CHEMEKETA PARK MUTUAL WATER COMPANY

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CHEMEKETA PARK WATER STORAGE AND DROUGHT RELIEF PROJECT

~

Department of Water Resources Agreement No. 4600014993

~

Funding by California Department of Water Resources
under the
Small Community Drought Relief Program

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Lower Tank - 18000 Ogallala Warpath Road
~~Upper Tank - 17680 Ogallala Warpath Road~~

~

10 May 2024

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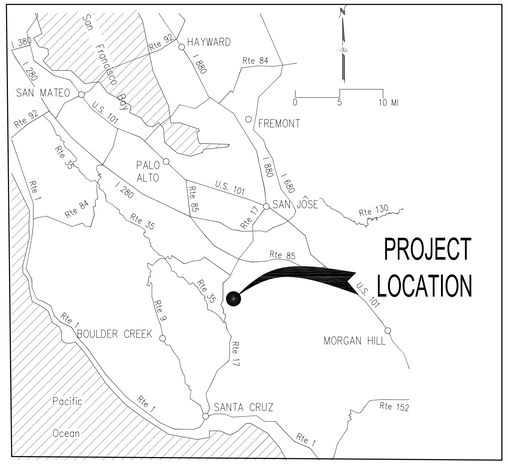
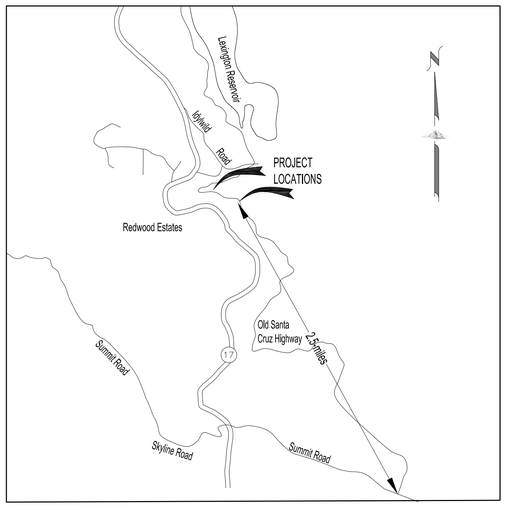
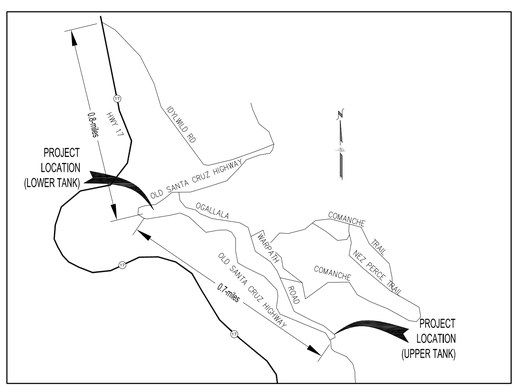


REGIONAL MAP



VICINITY MAP



LOCATION MAP

CHEMEKETA PARK MUTUAL WATER CO.

REGISTERED PROFESSIONAL ENGINEER
DOUGLAS R. ALLEN
No. C43774
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

Designed under the supervision of: Douglas R. Allen, PE
Wyeast Engineering

5/10/24
Date

C:\Chemeketa\Sheet 0 Cover Sheet 2000.dwg, Sheet 0 - Cover Sheet

Chemeketa Park Mutual Water Company
Potable Water Storage Tank Replacement Project
General Notes (2024)

