

Attachment No. 40

**Sewer Trunk Line
Presentation to the Board,
dated February 18, 2021**

SANITARY SEWER MASTER PLAN ADDENDUM: TRUNK SEWER CAPACITY REVIEW

EPASD SPECIAL BOARD MEETING

FEBRUARY 18, 2021

Presentation Outline

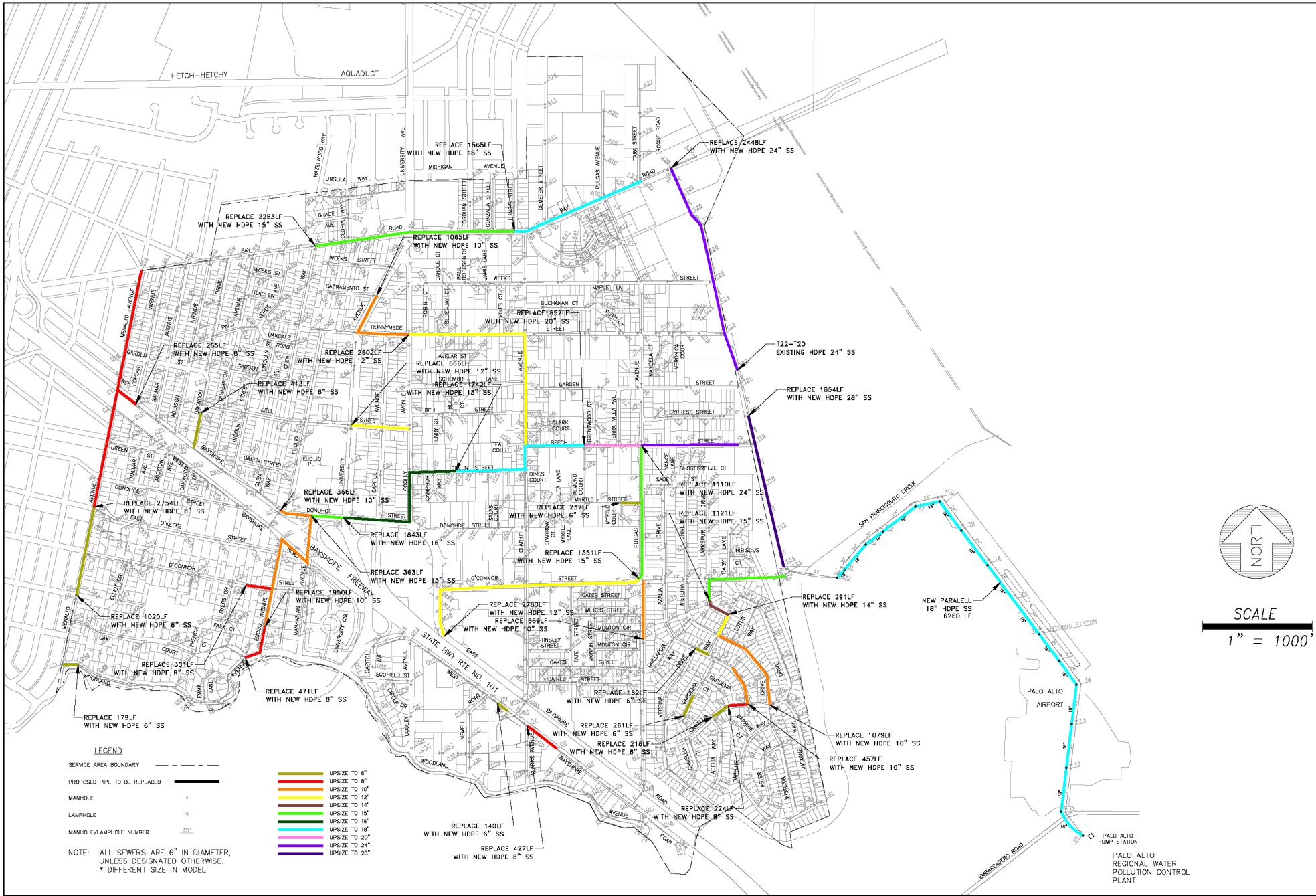
- Review Proposal Capital Improvement Program
- Trunk Sewer Capacity Review
- Discussion

Definition of Terms

- ADWF: Average Dry Weather Flow
- CIP: Capital Improvement Program
- d/D: Depth Over Diameter
- EDU: Equivalent Dwelling Unit
- GPD: Gallons Per Day
- HGL: Hydraulic Grade Line
- PDWF: Peak Dry Weather Flow
- PWWF: Peak Wet Weather Flow
- sf: Square Foot

Proposed Capital Improvement Program

- Proposed improvements result in:
 - PWWF future conditions improvements to eliminate surcharging
 - PDWF future conditions improvements to reduce d/D to pre-development conditions



COMBINED IMPROVEMENTS NO SURCHARGE UNDER PROPOSED CONDITIONS
 EPASD MASTER PLAN UPDATE
 EAST PALO ALTO, CA

FREYER & LAURETA, INC.
 CIVIL ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
 144 North San Mateo Drive • San Mateo, CA 94401
 (650)344-5801 • www.freyerlaureta.com

