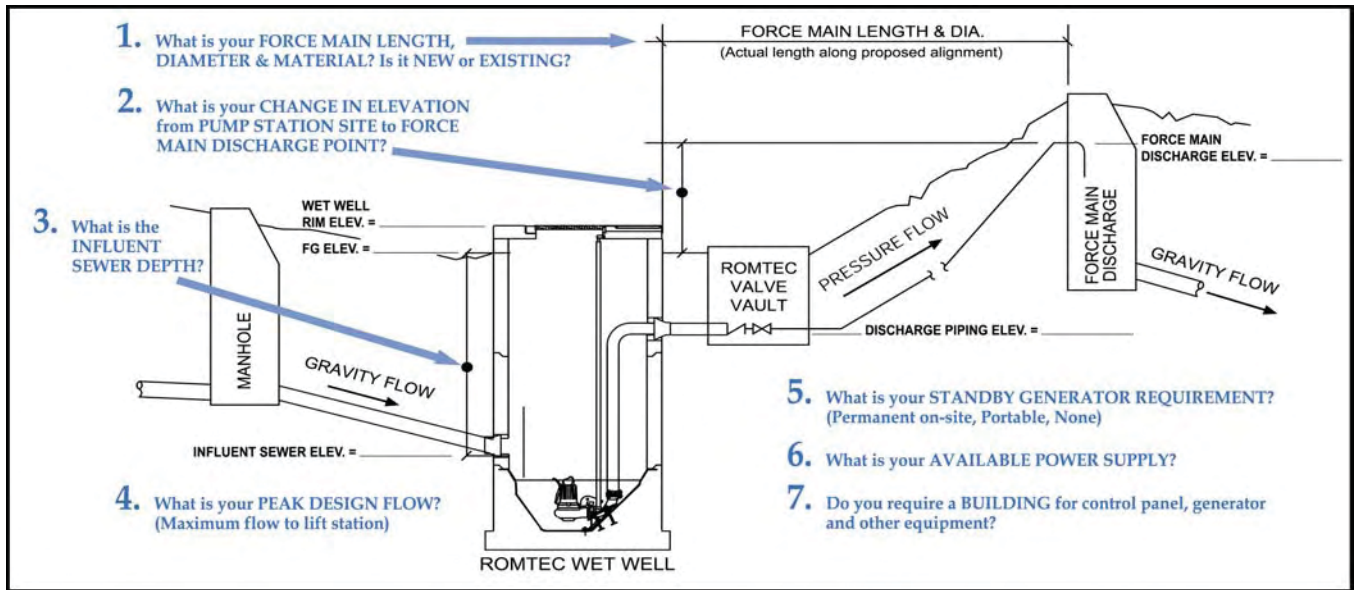


PART 2: DESIGN DATA

If using assumed elevations, note this in Additional Information.



1. Force main length: 230 ft. (actual length along proposed alignment)

Force main diameter (inside): 6 in. inside dia.

Force main material (i.e., PVC C-900 class 150, ductile iron class 52, HDPE DR17 class 100, etc.): ?

Force Main is: New Existing

2. Elevation change from lift station site to force main discharge point: -4.5 ft.

Finish grade elevation at wet well: 343.5 ft.

Discharge piping elevation at valve vault: 341.5 ft.

Force main discharge elevation: 339 ft.

3. Influent sewer elevation: 327.69 ft.

4. Peak design flow (maximum flow to lift station): 400 g.p.m.

5. Standby generator requirement: None Permanent Portable None Don't Know

Standby generator fuel: SELECT ONE Diesel Natural Gas Propane

6. Available power supply: 480V 208V 240V 480V

3-phase Single-phase 3-phase

Additional loads on site (besides the lift station) to be powered by generator: _____ KVA

7. Electrical controls weather protection: None Enclosed Building Shelter Structure None

Weather protection structure is for: SELECT ONE Electrical Controls Only

Electrical Controls & Generator

Controls, Generator, Chemical Feed

PROJECT INFO			PACKAGE/STARTUP	
Job Name:	CENTRAL VALLEY HWY		Offering:	Complete System
Company:	CITY OF SHAFER		Mechanical:	All by Romtec Utilities
Contact:			Pumps:	By Romtec Utilities
Job Type:	New Station		Control Panel:	By Romtec Utilities
Water Type/Source:	Wastewater (Sewage)		Generator:	N/A
Import/Domestic:	Import Acceptable		Advisor/Startup:	Mechanical & Electrical
		Turnkey:	No	

