAWN: DAG	PANEL LABELING DETAILS	DIR: WASTEWATER
SCALE: N.T.S.	360 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-49.DWG

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS

- 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 DUPLX RECPTACLE C.B. (20A)
- 8 - CB3 SPARE CIRCUIT BREAKER (15A)
- 9 - CB4 LIGHTING/FAANS CIRCUIT BREAKER (15A)
- 10 - CB5 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 RUN PILOT LIGHT (RED)
- 24 - GFCI DUPLX RECPTACLE
- 25 - PUMP LEVEL CONTROLLER W/ SUBMERSIBLE TRANSDUCER

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



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 1/8" SEPARATION BETWEEN COMPONENTS & CABLE TRAYS.
- * PROJECTS WITH HP RATINGS GREATER THAN 20 HP MAY REQUIRE LARGER ENCLOSURES UP TO 60H 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) 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 HINGERS & HARDWARE.
- * SINGLE DOOR ENCLOSURES SHALL REQUIRE ONE (1) EA INTRUSION DOOR SWITCH, PANEL INTRUSION DOOR SWITCH; 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.
- * WEATHER RESISTANT, NON-EXPOSED CONTACTS/TERMINALS, IMPACT RESISTANT 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: SINGLE DOOR PANEL: BEHIND THE SUB-DOOR 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 35 - W/G BREAKER INTERLOCK

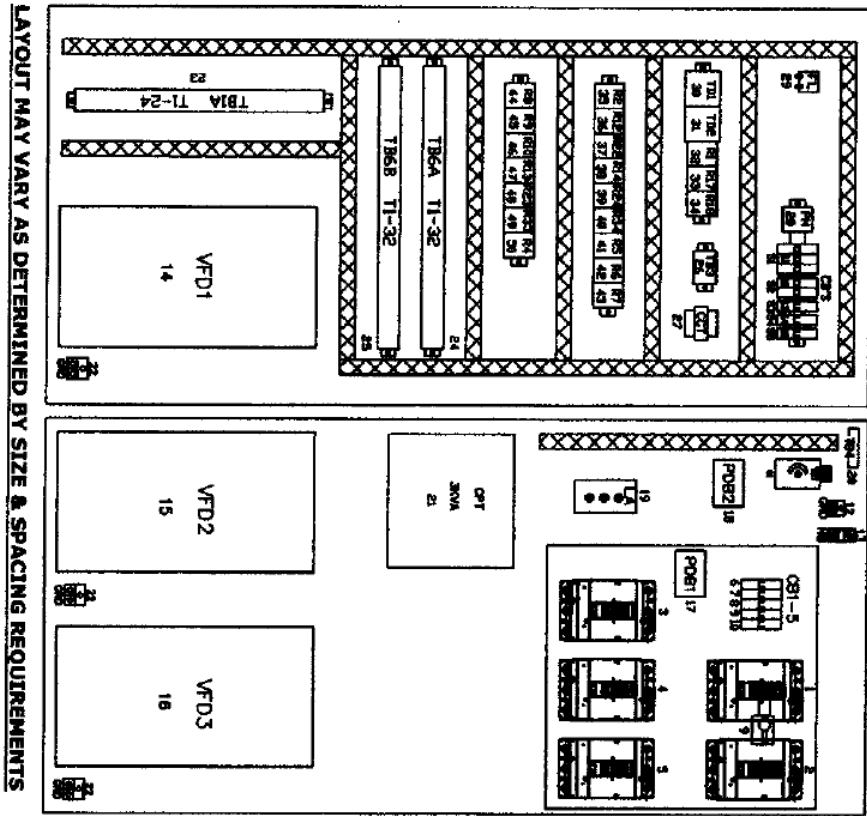
A DATA HOCKETT SHALL BE MOUNTED TO THE INSIDE OF THE PANEL ENCLOSURE OUTER DOOR. NO PENETRATIONS THROUGH THE DOOR SHALL BE ALLOWED FOR MOUNTING. THE DATA HOCKETT SHALL BE HOFFMAN ADPZ OR APPROVED EQUAL. DOUBLE DOOR ENCLOSURES SHALL BE SUPPLIED WITH 1 EA DATA PACKET PER DOOR.

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

THIS PANEL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.