DATE:	10/1/2020
SCALE:	1" = 100'
DESIGNED:	RAM
DRAWN:	RAM
CHECKED:	JF
PROJ. ENGR:	JJT

FIGURE
10
 JOB NO.
 2052

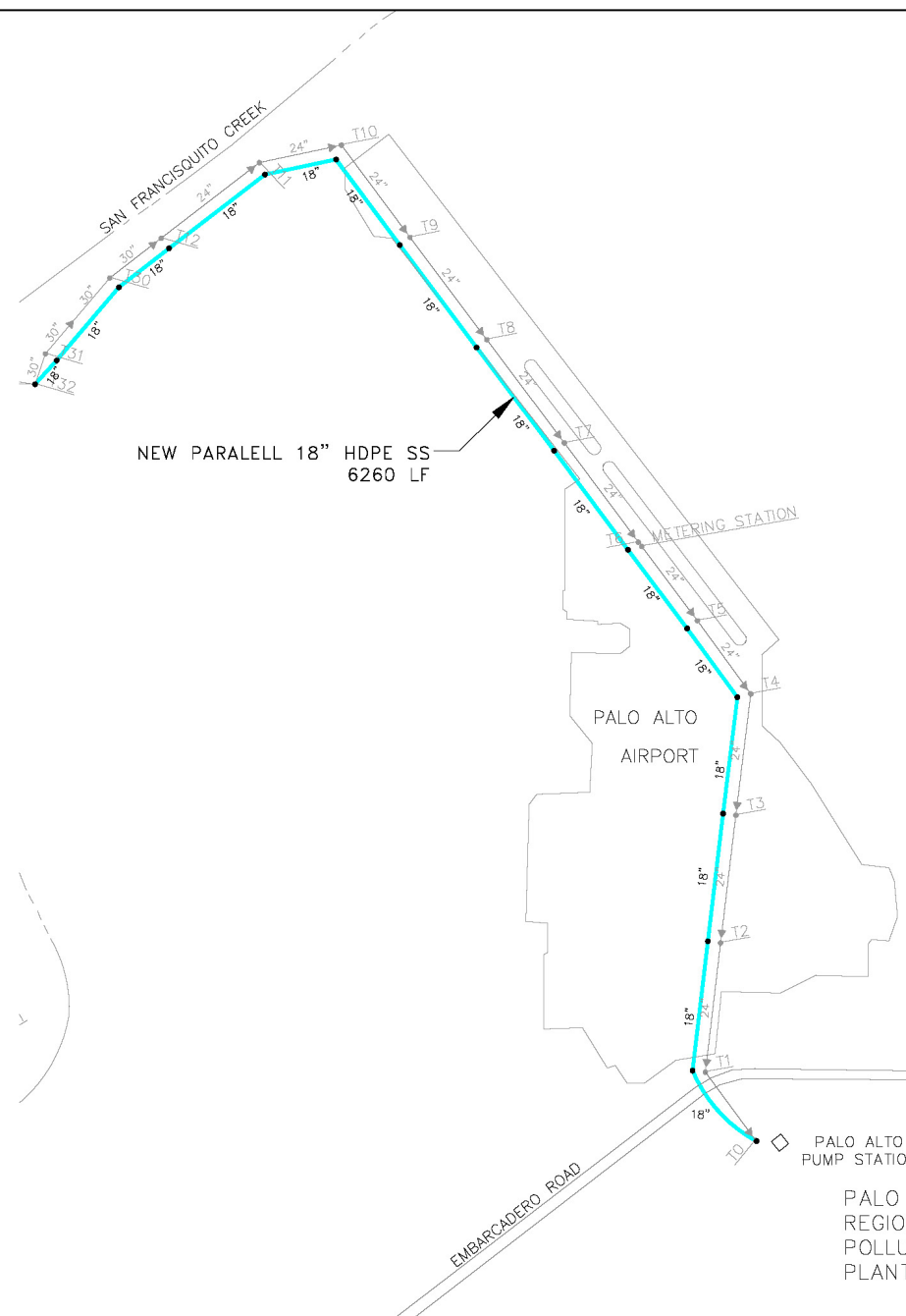


SCALE
 1" = 100'

PALO ALTO
 REGIONAL WATER
 POLLUTION CONTROL
 PLANT

Trunk Sewer Capacity Review

- Trunk Sewer has limited available capacity
- District was interested in the number of EDU that could be added before triggering need for Trunk Sewer CIP



NEW PARALELL 18" HDPE SS
6260 LF

PALO ALTO
AIRPORT

PALO ALTO
PUMP STATION

PALO ALTO
REGIONAL WATER
POLLUTION CONTROL
PLANT

EMBARCADERO ROAD

SAN FRANCISQUITO CREEK

METERING STATION

LEGEND

- NEW 18 INCH HDPE SEWER —————
- NEW MANHOLE



SCALE
1" = 500'

DATE:	9/14/2020
SCALE:	1" = 500'
DESIGNED:	RAM
DRAWN:	RAM
CHECKED:	JF
PROJ. ENGR:	JJT

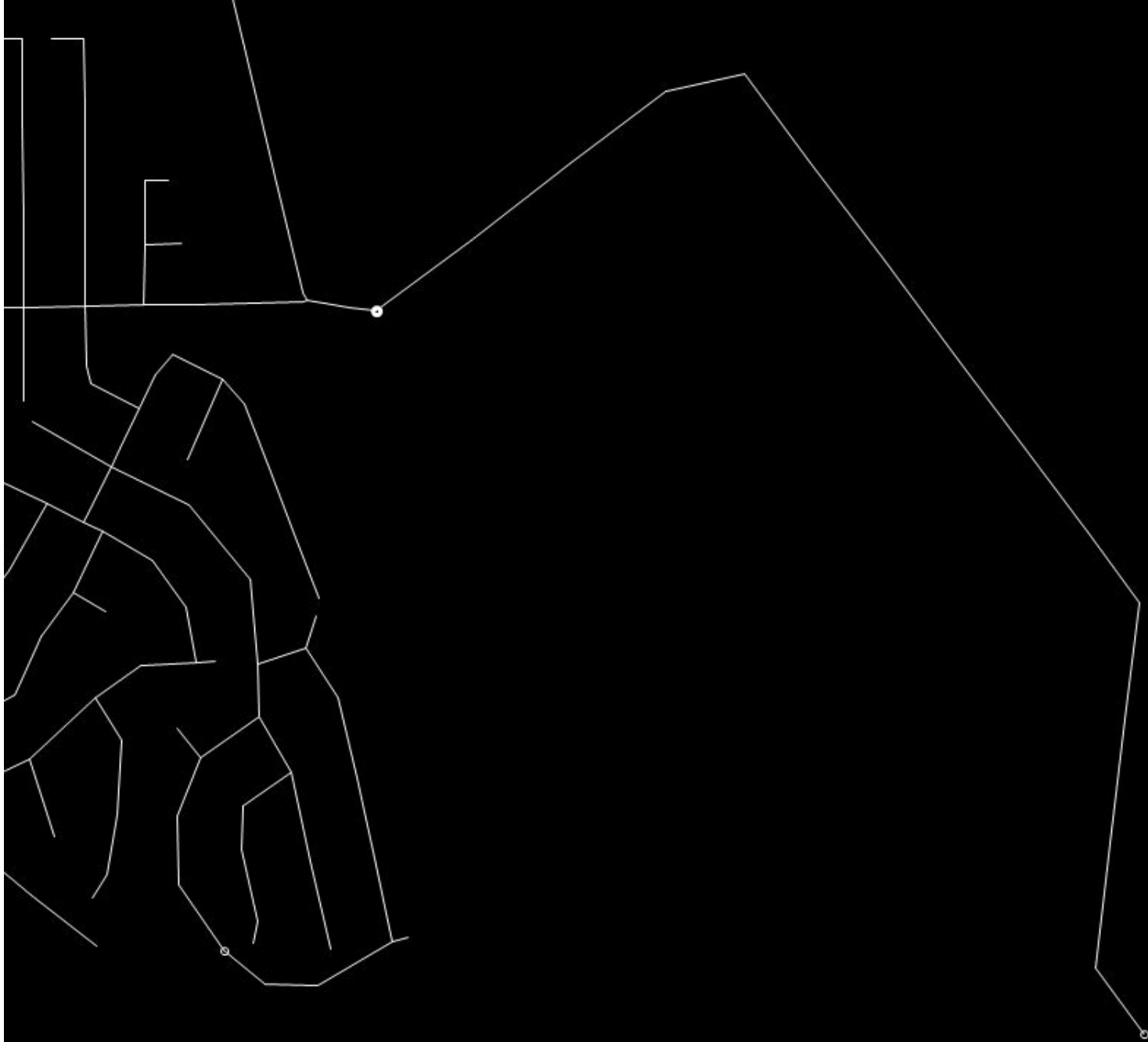
SHEET
1
OF 1 SHEETS

JOB NO.
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NEW PARALLEL TRUNKLINE IMPROVEMENTS UNDER PWWF
EPASD MASTER PLAN UPDATE
EAST PALO ALTO, CA

