

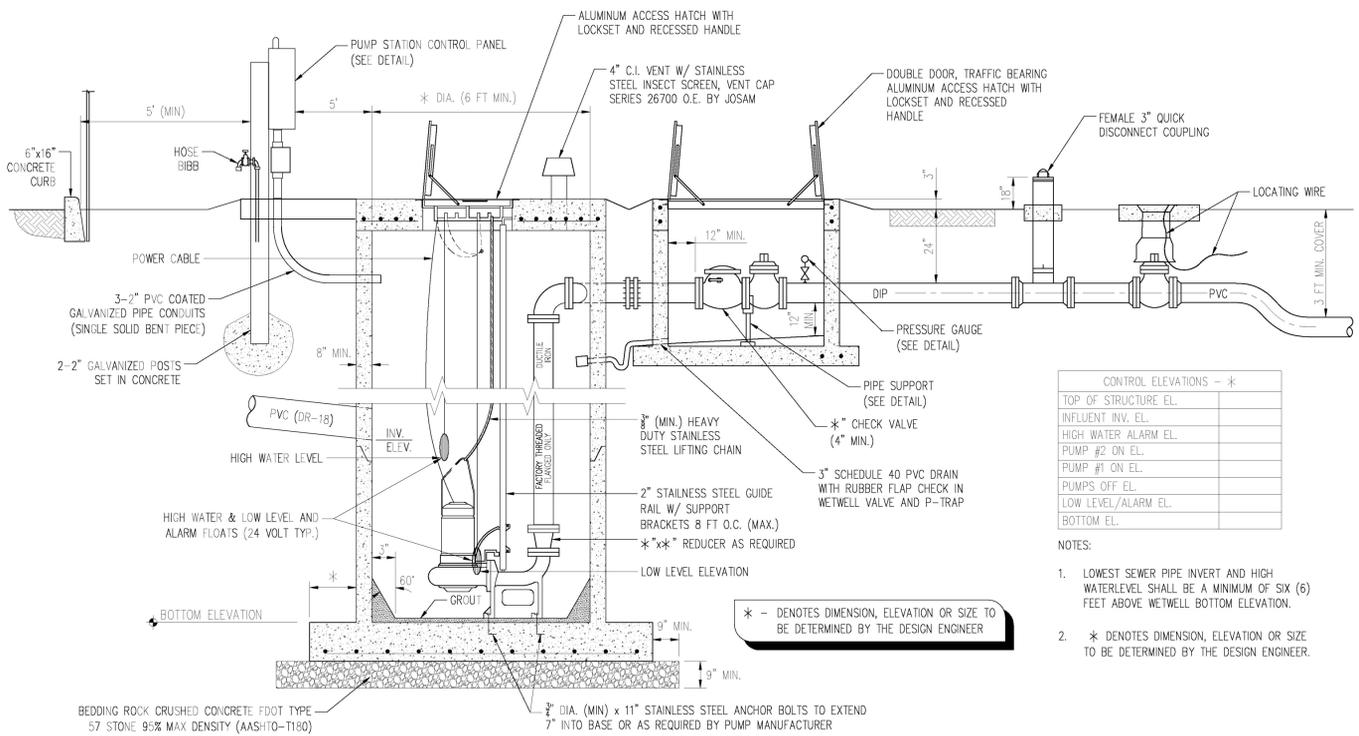
NOTE:  
SEWER LIFT STATION INSTALLATION AND MATERIAL SHALL CONFORM TO MINIMUM REQUIREMENTS OF NEC 500 THROUGH 504 FOR HAZARDOUS/CLASSIFIED LOCATIONS.