DESIGN CRITERIA - WWP6D-VM-D0050-300x30-4D-23-DPO

FLOW RATE		
Peak Inflow:	200	GPM
Pumping Rate:	276	GPM (of single pump)
Static Head:	11.0	Feet
TDH:	25.7	Feet
TDH Calcs:	RU Calcs	

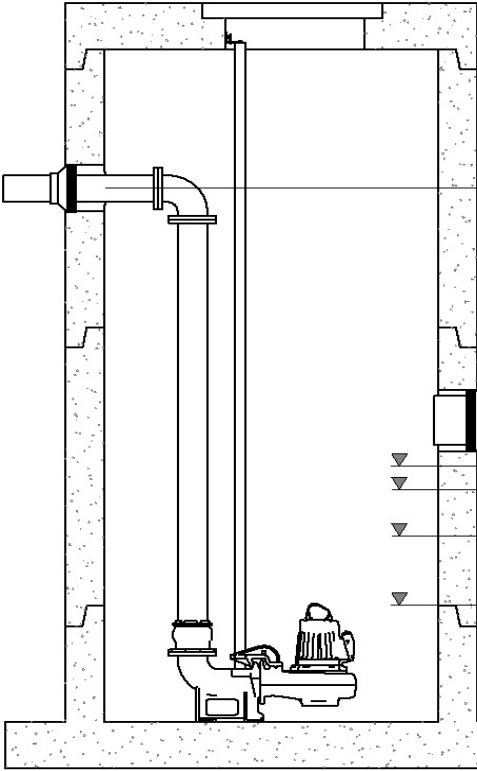
ACTIVE VOLUME		
Max Pump Starts:	10.00	Starts/Hr
Cycle Time:	6.00	Minutes
Active Volume:	414.00	Gallons
Active Volume:	55.35	Cu Feet
Well Shape:	Round	
Well Diameter:	6	Feet
Well Dimensions:	N/A	N/A
Cross-Section Area:	28.27	Sq Feet
Min. Depth Required:	1.96	Feet
Active Depth:	2.00	Feet

STORAGE VOLUME (if required)		
Time:		Minutes
Flow Rate:		GPM
Volume:	0.00	Gallons
Volume:	0.00	Cu. Feet
Min. Depth Required:	0.00	Feet
Storage Depth:		Feet

ON-SITE POWER	
Power:	240V / 3-Phase

FORCE MAIN		
FM Info:	New	
Length:	228	Feet
FM Discharge:	341.51	Feet
FM High Point:	341.76	Feet
	(1)	(2)
Nominal ID:	4"	
Type/Rating:	PVC C900 DR18	

INFLUENT PIPING		
Influent Invert:	336.24	
Influent Size:	12"	
Type:	PVC (DIPS)	



RIM:	346.80
FINISH GRADE:	345.80
DISCHARGE C.L.:	341.76
INVERT:	336.24
HIGH LEVEL:	334.30
LAG START:	333.80
LEAD START:	332.80
PUMP STOP:	330.80
SUMP:	328.80
BASE:	328.30

Note: Image is a preliminary representation of the pumping system. Elevations shown are the primary factors used for sizing the wet well. Backup levels not shown. Additional (or fewer) level settings may be required.

5.02 LIFT STATION DESIGN CRITERIA FORM

Romtec Utilities has designed this Scope of Supply and Design Submittal based on the following information:

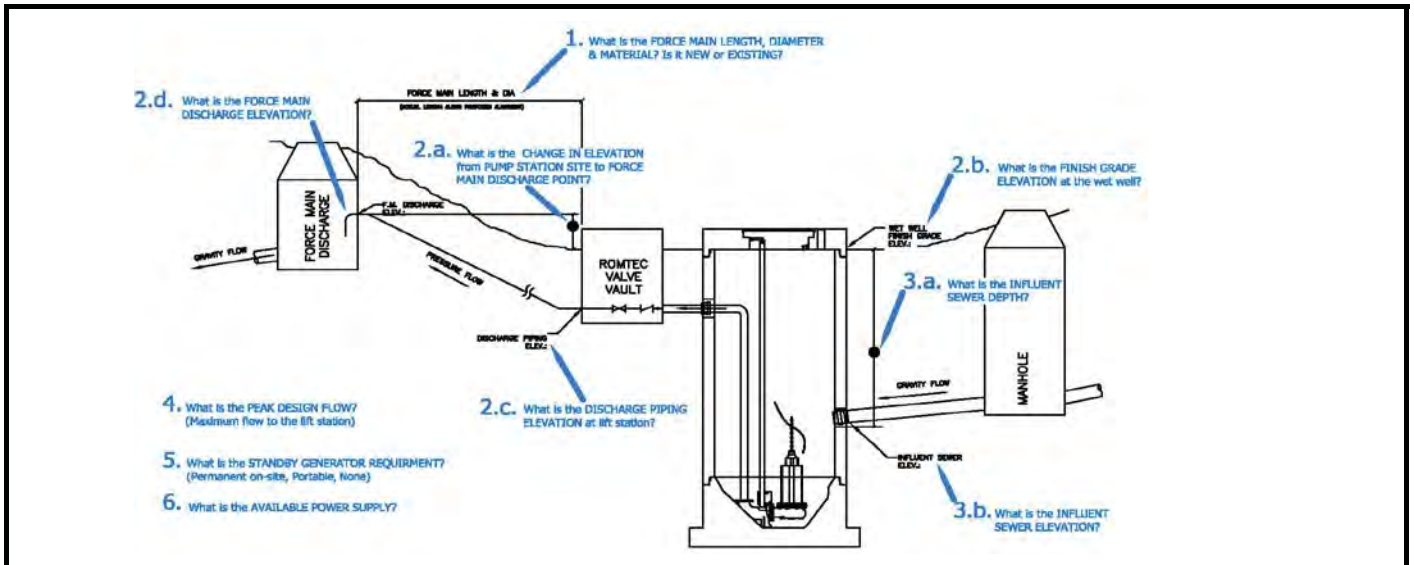
Design Criteria Date: 6/4/2015

PART 1: PROJECT CONTACT INFORMATION

Information here in provided by:	<u>Quad Knopf</u>				
Company/Agency Type:	<u>Engineer</u>	<u>Engineer</u>	<u>Developer</u>	<u>Gov't. Agency</u>	<u>Other</u>
First Name:	<u>Matthew</u>				
Last Name:	<u>Barnes</u>				
Title:	<u>Senior Associate Engineer</u>				
Email Address:	<u>metthewb@quadknopf.com</u>				
Address:	<u>5080 California Avenue, Suite 220</u>				
City:	<u>Bakersfield</u>				
State/Province:	<u>California</u>	Zip Code:	<u>93309</u>		
Country:	<u>USA</u>				
Telephone:	<u>661-616-2600</u>	Phone Ext:	<u>4108</u>		
Mobile/Other Phone:	<u>661-444-6689</u>	Fax:	<u>661-616-5970</u>		
Project Name:	<u>Gossamer Grove</u>				
Your Client for this project is:	<u>Private Co.</u>	<u>Public Agency</u>	<u>Private Co.</u>		
Project Site Address (must include if there is a generator):	<u>Shafter, CA.</u>				
		Project Zip:	<u></u>		
Is site plan drawing available at this time?	<u>No</u>	<u>Yes</u>	<u>No</u>	<u>N/A</u>	
Project Engineer:	<u>Matthew Barnes</u>				
Reviewing Entity who reviews/approves this Scope of Supply & Design Submittal:	<u>City of Shafter</u>				
Final Project Owner and/or Operator:	<u>City of Shafter</u>				
Governing Sewer or Water Authority:	<u>City of Shafter</u>				
Does Authority have a lift station standard?	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>N/A</u>	
Who should Romtec contact about the lift station design standard?	<u>City of Shafter</u>				
Does this project require "Buy America" materials?	<u>No</u>	<u>Yes</u>	<u>No</u>	<u>N/A</u>	