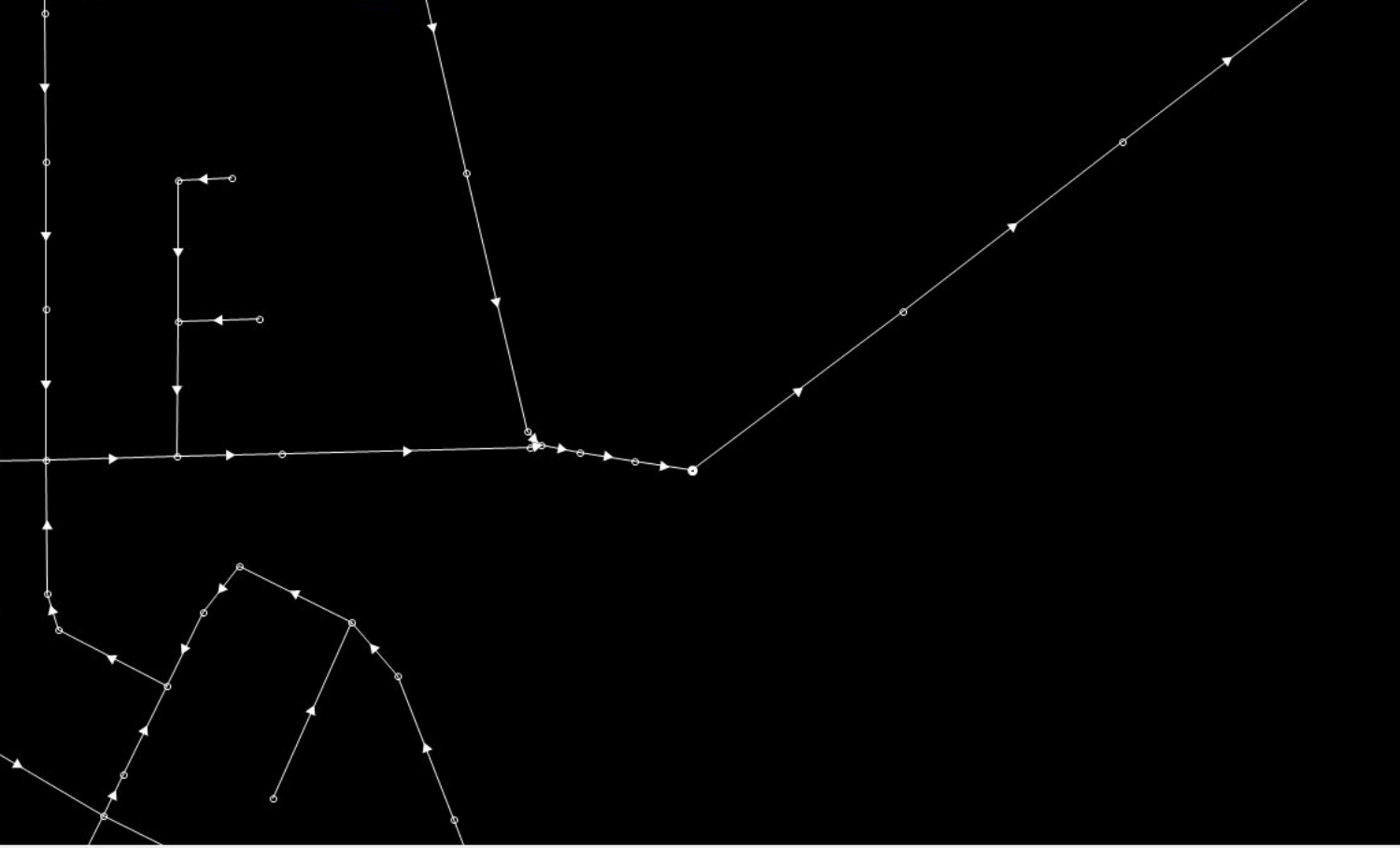




New Layer

- GIS Model
 - 10 year storm
 - 100000 gpd
 - 157000 gpd
 - 200000 gpd
 - 300000 gpd
 - 314000 gpd
 - 471000 gpd
 - Average Flow
 - Peak Flow
- Parcels

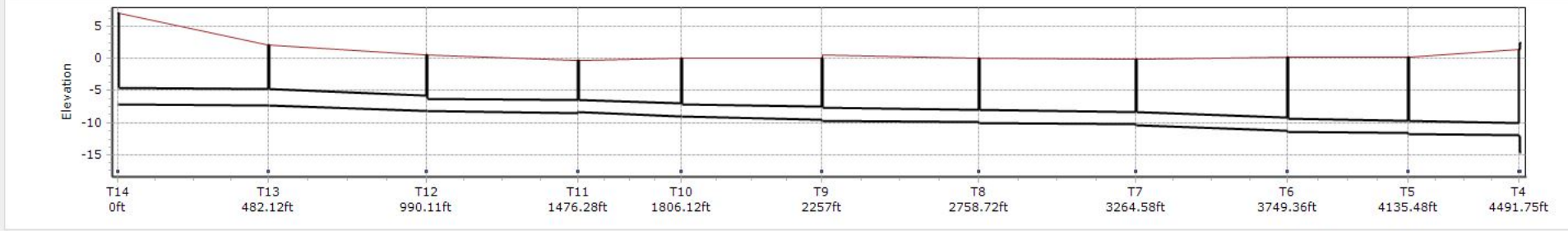
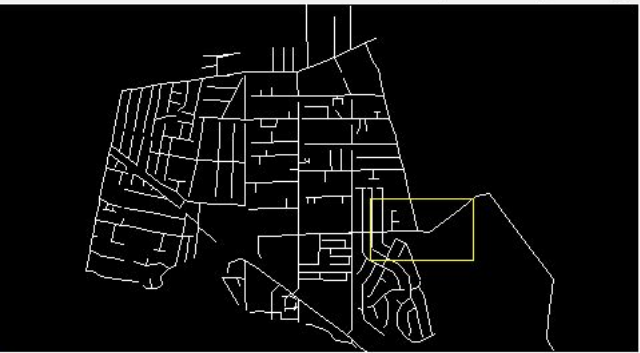
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Layer Type	Collection System
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Links	664
Areas	0
Passive Color	255, 255, 0
Notes	