**GENERAL/SITE NOTES**

1. THE PUMP STATION SITE PLAN IS A COMPOSITE OF REQUIRED ITEMS FOR LIFT STATIONS WITHIN THE CITY OF WINTER GARDEN. EACH SITE CONFIGURATION WILL DICTATE THE ORIENTATION AND PLACEMENT OF ALL THE NECESSARY FACILITIES.
2. FOR ALL LIFT STATIONS (TO BE MAINTAINED BY THE CITY), THE PROPERTY FOR LIFT STATION AND ACCESS ROAD SHALL BE WITHIN A DEDICATED RIGHT-OF-WAY BY DEED OR PLAT, TO THE CITY. NO EASEMENTS WILL BE ALLOWED FOR LIFT STATIONS OR ACCESS ROADS.
3. EACH LIFT STATION SHALL HAVE ONLY ONE INFLUENT LINE. ALL COLLECTION LINES SHALL TERMINATE AT THE ENTRANCE MASTER MANHOLE PRIOR TO ENTERING WET WELL. MASTER MANHOLES RECEIVING FORCE MAIN FLOW SHALL BE LINED WITH FIBERGLASS OR HDPE AT THE PRECASTERS FACILITY.
4. THE CONTRACTOR IS REQUIRED TO PROVIDE ACCURATE "AS BUILT" DRAWINGS TO THE CITY FOR FINAL ACCEPTANCE. AS-BUILTS SHALL BE PREPARED BY A FLORIDA LICENSED SURVEYOR (PLS).
5. ENTIRE SITE TO BE ENCLOSED WITH 6 (SIX) FOOT GREEN VINYL COATED CHAIN LINK FENCE AND (2) SIX FOOT GATES.
6. ENTIRE SITE TO BE GRADED TO DRAIN AWAY FROM STRUCTURES AND HAVE 6" THICK BEDDING ROCK (GRAVEL) ON PLASTIC EXTENDING TO 6"x16" CONCRETE CURB.
7. PROVIDE 12 FOOT WIDE PAVED ACCESS ROAD (WITH TURN AROUND IF REQUIRED) TO LIFT STATION CONSTRUCT ACCESS ROAD WITH A (MIN) OF 6" SOIL-CEMENT BASE AND 2" ASPHALT SURFACE OR 6" CONC. SURFACE, FROM NEAREST PAVED STREET.

**WETWELL AND VALVE VAULT STRUCTURAL NOTES**

1. THE STRUCTURE TO BE SUPPLIED BY CONCRETE PRECASTER SHALL BE DESIGNED AND CERTIFIED BY FLORIDA REGISTERED PROFESSIONAL ENGINEER. DESIGN DETAILS SHOWN ON THIS SHEET ARE MINIMUM REQUIREMENTS.
2. STRUCTURAL DESIGN STANDARDS - ACI STANDARD 318-89 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND ACI 350R-83, "CONCRETE SANITARY ENGINEERING STRUCTURES". PRECAST WALL SECTIONS ASTM C478.
3. ALL CONCRETE SHALL HAVE A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF  $f_c=4000$  PSI AT 28 DAYS, UNLESS NOTED ON DRAWINGS.
4. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60. MINIMUM YIELD STRENGTH SHALL BE 60,000 P.S.I.
5. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE 3 INCHES FOR CONCRETE PLACED AGAINST THE GROUND AND 2 INCHES EVERYWHERE ELSE UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR SHALL COORDINATE HATCH OPENING SIZE & LOCATION AS REQUIRED BY PUMP MANUFACTURER/SUPPLIER WITH PRECAST CONCRETE SUPPLIER PRIOR TO CASTING. SHOP DRAWINGS OF PRECAST SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW.
7. ALL WATERSTOPS SHALL BE A-LOC OR D-LOC PREFORMED PLASTIC ADHESIVE BY ATLANTIC CONCRETE INDUSTRIES OR EQUAL AS RECOMMENDED BY THE PRECASTER WITH ENGINEERS APPROVAL.
8. THE CONTRACTOR SHALL PREPARE THE SITE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION PREPARED FOR THIS PROJECT.
9. SIZE AND LOCATION OF EQUIPMENT PADS AND ANCHOR BOLTS SHALL BE AS REQUIRED BY EQUIPMENT MANUFACTURERS UNLESS SPECIFIED ON DRAWINGS. UNLESS OTHERWISE NOTED, ALL ANCHORS, BOLTS, NUTS, WASHERS, EXPANSION SLEEVES AND OTHER FASTENERS SHALL BE 316 STAINLESS STEEL.
10. THE WET WELL SHALL BE A (MIN.) OF 6 FEET IN DIAMETER AND SHALL BE PRECAST REINFORCED CONCRETE SECTIONS WITH THE BOTTOM SECTION BEING MONOLITHICALLY POURED WITH BASE. THE BASE SECTION SHALL MEASURE SIX FEET MINIMUM FROM THE FLOOR.
11. THE INSIDE AND OUTSIDE OF THE WET WELL AND VAULT SHALL RECEIVE 2 COATS OF BITUMASTIC SUPER SERVICE BLACK.
12. ALL PENETRATIONS THROUGH WET WELL AND VALVE VAULT SHALL BE GROUTED WATER TIGHT WITH NON-SHRINK GROUT AND REPAINTED.
13. WRAP ALL EXTERIOR JOINTS WITH EXTRUDED BUTYL ADHESIVE TAPE SEALANT, EZ-WRAP OR APPROVED EQUAL.
14. LOWEST SEWER PIPE INVERT AND HIGH WATER LEVEL SHALL BE A MINIMUM OF SIX (6) FEET ABOVE WETWELL BOTTOM ELEVATION.
15. ALL JOINTS IN THE WET WELL SHALL BE GROUTED WATER TIGHT WITH NON-SHRINK GROUT.