1. All work herein shall be in accordance with Chapter 16, Title 22 of the California Code of Regulations (California Waterworks Standards (CWS)), Santa Clara County Department of Planning and Building, the standards of the American Waterworks Association (AWWA), the California Electrical Code (CEC), the California Building (CBC), the California Plumbing Code (CPC), the Wy'east Engineering Standard Specifications and Standard Plans (Wy'east Standards) and these Project Plans and Details;
2. All materials in contact with water except drainage and sanitary shall be NSF 61 and NSF 374 approved for potable water contact. Chemicals in contact with potable water shall be NSF 60 approved;
3. Existing utility location, size and materials are unknown except as shown hereon. Wy'east Engineering makes no warranty, expressed or implied, as to the accuracy or sufficiency of such information. The Contractor shall thoroughly examine the site of the work and thoroughly review these Project Plans and details prior to preparing his proposal. The submittal of a proposal shall be evidence upon which the Owner may rely that the Contractor has undertaken adequate measures to familiarize himself with the work and the site of the work;
4. The Contractor shall field verify all existing conditions at the time of commencing work;
5. All topographic, utility and parcel data has been provided by Cross Land Surveying, Inc. Wy'east Engineering and the Owner offers no warranty, expressed or implied, as to the currency accuracy, sufficiency, or adequacy of said information. Should the Contractor discover an apparent discrepancy between the information shown hereon and actual field conditions, the Contractor shall immediately notify the Engineer of said apparent discrepancy and seek the direction of the Engineer as appropriate; Time shall be of the essence in the execution of the work. The Contractor shall make every effort to commence work at the earliest opportunity and complete the work as expeditiously as possible without compromising the integrity of the work or the goals of the project;
6. The Contractor shall contact Underground Service Alert (811) prior to commencing work including subsurface exploration;
7. The Contractor shall undertake subsurface exploration prior to commencing work. Subsurface exploration shall be conducted at a minimum to include but not be limited to, points of connection, tie-ins and apparent or potential conflicts with other underground utilities;
8. The Contractor shall coordinate with the Owner to locate insofar as possible existing underground facilities;
9. The Contractor shall provide a minimum of 5-working days notice to the Engineer, the Owner and Agencies of Jurisdiction prior to commencing work and a minimum of 3-working days notice for inspection of construction;
10. The Contractor shall coordinate all work on existing facilities with the Owner including but not limited to, connection to existing structures, temporary storage facilities, demolition of existing tanks, abandonment or realignment of existing water lines and control systems. The Contractor shall provide a minimum of 5-working days notice to the Owner prior to commencing work on any such existing facilities;
11. The details and fitting layouts shown hereon are for the convenience of the Contractor in preparing his proposal. Except where specifically cited as "... No Substitute ...", the words "... or Approved Substitute ..." may be assumed included in the citation of a product, process, or method whether included or not. The Contractor is encouraged to submit alternatives wherever an improvement in efficiency, expediency, or expense may be possible. The submittal of alternatives shall be in accordance with the provisions of Section 1-07.10, "Submittals" of the Wy'east Standards. It shall be the Contractor's responsibility to demonstrate to the Engineer's satisfaction that the requested alternative meets or exceeds the goal, purpose, efficacy and/or efficiency of the cited product, process or method. The Engineer's opinion regarding the equivalency of the requested substitution to the goals, process, efficacy, and/or efficiency of the cited product, process or method shall be final;
12. All components of the potable water system shall be analyzed for bacteriological quality in accordance with Chapter 15, Title 22 of the California Code of Regulations. A negative or absent analysis shall be achieved prior to placing any system component in service;
13. All buried water pipelines shall be polyvinyl chloride (PVC) manufactured in accordance with AWWA C900, Class 235. Solvent weld pipe and fittings shall not be permitted;
14. All pipelines transitioning from buried to above grade shall be ductile iron pipe (DIP) manufactured in accordance with AWWA C150, Class 51 or welded epoxy coated steel;
15. Changes in alignment shall be made with DIP fittings supplied with mechanical joint (MJ) ends equipped with approved restraining glands. Where the required deflection exceeds the range of one fitting, two fittings equipped with combination MJ by Flange ends may be combined into one unit to achieve the required deflection. Solvent weld fittings shall not be permitted;
16. Deflection at pipe fittings may be used to achieve slight deviations in alignment necessary for the construction of the work. Deflection shall only occur at the fittings and joints and shall not exceed 3° per fitting end. Deflection by bending the barrel of the pipe (roping) will not be permitted;
17. All buried pipeline fittings shall be DIP in accordance with AWWA C153 or C110 or epoxy coated fittings (HYMAX);
18. All buried gate valves shall be resilient seat gate valves manufactured in accordance with AWWA C509 and shall be UL and FM listed;
19. All above grade piping shall be Type 304 stainless steel. Schedule 40 welded and/or grooved stainless steel pipe and fittings may be substituted for Schedule 40 threaded stainless steel pipe and fittings;
20. All buried drainage pipelines and fittings shall be PVC, SDR35 push on gasketed pipe. Solvent weld PVC pipe and fittings shall not be permitted;
21. The Contractor shall maintain a record of actual locations of buried systems as part of the As-Built documentation. The Contractor shall include ties to permanent objects and buried components and prepare an intersection detail for each valve location. Acceptable reference points shall include but not be limited to, curb returns, end of concrete curbs, asphalt dikes, and building foundations. Where suitable permanent reference points are not readily available, the Contractor shall provide suitable visual markings at such locations and request that the Owner have such locations surveyed for the record;
22. The Contractor shall coordinate his work and the delivery and the erection of the new tank with the suppliers thereof such that said products are available for installation at the time required by the Contractor's execution of the work. No extension in contract time or additional compensation will be permitted for the failure of the Contractor to adequately schedule the delivery of these products.