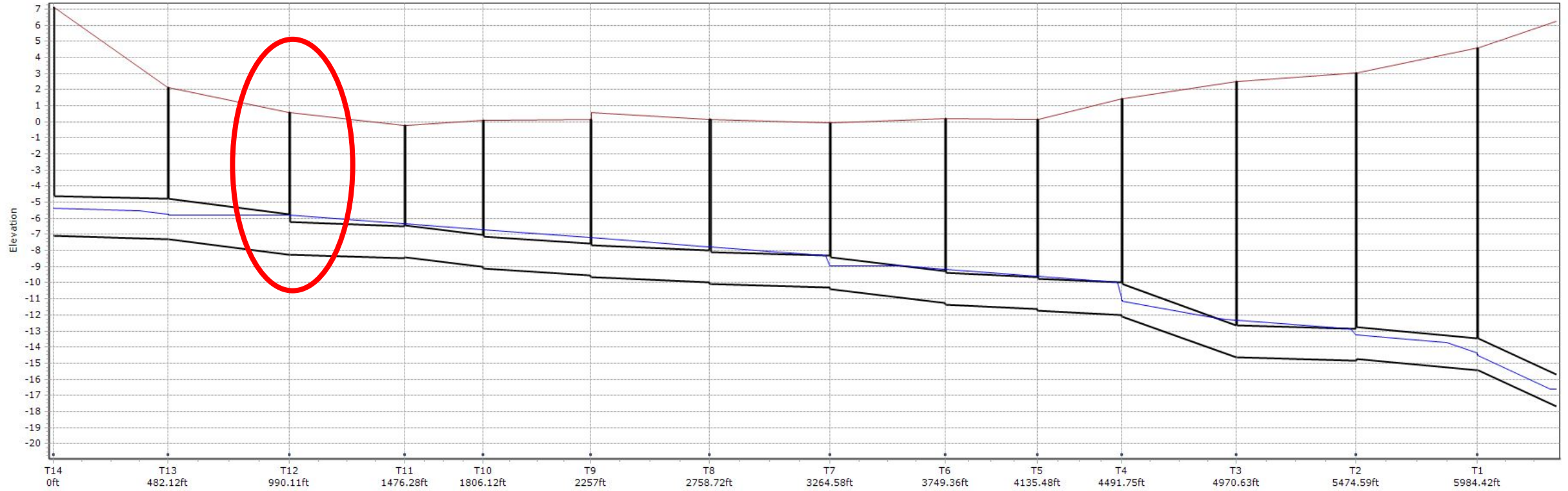
Properties Injections

<input checked="" type="checkbox"/> 10 year storm (FLO)	Type	SAN
	Q	0
<input checked="" type="checkbox"/> 100000 gpd (FLO)	Type	SAN
	Q	0.155
<input checked="" type="checkbox"/> 157000 gpd (FLO)	Type	SAN
	Q	0.244
<input checked="" type="checkbox"/> 200000 gpd (FLO)	Type	SAN
	Q	0.31
<input checked="" type="checkbox"/> 300000 gpd (FLO)	Type	SAN
	Q	0.465
<input checked="" type="checkbox"/> 314000 gpd (FLO)	Type	SAN
	Q	0.49
<input checked="" type="checkbox"/> 471000 gpd (FLO)	Type	SAN
	Q	0.73

Q
(CFS) Constant flow rate.



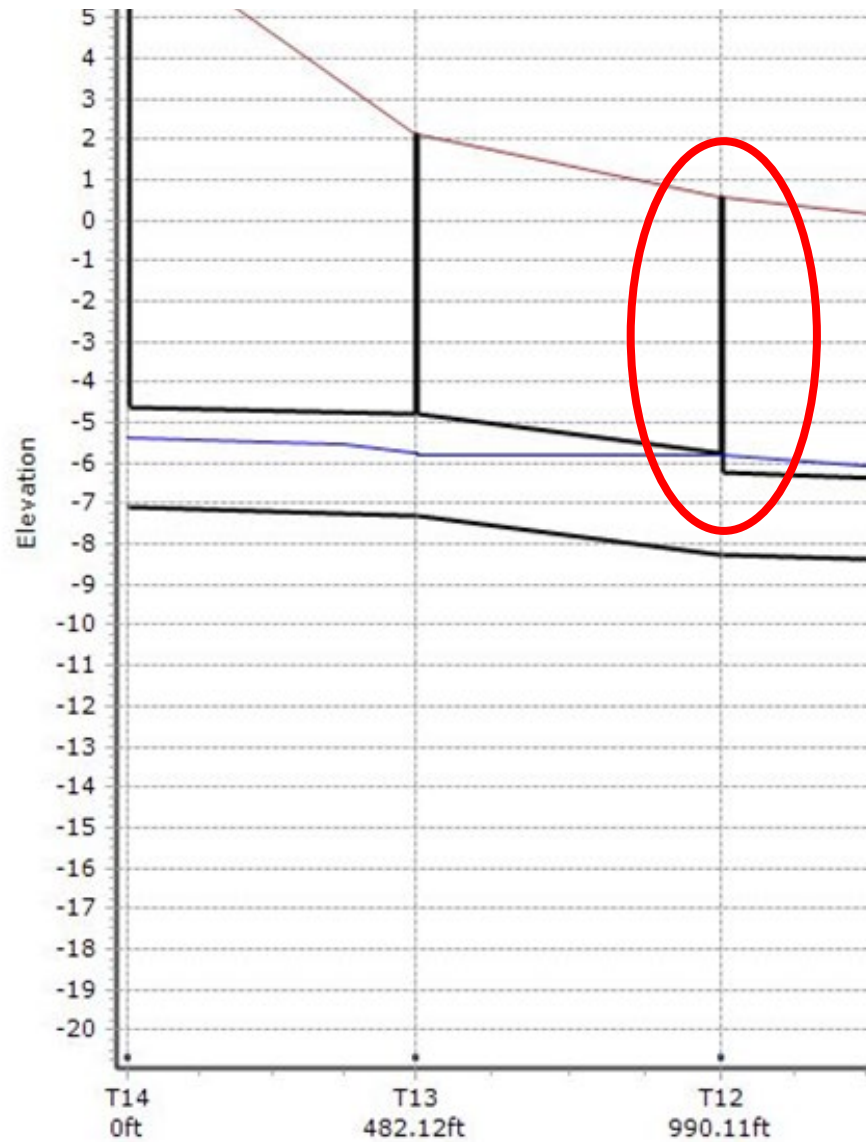
Existing PWWF: Hydraulic Modeling Results