CONTROL ELEVATIONS - \*

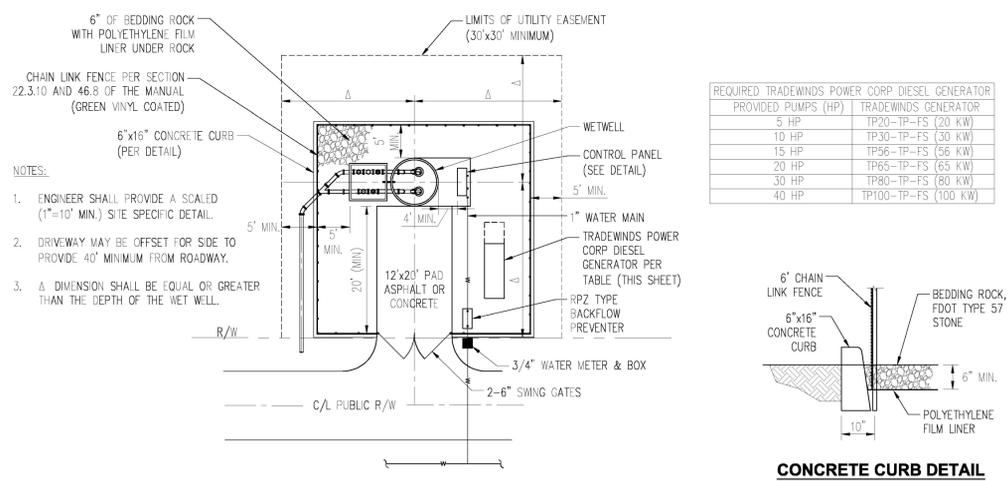
TOP OF STRUCTURE EL.	
INFLUENT INV. EL.	
HIGH WATER ALARM EL.	
PUMP #2 ON EL.	
PUMP #1 ON EL.	
PUMPS OFF EL.	
LOW LEVEL/ALARM EL.	
BOTTOM EL.	

- NOTES:
1. LOWEST SEWER PIPE INVERT AND HIGH WATERLEVEL SHALL BE A MINIMUM OF SIX (6) FEET ABOVE WETWELL BOTTOM ELEVATION.
  2. \* DENOTES DIMENSION, ELEVATION OR SIZE TO BE DETERMINED BY THE DESIGN ENGINEER.