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

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



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 1P/15 AMP
- 7 - CB2 - DUPLEX RECEPTACLE CIRCUIT BREAKER 1P/20 AMP
- 8 - CB3 - SPARE CIRCUIT BREAKER 1P/20 AMP
- 9 - CB4 - LIGHTING CIRCUIT BREAKER 1P/15 AMP
- 10 - CBE - RTU POWER FEED
- 11 - TTIX - MAIN/GENERATOR CIRCUIT BREAKER INTERLOCK
- 12 - GTB - GROUND 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 - POB1 - POWER DISTRIBUTION BLOCK 3 POLE MULTI-TAP
- 18 - POB2 - POWER DISTRIBUTION BLOCK 1 POLE MULTI-TAP
- 19 - LA - LIGHTNING ARRESTER
- 20 - TP4 - TERMINAL BLOCK 4: ALARM LIGHT
- 21 - CPT - CONTROL POWER TRANSFORMER (480V-120V)
- 22 - RGRD - GROUND (LUGS)
- 23 - TB1A - TERMINAL BLOCK 1A
- 24 - TB2A - TERMINAL BLOCK 2A
- 25 - TB3A - TERMINAL BLOCK 3A
- 26 - TB3B - TERMINAL BLOCK 3B
- 27 - CCT - CONTROL CIRCUIT TRANSFORMER (120V-24V)
- 28 - PM - PHASE MONITOR 480V, 8PIN AS REQ.
- 29 - FL - FLASHER (110V SOLID STATE)
- 30 - TO1 - HIGH LEVEL TIME DELAY RELAY 2ND PUMP (24V, 8PIN)
- 31 - TO2 - 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 - R32 - VFD-2 RUN COMMAND (110V, 11PIN)
- 37 - R22 - VFD-3 RUN COMMAND (110V, 11PIN)
- 38 - R34 - 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 - R23 - P-1 MOTOR THERMAL FAIL RELAY (110V, 11PIN)
- 48 - R33 - 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, 8PIN)
- 51 - CB11 - 9M MINI CIRCUIT BREAKER 3 POLE 460V DIN 3A
- 52 - CB12 - CPT LINE MINI CIRCUIT BREAKER 2 POLE 460V DIN 25A
- 53 - CB13 - CPT LOAD MINI CIRCUIT BREAKER 1 POLE 120V DIN 30A
- 54 - CB14 - CCT LINE MINI CIRCUIT BREAKER 1 POLE 24V DIN 1A
- 55 - CB15 - CCT LOAD MINI CIRCUIT BREAKER 1 POLE 24V DIN 3A

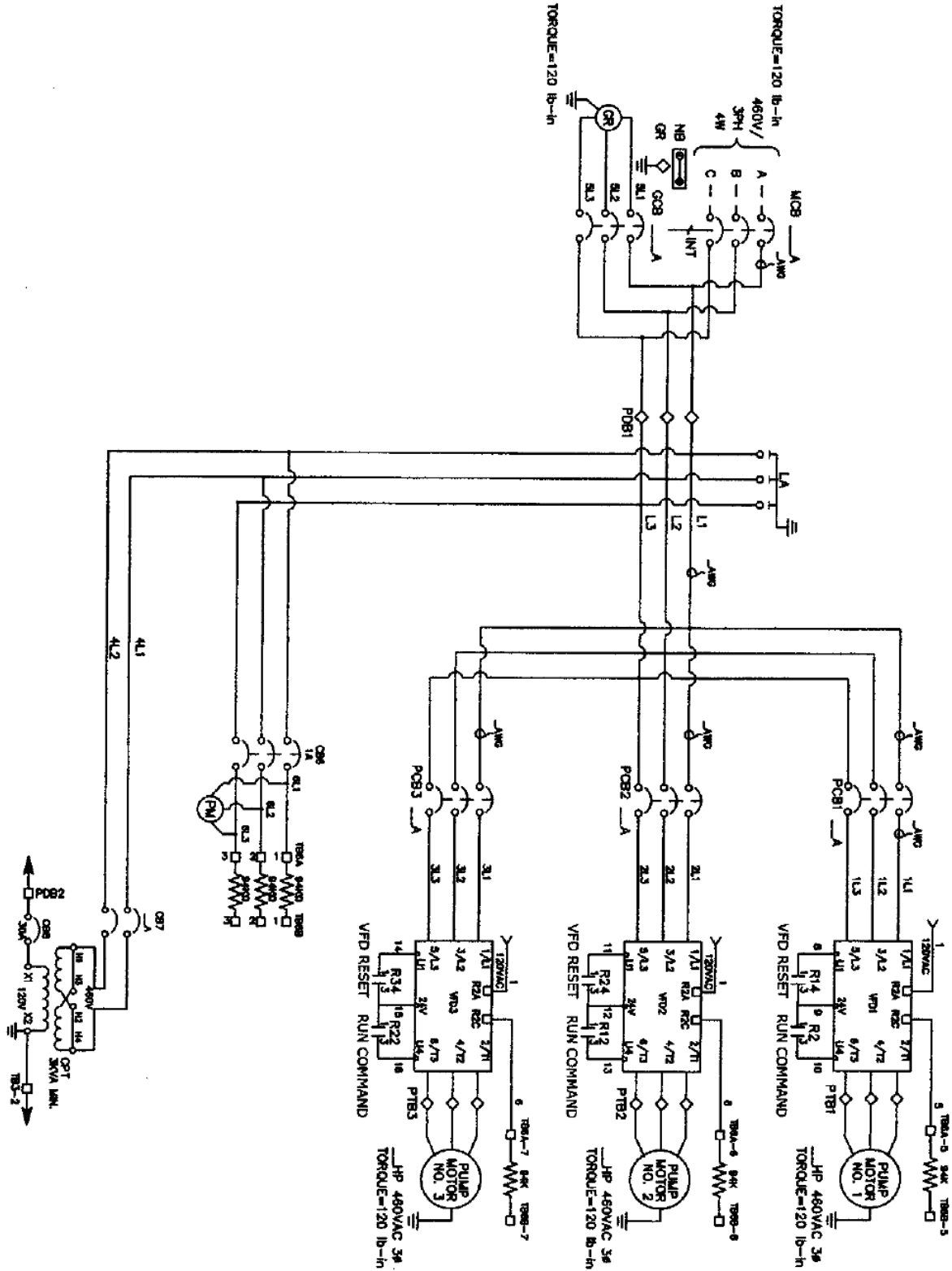
THIS PANEL CONSTRUCTION MEETS STANDARDS FOR PROTECTED FROM POWER TRANSFORMER TO AN OVERCURRENT TRIP.