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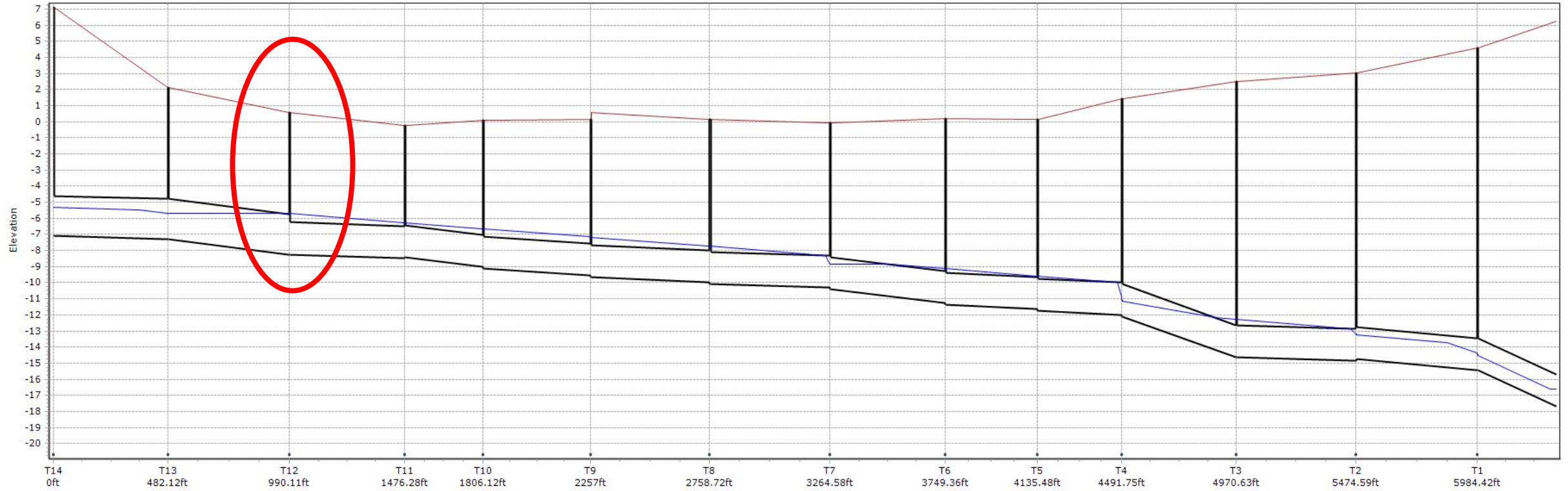
Name	T14	7	T13	6	T12	5	T11	4	T10	3	T9	1	T8	2	T7	47	T6	46	T5	45	T4	44	T3	51	T2	42	T1	41
Type	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe
Length	n/a	478.1167	n/a	503.9885	n/a	482.1727	n/a	325.8427	n/a	446.8814	n/a	497.722	n/a	501.8603	n/a	480.7789	n/a	382.1164	n/a	352.2728	n/a	474.8793	n/a	499.96	n/a	505.828	n/a	329.1763
Size	4	30	4	30	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24
Ground Up	7.1	7.1	2.14	2.14	0.55	0.55	0.24	-0.24	0.07	0.07	0.14	0.58	0.14	0.14	-0.07	-0.07	0.17	0.17	0.16	0.16	1.41	1.41	2.52	2.52	3.04	3.04	4.57	4.57
Ground Down	7.1	2.14	2.14	0.55	0.55	-0.24	0.24	0.07	0.07	0.14	0.14	0.14	0.14	-0.07	-0.07	0.17	0.17	0.16	0.16	1.41	1.41	2.52	2.52	3.04	3.04	4.57	4.57	6.24
Invert Up	-7.1	-7.1	-7.3	-7.3	-8.25	-8.25	8.44	-8.44	-9.12	-9.12	-9.67	-9.67	-10.08	-10.08	-10.42	-10.42	-11.38	-11.38	-11.76	-11.76	-12.09	-12.09	-14.63	-14.63	-14.86	-14.76	-15.43	-15.43
Invert Down	-7.1	-7.3	-7.3	-8.25	-8.25	-8.49	8.44	-9.02	-9.12	-9.57	-9.67	-9.98	-10.08	-10.32	-10.42	-11.28	-11.38	-11.66	-11.76	-11.99	-12.09	-14.63	-14.63	-14.86	-14.86	-15.43	-15.43	-17.68
D/D	n/a	0.696	n/a	0.432	n/a	1	n/a	0.68	n/a	1	n/a	1	n/a	1	n/a	0.68	n/a	1	n/a	1	n/a	0.48	n/a	1	n/a	0.76	n/a	0.45
Des Q	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644
HGL Up	-5.355	-5.36	-5.773	-5.779	-5.779	-5.785	6.325	-6.331	-6.696	-6.702	-7.202	-7.208	-7.765	-7.771	-8.963	-8.973	-9.165	-9.171	-9.599	-9.605	-11.102	-11.13	-12.308	-12.314	-13.23	-13.24	-14.497	-14.53
HGL Mid Station	0	358.588	0	0	0	0	0	0	0	0	0	0	481.86	0	309.259	0	0	0	332.273	0	398.644	0	479.96	0	379.371	0	303.574	
HGL Mid	-5.355	-5.51	-5.773	-5.779	-5.779	-5.785	6.325	-6.331	-6.696	-6.702	-7.202	-7.208	-7.765	-8.31	-8.963	-8.973	-9.165	-9.171	-9.599	-9.977	-11.102	-12.222	-12.308	-12.851	-13.23	-13.742	-14.497	-16.605
HGL Down	-5.355	-5.773	-5.773	-5.779	-5.779	-6.325	6.325	-6.696	-6.696	-7.202	-7.202	-7.765	-7.765	-8.963	-8.963	-9.165	-9.165	-9.599	-9.599	-10.915	-11.102	-12.308	-12.308	-13.23	-13.23	-14.355	-14.497	-16.605

Existing PWWF: Hydraulic Modeling Results



Name	T14	7	T13	6	T12	5
Type	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe
Length	n/a	478.1167	n/a	503.9885	n/a	482.1727
Size	4	30	4	30	4	24
Ground Up	7.1	7.1	2.14	2.14	0.55	0.55
Ground Down	7.1	2.14	2.14	0.55	0.55	-0.24
Invert Up	-7.1	-7.1	-7.3	-7.3	-8.25	-8.25
Invert Down	-7.1	-7.3	-7.3	-8.25	-8.25	-8.49
D/D	n/a	0.696	n/a	0.432	n/a	1
Des Q	8.9644	8.9644	8.9644	8.9644	8.9644	8.9644
HGL Up	-5.355	-5.36	-5.773	-5.779	-5.779	-5.785
HGL Mid Station	0	358.588	0	0	0	0
HGL Mid	-5.355	-5.51	-5.773	-5.779	-5.779	-5.785
HGL Down	-5.355	-5.773	-5.773	-5.779	-5.779	-6.325