**EQUIPMENT SPECIFICATIONS/NOTES**

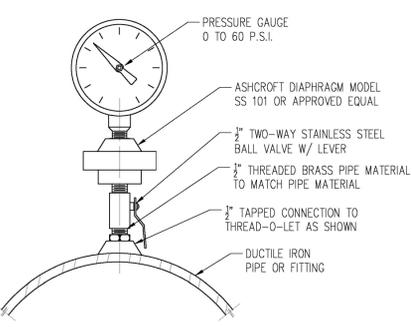
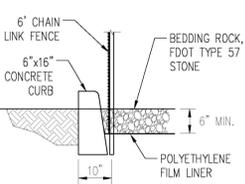
1. PUMPS SHALL BE FLYGT SUBMERSIBLE SEWAGE PUMPS, WITH 230/V, 3 PHASE, 60 HERTZ MOTORS AND (MIN.) 4" DISCHARGE.
2. ACCESS HATCHES SHALL BE ALUMINUM, COMPLETE WITH HINGED AND HARDCOVER. SIZE AS REQUIRED. HATCH SHALL OPEN TOWARD CONTROL PANEL AS SHOWN IN SECTION VIEW.
3. GUIDE RAILS, UPPER GUIDE HOLDERS, LIFTING CABLE, AND POWER CABLE HOLDER SHALL ALL BE STAINLESS STEEL.
4. ALL MISCELLANEOUS HARDWARE, NUTS, BOLTS, WASHERS, FASTENERS, ETC. SHALL BE STAINLESS STEEL OR NON FERROUS MATERIAL.
5. CHECK VALVES SHALL BE IN ACCORDANCE WITH THE APPROVED MATERIALS LIST. PLEASE SEE APPENDIX A IN THE UTILITY SPECIFICATIONS.
6. ALL PIPING WITHIN THE WET WELL AND VALVE BOX SHALL BE FLANGED DUCTILE IRON PIPE. PIPING AND JOINTS IN WETWELL SHALL BE WRAPPED WITH PROTECTIVE TAPE, WRAPID TAPE BY CANUSA OR EQUAL. FORCE MAIN TO BE 4" (MIN.) DUCTILE IRON PIPE (PROTECTOR 401) TO THE EMERGENCY PUMP CONNECTION.
7. ALL PIPE JOINTS, OTHER THAN FLANGED JOINTS, WITHIN THE FENCED AREA SHALL BE MECHANICALLY RETRAINED AS A MINIMUM.
8. SEE LIFT STATION ELECTRICAL SHEET FOR ELECTRICAL, CONTROL, AND INSTRUMENTATION REQUIREMENTS. CONTROL PANEL SHALL BE AS MANUFACTURED BY XYLEM OR APPROVED EQUAL.
9. PROVIDE 3/4" WASH DOWN HOSE BIBB WITH REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTER.
10. AIR VENT TO BE JOSAM 4" VENT CAP, MODEL 26700 BY JOSAM OR EQUAL. PROVIDE STAINLESS STEEL INSECT SCREEN.
11. PUMP SHALL BE A MINIMUM OF 5.0 HORSEPOWER. PUMP STATIONS/PUMPS WITH 30 OR GREATER HORSEPOWER EACH SHALL INCLUDE EMERGENCY STAND-BY GENERATORS. SEE STANDARDS FOR OTHER CONDITIONS THAT ALSO REQUIRE EMERGENCY STAND-BY GENERATORS.
12. THE HINGES FOR THE LIFT STATION HATCH SHALL BE MOUNTED ADJACENT TO LIFT STATION ELECTRICAL PANEL. IF THIS CANNOT BE ACCOMPLISHED THEN A REMOVABLE SAFETY RAIL SHALL BE INSTALLED BETWEEN THE LIFT STATION PANEL AND THE HATCH TO THE WET WELL.
13. PUMP POWER AND SENSOR CORDS SHALL HAVE MINIMALLY INTRUSIVE OUTER JACKET.
14. PUMP SHALL BE: AS NOTED BELOW, OPERATING (DESIGN) POINT SHALL BE  GPM @  FEET, TOTAL SYSTEM HEAD.