5.02 LIFT STATION DESIGN CRITERIA FORM

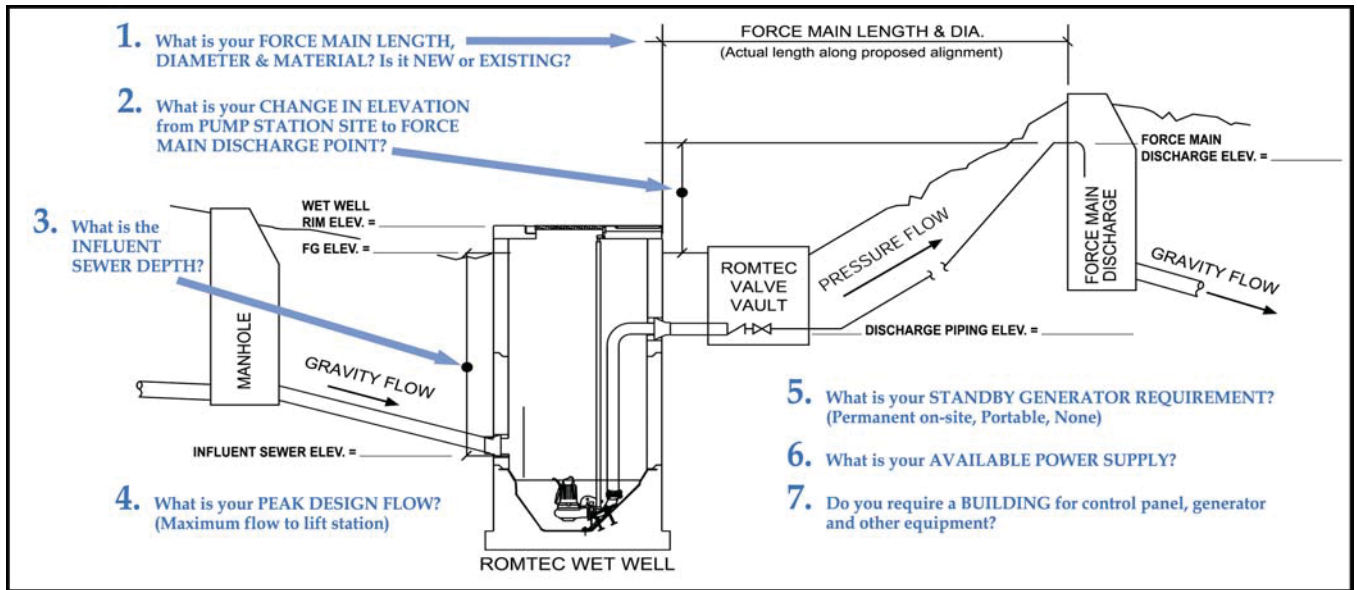
PART 2: DESIGN DATA



1. Force main length:		475 ft. (Temporary Force Main: 0-1200 gpm) 1500 ft. (Permanent Force Main: 1200-2200 gpm)																										
Force main diameter (inside):		10 in. inside dia. (Temporary Force Main) 12 in. inside dia. (Temporary Force Main)																										
Force main material (PVC, DI, etc.):		C900 CL150 PVC																										
Force Main is:		<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="width: 33%; text-align: center;">New</td> <td style="width: 33%; text-align: center;">New</td> <td style="width: 33%; text-align: center;">Existing</td> </tr> </table>	New	New	Existing																							
New	New	Existing																										
Force Main Discharge (manhole, gravity sewer, pressure force main, etc.)		Manhole for both the temporary and permanenet force mains																										
Source of Water:		Housing Development																										
Water Type:		Wastewater																										
2.a Elevation change from lift station site to force main discharge point:		-5.75 ft. (Temporary Force Main) -6.75 ft. (Permanent Force Main)																										
2.b Finish grade elevation at wet well:		391.75 ft.																										
2.c Discharge piping centerline elevation at lift station:		387 ft.																										
2.d Force main discharge elevation:		386 ft. (Temporary Force Main) 385 ft. (Permanent Force Main)																										
3.a Influent sewer depth:		16.39 ft.																										
3.b Influent sewer elevation:		375.36 ft.																										
4. Peak design inflow (maximum flow to lift station):		1200 g.p.m. (Temporary Force Main) 2158 g.p.m. (Permanent Force Main)																										
5. Pumping Rate:		652 g.p.m. phase 1 1018 g.p.m. phase 2 1420 g.p.m. phase 3 2158 g.p.m. full build out																										