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

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS

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



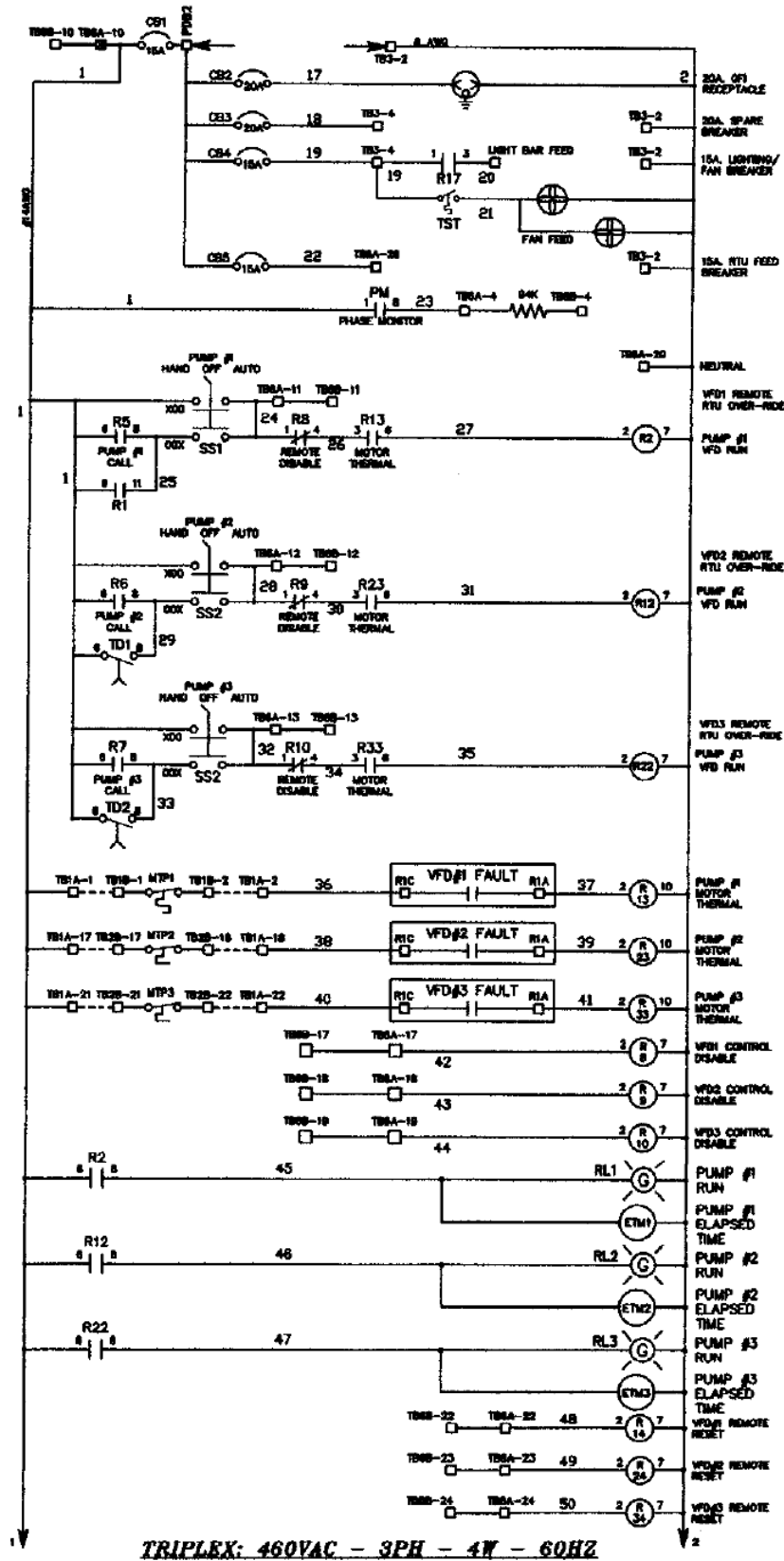
TRIPLEX: 480VAC - 3PH - 4W - 60HZ

THIS WIRING CONNECTION SHALL BE MADE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE CITY OF NAPLES ELECTRICAL CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.