**1 PUMP STATION ELEVATIONS & DETAILS**  
N.T.S.

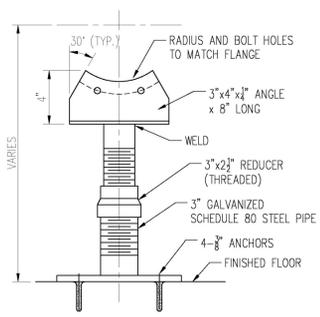


REQUIRED TRADEWINDS POWER CORP DIESEL GENERATOR PROVIDED PUMPS (HP) TRADEWINDS GENERATOR

5 HP	TP20-TP-FS (20 KW)
10 HP	TP30-TP-FS (30 KW)
15 HP	TP56-TP-FS (56 KW)
20 HP	TP65-TP-FS (65 KW)
30 HP	TP80-TP-FS (80 KW)
40 HP	TP100-TP-FS (100 KW)



- NOTES:
1. TEFLON TAPE ALL THREADED CONNECTIONS.
  2. PRESSURE GAUGE SHALL BE ASHCROFT MODEL TYPE 1279-S OR APPROVED EQUAL.



NOTE:  
THIS SUPPORT SIMILAR TO GRINELL FIG. 264 O/E

INFORMATION PROVIDED BY THE ENGINEER OF RECORD

MANUFACTURER: **FLYGT** MODEL:  IMP:

DIA:  MM. SPEED:  RPM

DISCHARGE SIZE:  INCH(ES)

VOLTAGE: **230** HZ.: **60** PHASE: **3**

H.P.:  MIN. SOLID SIZE:  IN. CURVE:

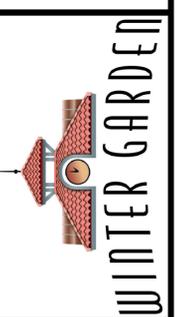
**2 PUMP STATION TYPICAL SITE PLAN**  
N.T.S.

**3 PRESSURE GAUGE**  
N.T.S.

**4 PIPE SUPPORT**  
N.T.S.

DATE	4/4/14
ITEM	
Added Equipment Note #12	9/2/17
Removed Bubbler Line	5/29/18
Power Conduits & Seal Offs	5/29/18
Control Panel Distance	5/29/19
No.	1
	2
	3
	4

**CITY OF WINTER GARDEN, FLORIDA**  
**STANDARDS AND SPECIFICATIONS**  
FOR UTILITIES CONSTRUCTION



**STANDARD DETAILS**  
FOR  
LIFT STATION: MECHANICAL

WINTER GARDEN STANDARDS INCORPORATED WITH DESIGN ENGINEERS DOCUMENTS.  
THE DETAILS, NOTES AND SPECIFICATIONS SHOWN ON THIS SHEET REPRESENT THE NOTED STANDARDS OF THE CITY OF WINTER GARDEN FOR CONSTRUCTION OF PUBLIC WORKS AND UTILITY INFRASTRUCTURE. BY INCLUDING THE STANDARDS, THE DESIGN ENGINEER HAS ACKNOWLEDGED THAT THEY ARE EFFECTIVE TO THE PROJECT AND THAT DETAILS, NOTES, OR SPECIFICATIONS ARE AS PROVIDED BY THE CITY AND HAVE NOT BEEN REVISED OR MODIFIED WITHOUT WRITTEN APPROVAL FROM THE CITY ENGINEER OR UTILITY DIRECTOR.