Existing PWWF + 100,000 GPD: Hydraulic Modeling Results



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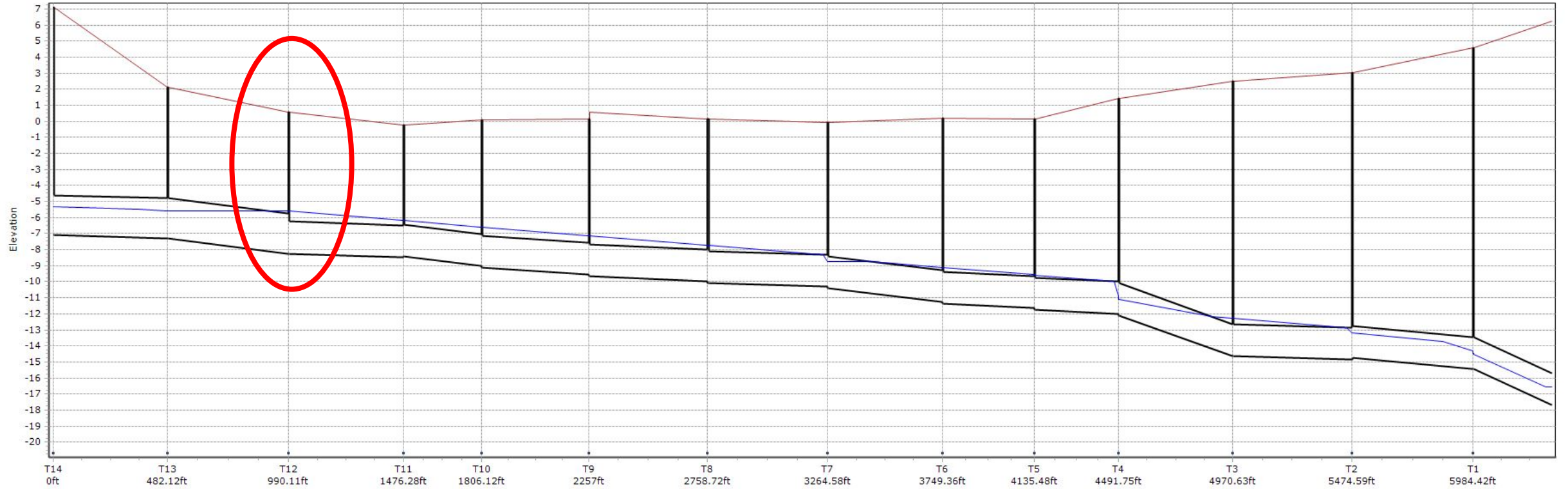
Name	T14	7	T13	6	T12	5	T11	4	T10	3	T9	1	T8	2	T7	47	T6	46	T5	45	T4	44	T3	51	T2	42	T1	41
Type	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe
Length	n/a	478.1167	n/a	503.9885	n/a	482.1727	n/a	325.8427	n/a	446.8814	n/a	497.722	n/a	501.8603	n/a	480.7789	n/a	382.1164	n/a	352.2728	n/a	474.8793	n/a	499.96	n/a	505.828	n/a	329.1763
Size	4	30	4	30	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24
Ground Up	7.1	7.1	2.14	2.14	0.55	0.55	-0.24	-0.24	0.07	0.07	0.14	0.58	0.14	0.14	-0.07	-0.07	0.17	0.17	0.16	0.16	1.41	1.41	2.52	2.52	3.04	3.04	4.57	4.57
Ground Down	7.1	2.14	2.14	0.55	0.55	-0.24	-0.24	0.07	0.07	0.14	0.14	0.14	0.14	-0.07	-0.07	0.17	0.17	0.16	0.16	1.41	1.41	2.52	2.52	3.04	3.04	4.57	4.57	6.24
Invert Up	-7.1	-7.1	-7.3	-7.3	-8.25	-8.25	-8.44	-8.44	-9.12	-9.12	-9.67	-9.67	-10.08	-10.08	-10.42	-10.42	-11.38	-11.38	-11.76	-11.76	-12.09	-12.09	-14.63	-14.63	-14.86	-14.76	-15.43	-15.43
Invert Down	-7.1	-7.3	-7.3	-8.25	-8.25	-8.49	-8.44	-9.02	-9.12	-9.57	-9.67	-9.98	-10.08	-10.32	-10.42	-11.28	-11.38	-11.66	-11.76	-11.99	-12.09	-14.63	-14.63	-14.86	-14.86	-15.43	-15.43	-17.68
D/D	n/a	0.704	n/a	0.44	n/a	1	n/a	0.69	n/a	1	n/a	1	n/a	1	n/a	0.68	n/a	1	n/a	1	n/a	0.48	n/a	1	n/a	0.77	n/a	0.45
Des Q	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194
HGL Up	-5.335	-5.34	-5.674	-5.68	-5.691	-5.697	-6.256	-6.262	-6.639	-6.646	-7.163	-7.17	-7.746	-7.753	-8.864	-8.874	-9.137	-9.143	-9.586	-9.592	-11.101	-11.13	-12.289	-12.295	-13.21	-13.22	-14.496	-14.53
HGL Mid Station	0	358.588	0	466.796	0	0	0	0	0	0	0	0	0	481.86	0	253.774	0	0	332.273	0	393.412	0	479.96	0	379.371	0	302.111	
HGL Mid	-5.335	-5.49	-5.674	-5.68	-5.691	-5.697	-6.256	-6.262	-6.639	-6.646	-7.163	-7.17	-7.746	-8.31	-8.864	-8.874	-9.137	-9.143	-9.586	-9.977	-11.101	-12.194	-12.289	-12.851	-13.21	-13.722	-14.496	-16.595
HGL Down	-5.335	-5.674	-5.674	-5.691	-5.691	-6.256	-6.256	-6.639	-6.639	-7.163	-7.163	-7.746	-7.746	-8.864	-8.864	-9.137	-9.137	-9.586	-9.586	-10.905	-11.101	-12.289	-12.289	-13.21	-13.21	-14.349	-14.496	-16.595

Existing PWWF + 100,000 GPD: Hydraulic Modeling Results



Name	T14	7	T13	6	T12	5
Type	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe
Length	n/a	478.1167	n/a	503.9885	n/a	482.1727
Size	4	30	4	30	4	24
Ground Up	7.1	7.1	2.14	2.14	0.55	0.55
Ground Down	7.1	2.14	2.14	0.55	0.55	-0.24
Invert Up	-7.1	-7.1	-7.3	-7.3	-8.25	-8.25
Invert Down	-7.1	-7.3	-7.3	-8.25	-8.25	-8.49
D/D	n/a	0.704	n/a	0.44	n/a	1
Des Q	9.1194	9.1194	9.1194	9.1194	9.1194	9.1194
HGL Up	-5.335	-5.34	-5.674	-5.68	-5.691	-5.697
HGL Mid Station	0	358.588	0	466.796	0	0
HGL Mid	-5.335	-5.49	-5.674	-5.68	-5.691	-5.697
HGL Down	-5.335	-5.674	-5.674	-5.691	-5.691	-6.256