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 PUMP STATION CONTROL PANEL SPECIFICATIONS

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

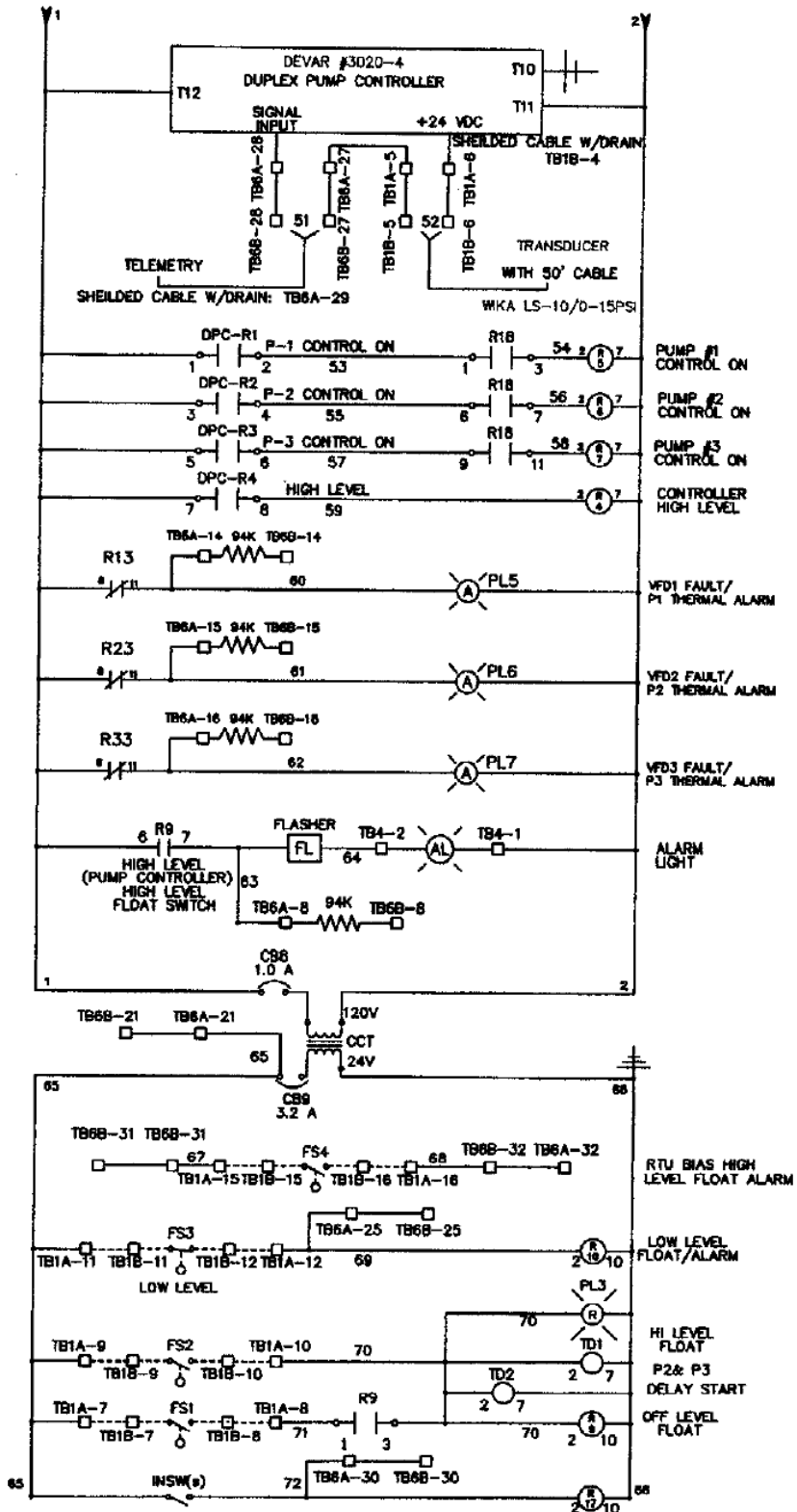


TRIPLEX: 460VAC - 3PH - 4W - 60HZ

THIS SYMBOL CONSTITUTES AN APPROVED STANDARD. THESE STANDARDS SHALL BE USED UNLESS OTHERWISE SPECIFIED BY THE USER.

FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE: NOV. 2011	TRIPLEX PUMP CONTROL PANEL	SHEET: WW-53
DRAWN: DAG	CONTROL WIRING LAYOUT 1	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW534.DWG

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



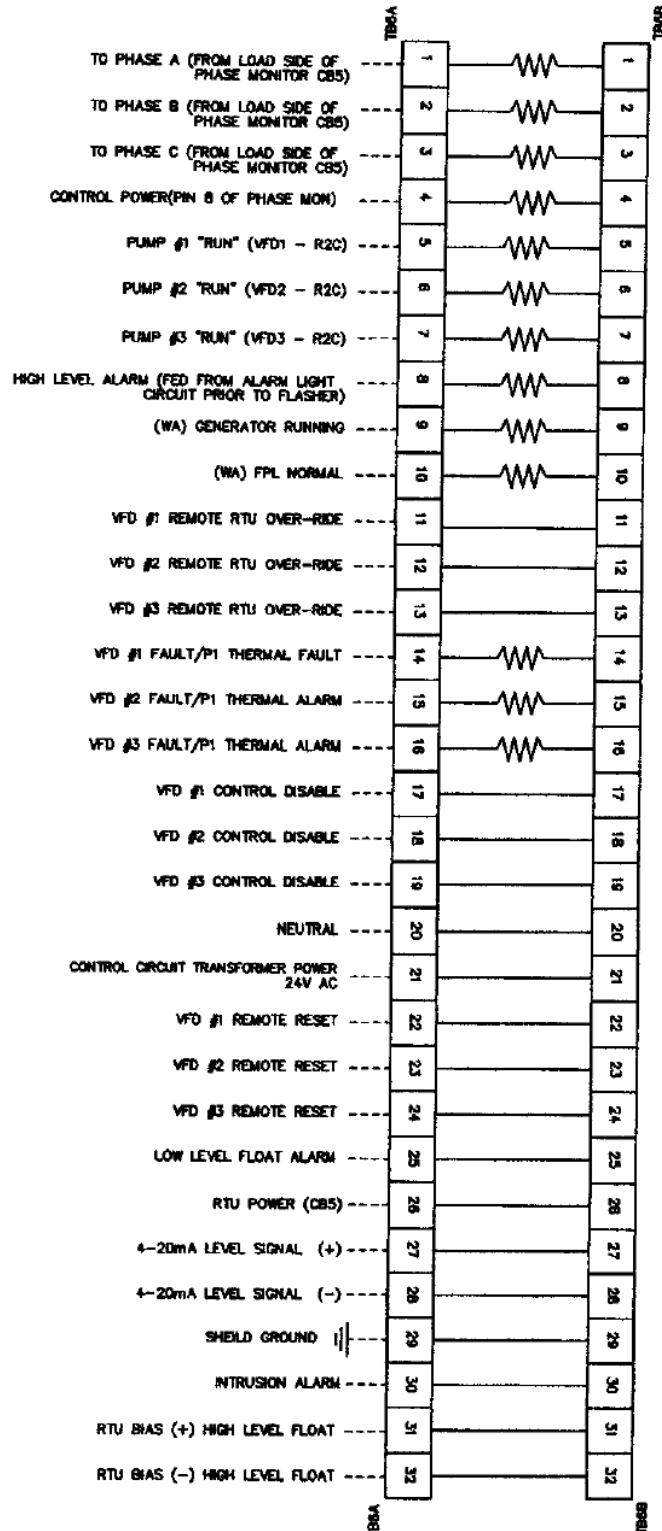
ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