6. Standby generator requirement:		<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="width: 25%; text-align: center;">Permanent</td> <td style="width: 25%; text-align: center;"><u>Permanent</u></td> <td style="width: 25%; text-align: center;"><u>Portable</u></td> <td style="width: 25%; text-align: center;"><u>None</u></td> <td style="width: 20%; text-align: center;"><u>Don't Know</u></td> </tr> <tr> <td style="text-align: center;">Diesel</td> <td style="text-align: center;"><u>Diesel</u></td> <td style="text-align: center;"><u>Natural Gas</u></td> <td style="text-align: center;"><u>Propane</u></td> <td></td> </tr> <tr> <td style="text-align: center;">480V</td> <td style="text-align: center;"><u>208V</u></td> <td style="text-align: center;"><u>240V</u></td> <td style="text-align: center;"><u>480V</u></td> <td></td> </tr> <tr> <td style="text-align: center;">3-phase</td> <td style="text-align: center;"><u>Single-phase</u></td> <td style="text-align: center;"><u>3-phase</u></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">Is this lift station considered a classified space?</td> <td style="text-align: center;"><u>Yes</u></td> <td style="text-align: center;"><u>No</u></td> <td></td> <td></td> </tr> </table>	Permanent	<u>Permanent</u>	<u>Portable</u>	<u>None</u>	<u>Don't Know</u>	Diesel	<u>Diesel</u>	<u>Natural Gas</u>	<u>Propane</u>		480V	<u>208V</u>	<u>240V</u>	<u>480V</u>		3-phase	<u>Single-phase</u>	<u>3-phase</u>			Is this lift station considered a classified space?	<u>Yes</u>	<u>No</u>			
Permanent	<u>Permanent</u>	<u>Portable</u>	<u>None</u>	<u>Don't Know</u>																								
Diesel	<u>Diesel</u>	<u>Natural Gas</u>	<u>Propane</u>																									
480V	<u>208V</u>	<u>240V</u>	<u>480V</u>																									
3-phase	<u>Single-phase</u>	<u>3-phase</u>																										
Is this lift station considered a classified space?	<u>Yes</u>	<u>No</u>																										
Standby generator fuel:																												
7. Available power supply:																												

PART 2: DESIGN DATA

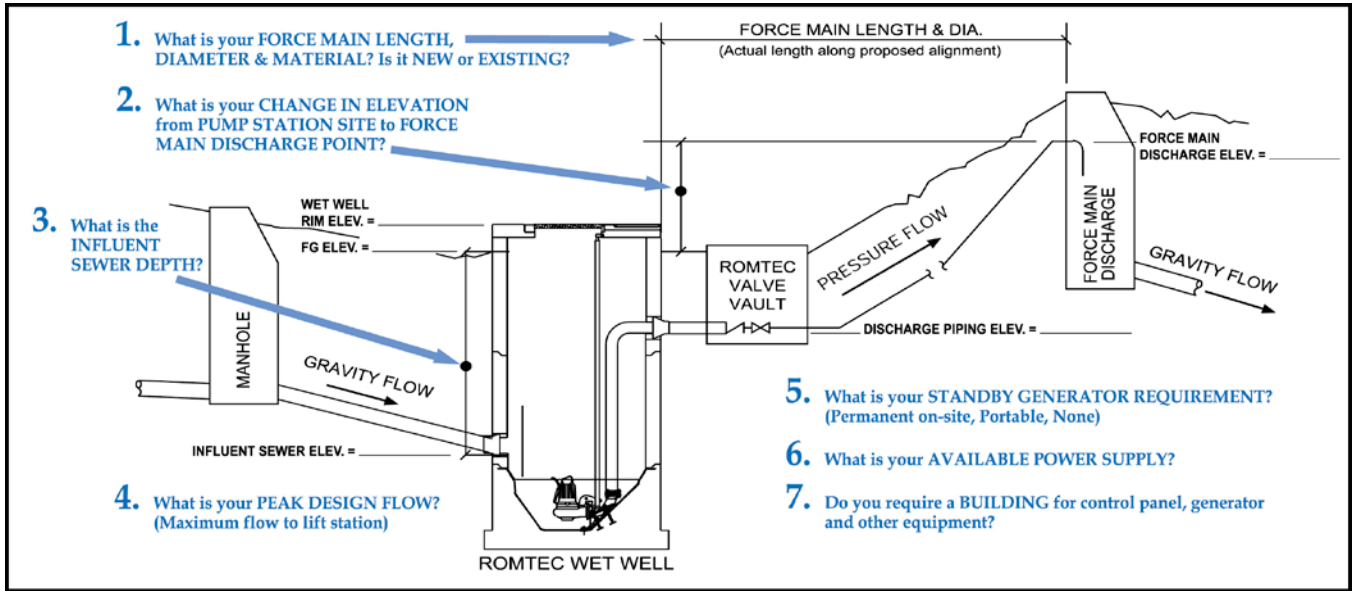
If using assumed elevations, note this in Additional Information.