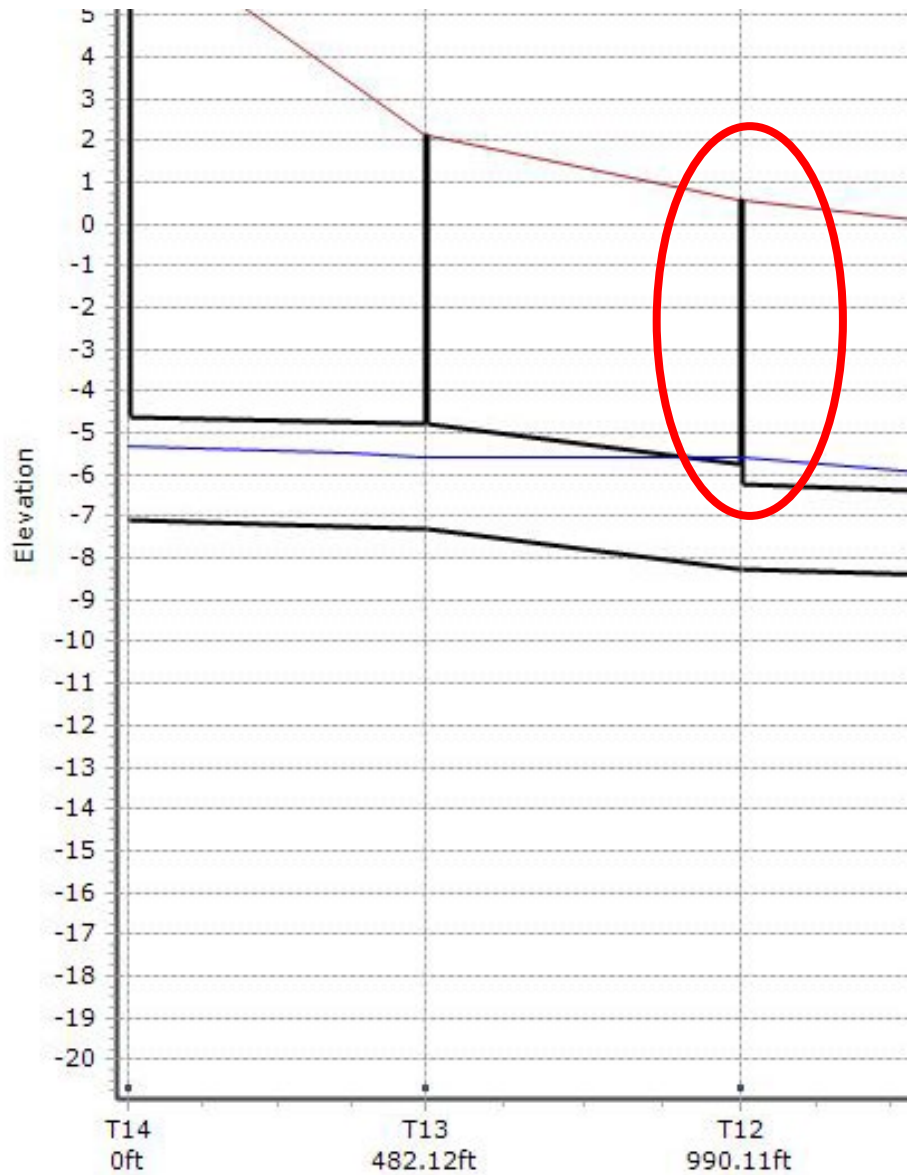
Existing PWWF + 200,000 GPD: Hydraulic Modeling Results



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Name	T14	7	T13	6	T12	5	T11	4	T10	3	T9	1	T8	2	T7	47	T6	46	T5	45	T4	44	T3	51	T2	42	T1	41
Type	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe
Length	n/a	478.1167	n/a	503.9885	n/a	482.1727	n/a	325.8427	n/a	446.8814	n/a	497.722	n/a	501.8603	n/a	480.7789	n/a	382.1164	n/a	352.2728	n/a	474.8793	n/a	499.96	n/a	505.828	n/a	329.1763
Size	4	30	4	30	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24
Ground Up	7.1	7.1	2.14	2.14	0.55	0.55	0.24	-0.24	0.07	0.07	0.14	0.58	0.14	0.14	-0.07	-0.07	0.17	0.17	0.16	0.16	1.41	1.41	2.52	2.52	3.04	3.04	4.57	4.57
Ground Down	7.1	2.14	2.14	0.55	0.55	-0.24	0.24	0.07	0.07	0.14	0.14	0.14	0.14	-0.07	-0.07	0.17	0.17	0.16	1.41	1.41	2.52	2.52	3.04	3.04	4.57	4.57	6.24	
Invert Up	-7.1	-7.1	-7.3	-7.3	-8.25	-8.25	-8.44	-8.44	-9.12	-9.12	-9.67	-9.67	-10.08	-10.08	-10.42	-10.42	-11.38	-11.38	-11.76	-11.76	-12.09	-12.09	-14.63	-14.63	-14.86	-14.76	-15.43	-15.43
Invert Down	-7.1	-7.3	-7.3	-8.25	-8.25	-8.49	-8.44	-9.02	-9.12	-9.57	-9.67	-9.98	-10.08	-10.32	-10.42	-11.28	-11.38	-11.66	-11.76	-11.99	-12.09	-14.63	-14.63	-14.86	-14.86	-15.43	-15.43	-17.68
D/D	n/a	0.712	n/a	0.44	n/a	1	n/a	0.69	n/a	1	n/a	1	n/a	1	n/a	0.69	n/a	1	n/a	1	n/a	0.49	n/a	1	n/a	0.78	n/a	0.46
Des Q	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744
HGL Up	-5.315	-5.32	-5.567	-5.573	-5.601	-5.608	-6.185	-6.192	-6.582	-6.589	-7.124	-7.131	-7.727	-7.733	-8.751	-8.76	-9.108	-9.115	-9.572	-9.579	-11.082	-11.11	-12.269	-12.276	-13.19	-13.2	-14.476	-14.51
HGL Mid Station	0	358.588	0	409.862	0	0	0	0	0	0	0	0	0	481.86	0	189.825	0	0	0	332.273	0	387.99	0	479.96	0	379.371	0	303.574
HGL Mid	-5.315	-5.47	-5.567	-5.573	-5.601	-5.608	-6.185	-6.192	-6.582	-6.589	-7.124	-7.131	-7.727	-8.31	-8.751	-8.76	-9.108	-9.115	-9.572	-9.977	-11.082	-12.165	-12.269	-12.851	-13.19	-13.702	-14.476	-16.585
HGL Down	-5.315	-5.567	-5.567	-5.601	-5.601	-6.185	-6.185	-6.582	-6.582	-7.124	-7.124	-7.727	-7.727	-8.751	-8.751	-9.108	-9.108	-9.572	-10.895	-11.082	-12.269	-12.269	-13.19	-13.19	-14.315	-14.476	-16.585	

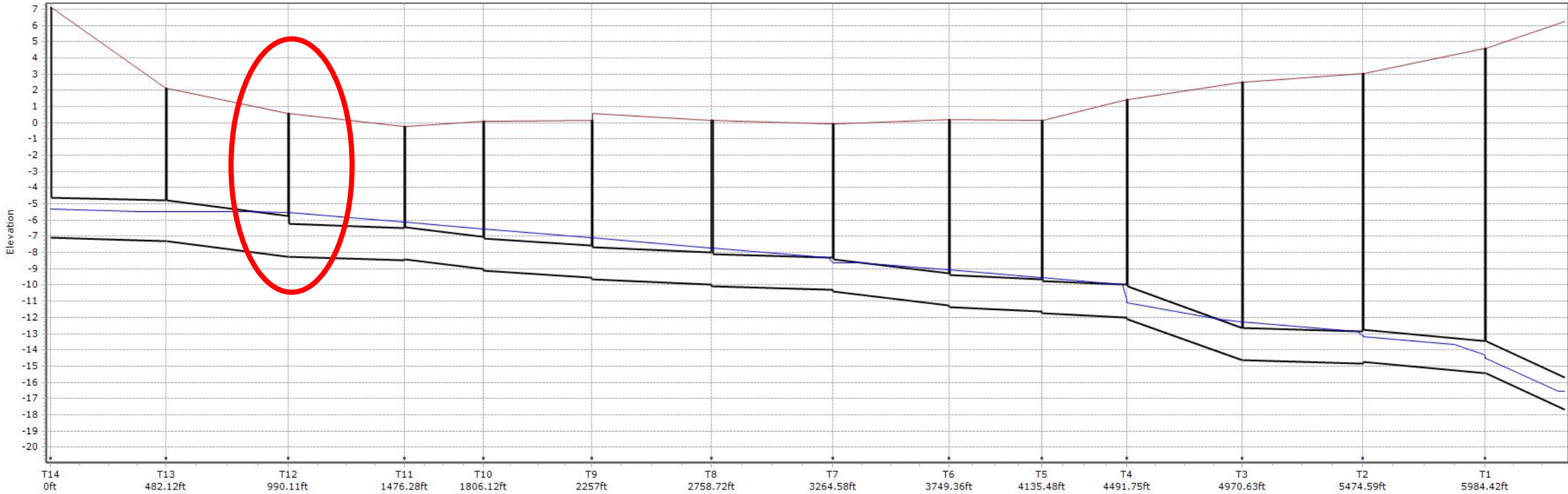
Existing PWWF + 200,000 GPD: Hydraulic Modeling Results