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-54
DRAWN: DAG	CONTROL WIRING LAYOUT2	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-54.DWG

EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



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

NOTES:

**5A. TB8A & TB8B 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.

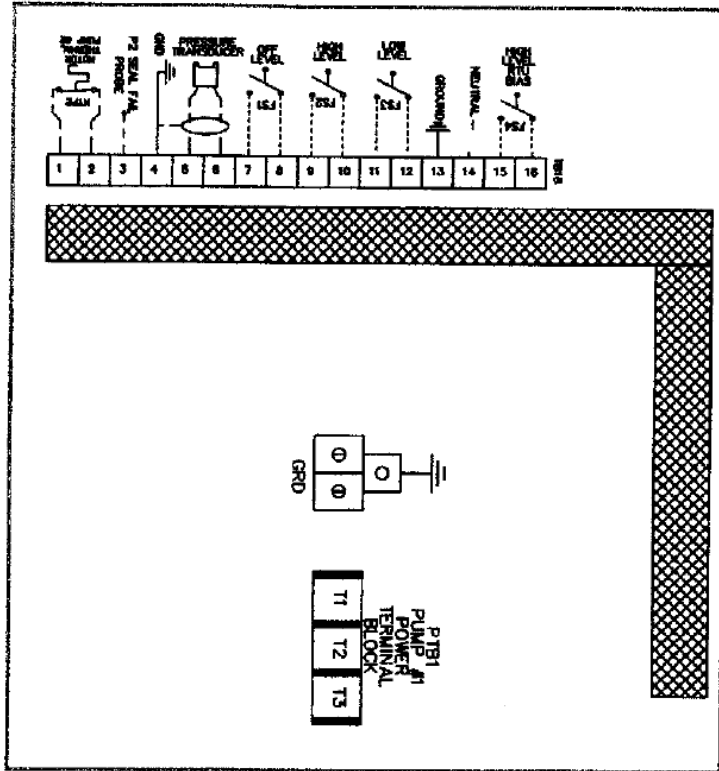
**5C. TERMINAL BLOCKS TB8A & TB8B SHALL BE SQ D 9080 SERIES OR EQUAL.

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, FLORIDA, 34102	DWG. WW-55.DWG

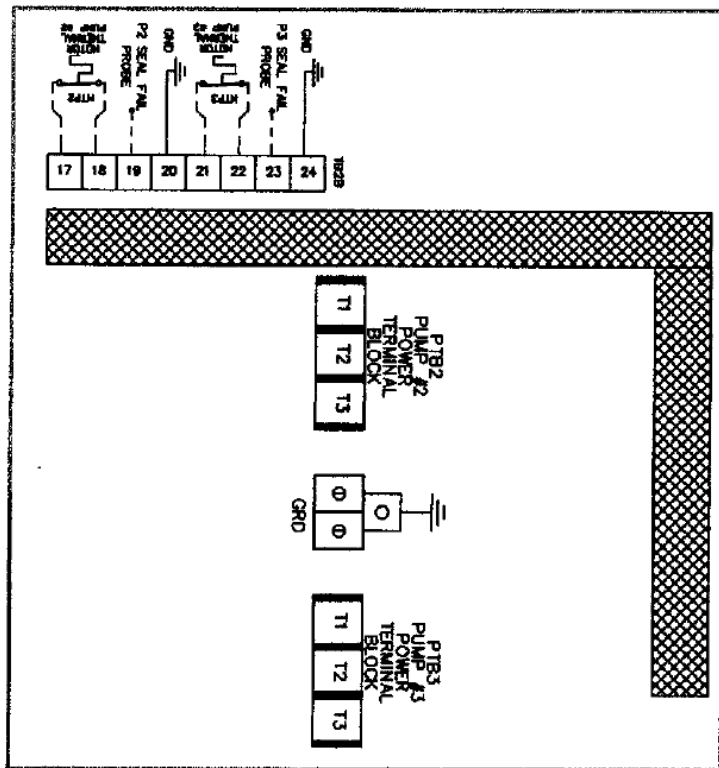
EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS



JUNCTION BOX 1 BACKPLATE LAYOUT

REQUIRED TERMINATIONS IN SPECIFIED JUNCTION BOX

- 5A. LAYOUT MAY VARY SLIGHTLY AS REQUIRED
- 5B. BACKPLATE SHALL BE ALUMINUM, 3/4" OR 4X AS REQUIRED, WITH EXTERNAL MOUNTING BRACKETS, HINGED DOOR, GASKET SEAL, DRIP EDGE, & LOCKABLE.
- 5C. THE J-BOX SHALL BE SIZED TO PROPERLY ACCOMMODATE ALL CONDUITS, FITTINGS, TERMINAL BLOCKS, AND SPECIFIED WIRING WITH ADEQUATE CLEARANCES AND SPACING. MINIMUM 1.6"x1.6"x .870. JUNCTION BOX CAN NOT EXCEED 18" HIGH, IF INSTALLED OR HIGHER PER SPACE FILL REQUIREMENTS.
- 5E. THE TERMINAL BLOCKS, POWER BLOCKS, LUGS, AND WIRE RACE SHALL BE MOUNTED AS SHOWN IN THE ABOVE DETAIL. TB18 SHALL BE SQ D SERIES 9080, 30AMP RATED OR EQUAL. POWER BLOCKS AND LUGS SHALL BE SIZED ONE SIZE LARGER THAN REQUIRED LOADS.



JUNCTION BOX 2 BACKPLATE LAYOUT

REQUIRED TERMINATIONS IN SPECIFIED JUNCTION BOX

- 5F. FOR CITY IN-HOUSE INSTALLATIONS: CONTACT CITY MAINTENANCE SUPERVISOR TO DETERMINE IF THE SPECIFIED J-BOX(S) SHALL BE FULLY MOUNTED TO THE ENCLOSURE OR SUPPLIED WITH THE CONTROL PANEL; ALONG WITH THE REQUIRED WIRENS HUBS, AL/SS NIPPLES, SEAL-OFFS AS REQUIRED BY CITY UTILITY STANDARDS; BUT WILL BE FIELD INSTALLED AND WIRED BY CITY PERSONNEL.
- 5G. FOR CONTRACTOR/DEVELOPER INSTALLED PROJECTS: THE SPECIFIED J-BOX SHALL BE SUPPLIED/INSTALLED WITH THE CONTROL PANEL; ALONG WITH THE REQUIRED WIRENS HUBS, AL/SS NIPPLES, SEAL-OFFS, AND WIRING; AS REQUIRED BY CITY UTILITY STANDARDS.

ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED 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-56
DRAWN: DAG	J-BOX BACKPLATE(S) LAYOUT	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLORIDA, 34102	DWG. WW-56.DWG

EXHIBIT A - PUMP STATION CONTROL PANEL SPECIFICATIONS

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	GU0115 15 AMP
2	CB2/CB3	SQD 1POLE, 20AMP, 120VAC	GU0120 20 AMP
1	CB11	SQ D DIN MOUNT MINI 3 POLE- PHASE MONITOR BREAKER	MG SERIES 0.5 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	TE04XC5104X
3	VFD1/VFD2/VFD3	SQD/SHUNDELECT: ALTVAR312 FOR <20HP, 61AR FOR >=20HP	ALTIVAR NO EQUAL
1	PH	PHASE MONITOR 8-PIN, 480VOLT/3 PHASE	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-KF50023
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-1070-15PSI V/50' CABL
14	R8B	OMRON 8 PIN OCTAL RELAY BASE	PF083A
5	RB11	OMRON 11 PIN OCTAL RELAY BASE	PF113A
1	R1	8 PIN,24V W/LAMP FLOAT PUMP "DN" 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 REDMTE RESET 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 FLOAT CUT OFF RELAYS	AS REQUIRED
2	TD1/TD2	SSAC: 60SEC,24VAC, SS, DN, 8-PIN, 24V TIME DELAY RELAY	PRH-23
3	SS1/2/3	SQD: M.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	TB2B	SQD: TERMINAL BLOCK END BARRIER	9080-GM6B
AR	TB2C	SQD: TERMINAL BLOCK END CLAMP	9080-GH10
1	DR	DUPLEX RECEPTICLE 20AMP GFCI W/COVER PLATE	AR
AR	DS	DOOR SWITCHES: INTRUSION ALARM, HD MAGNETIC OR MECHANICAL	AR
1	LB	LIGHT BAR: 27" LED STRIP	PORTFOLIO 25125
1	NEU	BUCHANAN #12-1/0 WIRE 1 POLE	824 OR 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 ALUMINUM: 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 3, 4, OR 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, OR 12 AS REQUIRED. 3 POINT LATCH SYSTEM ON DOOR. 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, SCREWS, BOLTS, NUTS, SEALANTS, ADHESIVES, AND MISC. HARVARE 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.