1. Force main length:	<u>2100</u> ft. (actual length along proposed alignment)			
Force main diameter (inside):	<u>4.39</u> in. inside dia.			
Force main material (i.e., PVC C-900 class 150, ductile iron class 52, HDPE DR17 class 100, etc.):	<u>C900 DR25 CL100</u>			
Force Main is:	<input checked="" type="checkbox"/> <u>New</u>	<input type="checkbox"/> <u>New</u>	<input type="checkbox"/> <u>Existing</u>	
2. Elevation change from lift station site to force main discharge point:	<u>-1.5</u> ft.			
Finish grade elevation at wet well:	<u>344</u> ft.			
Discharge piping elevation at valve vault:	<u>340</u> ft.			
Force main discharge elevation:	<u>338.72</u> ft.			
3. Influent sewer elevation:	<u>330.7</u> ft.			
4. Peak design flow (maximum flow to lift station):	<u>110</u> g.p.m.			
5. Standby generator requirement:	<input checked="" type="checkbox"/> <u>None</u>	<input type="checkbox"/> <u>Permanent</u>	<input type="checkbox"/> <u>Portable</u>	<input type="checkbox"/> <u>None</u> <input type="checkbox"/> <u>Don't Know</u>
Standby generator fuel:	<input checked="" type="checkbox"/> <u>SELECT ONE</u>	<input type="checkbox"/> <u>Diesel</u>	<input type="checkbox"/> <u>Natural Gas</u>	<input type="checkbox"/> <u>Propane</u>
6. Available power supply:	<input checked="" type="checkbox"/> <u>240V</u>	<input type="checkbox"/> <u>208V</u>	<input type="checkbox"/> <u>240V</u>	<input type="checkbox"/> <u>480V</u>
	<input checked="" type="checkbox"/> <u>3-phase</u>	<input type="checkbox"/> <u>Single-phase</u>	<input type="checkbox"/> <u>3-phase</u>	
Additional loads on site (besides the lift station) to be powered by generator:	<u> </u> KVA			
7. Electrical controls weather protection:	<input checked="" type="checkbox"/> <u>None</u>	<input type="checkbox"/> <u>Enclosed Building</u>	<input type="checkbox"/> <u>Shelter Structure</u>	<input type="checkbox"/> <u>None</u>
Weather protection structure is for:	<input checked="" type="checkbox"/> <u>SELECT ONE</u>	<input type="checkbox"/> <u>Electrical Controls Only</u>		
		<input type="checkbox"/> <u>Electrical Controls & Generator</u>		
		<input type="checkbox"/> <u>Controls, Generator, Chemical Feed</u>		

PART 2: DESIGN DATA

If using assumed elevations, note this in Additional Information.



1. Force main length: _____ 75 ft. (actual length along proposed alignment)

Force main diameter (inside): _____ 6 in. inside dia.

Force main material (i.e., PVC C-900 class 150, ductile iron class 52, HDPE DR17 class 100, etc.): _____ PVC C900

Force Main is: New Existing

2. Elevation change from lift station site to force main discharge point: _____ -4.1 ft.

Finish grade elevation at wet well: _____ 337 ft.

Discharge piping elevation at valve vault: _____ 333 ft.

Force main discharge elevation: _____ 332.9 ft.