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Name	T14	7	T13	6	T12	5
Type	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe
Length	n/a	478.1167	n/a	503.9885	n/a	482.1727
Size	4	30	4	30	4	24
Ground Up	7.1	7.1	2.14	2.14	0.55	0.55
Ground Down	7.1	2.14	2.14	0.55	0.55	-0.24
Invert Up	-7.1	-7.1	-7.3	-7.3	-8.25	-8.25
Invert Down	-7.1	-7.3	-7.3	-8.25	-8.25	-8.49
D/D	n/a	0.712	n/a	0.44	n/a	1
Des Q	9.2744	9.2744	9.2744	9.2744	9.2744	9.2744
HGL Up	-5.315	-5.32	-5.567	-5.573	-5.601	-5.608
HGL Mid Station	0	358.588	0	409.862	0	0
HGL Mid	-5.315	-5.47	-5.567	-5.573	-5.601	-5.608
HGL Down	-5.315	-5.567	-5.567	-5.601	-5.601	-6.185

Existing PWWF + 300,000 GPD: Hydraulic Modeling Results



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Name	T14	7	T13	6	T12	5	T11	4	T10	3	T9	1	T8	2	T7	47	T6	46	T5	45	T4	44	T3	51	T2	42	T1	41
Type	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe
Length	n/a	478.1167	n/a	503.9885	n/a	482.1727	n/a	325.8427	n/a	446.8814	n/a	497.722	n/a	501.8603	n/a	480.7789	n/a	382.1164	n/a	352.2728	n/a	474.8793	n/a	499.96	n/a	505.828	n/a	329.1763
Size	4	30	4	30	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24	4	24
Ground Up	7.1	7.1	2.14	2.14	0.55	0.55	-0.24	-0.24	0.07	0.07	0.14	0.58	0.14	0.14	-0.07	-0.07	0.17	0.17	0.16	0.16	1.41	1.41	2.52	2.52	3.04	3.04	4.57	4.57
Ground Down	7.1	2.14	2.14	0.55	0.55	-0.24	-0.24	0.07	0.07	0.14	0.14	0.14	0.14	-0.07	-0.07	0.17	0.17	0.16	0.16	1.41	1.41	2.52	2.52	3.04	3.04	4.57	4.57	6.24
Invert Up	-7.1	-7.1	-7.3	-7.3	-8.25	-8.25	-8.44	-8.44	-9.12	-9.12	-9.67	-9.67	-10.08	-10.08	-10.42	-10.42	-11.38	-11.38	-11.76	-11.76	-12.09	-12.09	-14.63	-14.63	-14.86	-14.76	-15.43	-15.43
Invert Down	-7.1	-7.3	-7.3	-8.25	-8.25	-8.49	-8.44	-9.02	-9.12	-9.57	-9.67	-9.98	-10.08	-10.32	-10.42	-11.28	-11.38	-11.66	-11.76	-11.99	-12.09	-14.63	-14.63	-14.86	-14.86	-15.43	-15.43	-17.68
D/D	n/a	0.72	n/a	0.448	n/a	1	n/a	0.7	n/a	1	n/a	1	n/a	1	n/a	0.7	n/a	1	n/a	1	n/a	0.49	n/a	1	n/a	0.8	n/a	0.46
Des Q	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294
HGL Up	-5.295	-5.3	-5.457	-5.462	-5.51	-5.517	-5.113	-6.12	-6.524	-6.531	-7.084	-7.091	-7.707	-7.714	-8.619	-8.626	-9.079	-9.086	-9.559	-9.566	-11.081	-11.11	-12.25	-12.257	-13.15	-13.16	-14.475	-14.51
HGL Mid Station	0	376.371	0	351.229	0	0	0	0	0	0	0	0	481.86	0	115.35	0	0	0	332.273	0	382.37	0	479.96	0	379.371	0	302.842	
HGL Mid	-5.295	-5.457	-5.457	-5.462	-5.51	-5.517	-5.113	-6.12	-6.524	-6.531	-7.084	-7.091	-7.707	-8.31	-8.619	-8.626	-9.079	-9.086	-9.559	-9.977	-11.081	-12.135	-12.25	-12.851	-13.15	-13.662	-14.475	-16.58
HGL Down	-5.295	-5.457	-5.457	-5.51	-5.51	-6.113	-5.113	-6.524	-6.524	-7.084	-7.084	-7.707	-7.707	-8.619	-8.619	-9.079	-9.079	-9.559	-9.559	-10.89	-11.081	-12.25	-12.25	-13.15	-13.15	-14.33	-14.475	-16.58

Existing PWWF + 300,000 GPD: Hydraulic Modeling Results



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Type	Manhole	Existing Pipe	Manhole	Existing Pipe	Manhole	Existing Pipe
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Size	4	30	4	30	4	24
Ground Up	7.1	7.1	2.14	2.14	0.55	0.55
Ground Down	7.1	2.14	2.14	0.55	0.55	-0.24
Invert Up	-7.1	-7.1	-7.3	-7.3	-8.25	-8.25
Invert Down	-7.1	-7.3	-7.3	-8.25	-8.25	-8.49
D/D	n/a	0.72	n/a	0.448	n/a	1
Des Q	9.4294	9.4294	9.4294	9.4294	9.4294	9.4294
HGL Up	-5.295	-5.3	-5.457	-5.462	-5.51	-5.517
HGL Mid Station	0	376.371	0	351.229	0	0
HGL Mid	-5.295	-5.457	-5.457	-5.462	-5.51	-5.517
HGL Down	-5.295	-5.457	-5.457	-5.51	-5.51	-6.113

Trunk Sewer Capacity Review

- Trunk Sewer has limited available capacity
- 100,000 GPD of additional flow does show increase HGL downstream of T12
- Flows in excess of 200,000 GPD show increase HGL both downstream and upstream of T12
- District has indicated 100,000 GPD is maximum available capacity, which is approximately 415 EDUs based on 240 GPD/EDU



Discussion