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

~~EXHIBIT A PUMP STATION CONTROL PANEL SPECIFICATIONS~~

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	TRIPLEX PUMP CONTROL PANEL	SHEET: WW-58
DRAWN: DAG	CONTROL PANEL NOTES	DIR: WASTEWATER
SCALE: N.T.S.	380 RIVERSIDE CIRCLE, NAPLES, FLOIRDA, 34102	DWG. WW-58.DWG

EXHIBIT A - PUMP STATION CONTROL PANEL SPECIFICATIONS
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	RECEPTICLE 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

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

**CITY OF NAPLES
PURCHASING DIVISION
CITY HALL, 735 8TH STREET SOUTH
NAPLES, FLORIDA 34102
PH: 239-213-7100 FX: 239-213-7105**

ADDENDUM NUMBER 1

NOTIFICATION DATE:	BID TITLE:	BID NUMBER:	BID OPENING DATE & TIME:
03/09/12	PUMP STATION CONTROL PANELS	032/12	03/30/12 2:00PM

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

Demandstar did not include the Exhibit A specifications as required (see revised bid document).

IMPORTANT MESSAGE

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

**CITY OF NAPLES
PURCHASING DIVISION
CITY HALL, 735 8TH STREET SOUTH
NAPLES, FLORIDA 34102
PH: 239-213-7100 FX: 239-213-7105**

ADDENDUM NUMBER 1

NOTIFICATION DATE:	BID TITLE:	BID NUMBER:	BID OPENING DATE & TIME:
03/09/12	PUMP STATION CONTROL PANELS	032/12	03/30/12 2:00PM

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

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.

IMPORTANT MESSAGE

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

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 require 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 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 use 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 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 submits 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 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.

SITE VISIT

Site visits to see existing panels are available upon request, but must be coordinated through Purchasing.

IMPORTANT MESSAGE

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

**CITY OF NAPLES
PURCHASING DIVISION
CITY HALL, 735 8TH STREET SOUTH
NAPLES, FLORIDA 34102
PH: 239-213-7100 FX: 239-213-7105**

ADDENDUM NUMBER 3

NOTIFICATION DATE:	BID TITLE:	BID NUMBER:	BID OPENING DATE & TIME:
03/09/12	PUMP STATION CONTROL PANELS	032/12	04/11/12 2:00PM

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

The bid opening date is being modified to 2:00 PM, April 11, 2012.

IMPORTANT MESSAGE

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

**CITY OF NAPLES
PURCHASING DIVISION
CITY HALL, 735 8TH STREET SOUTH
NAPLES, FLORIDA 34102
PH: 239-213-7100 FX: 239-213-7105**

ADDENDUM NUMBER 4

<p align="center">NOTIFICATION DATE:</p> <p align="center">3/30/12</p>	<p align="center">BID TITLE:</p> <p align="center">PUMP STATION CONTROL PANELS</p>	<p align="center">BID NUMBER:</p> <p align="center">032/12</p>	<p align="center">BID OPENING DATE & TIME:</p> <p align="center">04/11/12 2:00PM</p>
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**THE FOLLOWING INFORMATION IS HEREBY INCORPORATED INTO,
AND MADE AN OFFICIAL PART OF THE ABOVE REFERENCED BID.**

A question was raised under MINIMUM CONTRACT SERVICE REQUIREMENTS requiring that Bidders shall have a servicing office within Collier and Lee County.

The City is amending the restriction to allow bidders with a service office outside of Lee / Collier as long as there is demonstrated proof that a technician can be onsite within 2 hours of an issue with a control panel during the warranty period. Please provide information relating to where the office is located and how a technician would be available within a two (2) hour period of time.

IMPORTANT MESSAGE

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

END OF EXHIBIT B

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

EXHIBIT D

CERTIFICATION OF COMPLIANCE WITH IMMIGRATION LAWS

The undersigned, is the _____ of the _____ **Mader Electric Motors** (“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 _____ day of _____, 2012.

By: _____

ACKNOWLEDGMENT

STATE OF _____

COUNTY OF _____

SWORN TO AND SUBSCRIBED before me this _____ day of _____, 2011.

The Affiant, _____, 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.

Print Name:

NOTARY PUBLIC - STATE
OF _____

Commission Number: _____

My Commission Expires: _____

(Notary Seal)