3. Influent sewer elevation: _____ 321 ft. 15" SDR-35

4. Peak design flow (maximum flow to lift station): _____ 400 g.p.m.

5. Standby generator requirement: None Permanent Portable None Don't Know

Standby generator fuel: SELECT ONE Diesel Natural Gas Propane

6. Available power supply: 480V 208V 240V 480V

3-phase Single-phase 3-phase

Additional loads on site (besides the lift station) to be powered by generator: _____ KVA

7. Electrical controls weather protection: None Enclosed Building Shelter Structure None

Weather protection structure is for: SELECT ONE Electrical Controls Only

Electrical Controls & Generator

Controls, Generator, Chemical Feed

5.02 LIFT STATION DESIGN CRITERIA



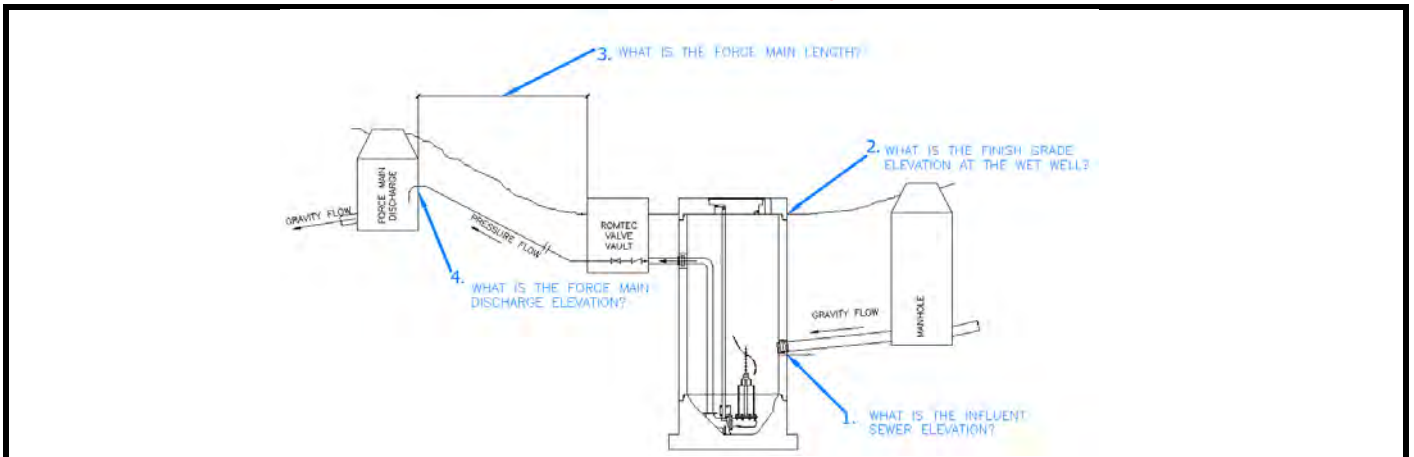
Romtec Utilities has designed this Scope of Supply and Design Submittal based on the following information:

PART 1: PROJECT CONTACT INFORMATION

Date:	9/14/2015		
Project Name:	Tulare Lift Station		
Information here in provided by:	City of Shafter		
Name:	_____		
Email Address:	_____		
Telephone:	_____	Phone Ext:	_____
Project Site Address:	Shafter, CA		
ACAD site plan drawing available at this time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Final Project Owner and/or Operator:	City of Shafter		
Governing Sewer or Water Authority:	City of Shafter		
Does Authority have a lift station standard?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does this project require "Buy America" materials?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

PART 2: DESIGN DATA

Note: The drawing below is purely to represent elevations. It does not reflect the design of the lift station.



Source of Water:	Existing development		
Water Type:	Wastewater		
Peak design inflow (max flow to lift station):	350 g.p.m.		
Pumping Rate:	350 g.p.m.		
1. Influent sewer elevation:	338.08 ft.		
2. Finish grade elevation at wet well:	348.3 ft.		
3. Force main length:	286 ft.		
4. Force main discharge elevation:	343.59 ft.		
Force main diameter:	6 in. inside dia.		
Force main material (PVC, DI, etc.):	PVC C900 DR25		
Force Main is:	<input checked="" type="checkbox"/> New	<input type="checkbox"/> New	<input type="checkbox"/> Existing
Force Main Discharge (manhole, pressure force main, etc.)	Manhole		
Standby generator (BY OTHERS):	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Permanent	<input type="checkbox"/> Portable
Generator fuel:		<input type="checkbox"/> Diesel	<input type="checkbox"/> Natural Gas
Power Supply:	<input checked="" type="checkbox"/> 240V	<input type="checkbox"/> 480V	<input type="checkbox"/> 240V
Power Supply:	<input checked="" type="checkbox"/> Three-Phase	<input type="checkbox"/> Three-Phase	<input type="checkbox"/> Single-phase
Is lift station a classified space?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> No