Chemeketa Park Mutual Water Company
Upper Storage Tank Replacement
Order of Work

The Contractor shall be responsible for determining the specific order of work pursuant to Section 1-06.06, Schedule of the Standard Specifications;

The Contractor is hereby advised of certain considerations that must be addressed in his scheduling and order of work:

1. Service interruptions shall be kept to the minimum required to prosecute the work;
2. A minimum storage shall be maintained at all times;
3. Demolition of the existing storage tanks and attendant pipelines and appurtenances shall be staged to ensure storage throughout the work with Tank 1 being the first demolished;
4. The new 10-inch pipeline shall be constructed and connected to the existing supply system as shown on the Project Plans;
5. The temporary storage tank shall be installed and connected to the existing supply system as shown on the Project Plans;
6. Tanks 2 and 3 and attendant pipelines and PCC pad shall be demolished once the temporary storage tank is approved for use;
7. Subexcavation and new tank erection construction and erection may proceed once demolition is compete.

LEGEND

- Electric Power
- Signal
- Chlorine
- Joint Trench [Example] (E)6"ø PVC, (E)2-ea 2"ø PVC Conduits
- 2"ø PET
- 2"ø PVC
- 4"ø PVC
- 10"ø PVC
- Storm Drain
- Property Line
- Easement Line
- (E)Edge of Pavement
- Centerline Creek
- Top of Slope
- Toe of Slope
- P1 Retaining Wall Pile Number

CROSS SURVEYORS LEGEND

- SET MAG NAIL, UNLESS OTHERWISE NOTED
- FD. MAG NAIL, UNLESS OTHERWISE NOTED
- FD. MONUMENT AS NOTED
- PROPERTY OWNERSHIP PARCEL ID
- CC CONCRETE
- CONCRETE RETAINING WALL SUPPORT PILLAR SIZE RANGES FROM 14" DIA. TO 18" DIA.
- FH FIRE HOOKUP
- HATCH OPENING
- HB HOSE BIB
- L LADDER
- MB MAIL BOX
- SIGN
- 1182.47 SPOT ELEVATION
- SOIL BORING-APPROXIMATE LOCATION
- 2" SUPPORT PIPE
- 14" TREE AS NOTED
- RDWD. REDWOOD TREE AS NOTED
- WM WATER METER
- WV WATER VALVE
- WP 4" X 4" WOOD POST WITH CONDUIT
- BOUNDARY LINE
- BUILDING LINE
- CENTERLINE
- FENCE LINE AS NOTED
- METAL POLE BARRIER
- SURVEY CONTROL LINE
- TOE OF SLOPE
- TOP OF SLOPE

Chemeketa Park Mutual Water Company
Tank Replacement Project
Sheet Index

ABBREVIATIONS

Agencies and Standards			
CPMWC	Chemeketa Park Mutual Water Company (Owner)	IP	Iron Pipe Size
AWWA	American Waterworks Association	MIPT	Male Iron Pipe Thread
NFPA	National Fire Protection Association	FIPT	Female Iron Pipe Thread
NEMA	National Electrical Manufacturer's Association	PJ	Pack Joint
CBC	California Building Code	PTDF	Pressure Treated Douglas Fir (Structural Grade 1)
CPC	California Plumbing Code	DF	Douglas Fir
CEC	California Electrical Code	AC	Asphalt Cement Pavement
CFC	California Fire Code	MH	Manhole
SP	Standard Plan (Wy'east Engineering)	PCC	Portland Cement Concrete
DWR	Department of Water Resources	CLSM	Controlled Low Strength Material
DDW	Division of Drinking Water (DWR)	FH	Fire Hydrant
County	Santa Clara County Building and Planning	DG	Decomposed Granite
Units		AB	Aggregate Base (Class 2)
PSI	Pounds per Square Inch	DI	Drainage Inlet
PSF	Pounds per Square Foot	HB	Hose Bib
CF	Cubic Feet	MJ	Mechanical Joint
CY	Cubic Yard	FL	Flange
Gal	Gallons	PJ	Pack Joint Coupling
CFM	Cubic Feet per Minute	PE	Plain End
GPM	Gallons per Minute	CB	Catch Basin
FT/S	Feet per Second	**Miscellaneous**	
LF	Linear Feet or Foot	TW	Top of Wall
SCFM	Standard Cubic Feet per Minute	Hp	Height of Retaining Wall Panel
mg/l	milligrams per liter (ppm)	Hr	Height of Retained Soil
ppm	Parts per Million (mg/l)	Dp	Depth of Pile
µg/l	Micrograms per liter (ppb)	IE	Invert Elevation
ppb	Parts per Billion (ug/l)	FF	Finished Floor Elevation
Sta	Station (100-feet) (X + YY.ZZ)	FG	Finished Grade Elevation
Materials and Fittings		FH	Fire Hydrant (Steamer)
PVC	Polyvinyl Chloride (Pipe or Valve)	WH	Wharf Head Hydrant
ACP	Asbestos Cement Pipe	(E)XXXX	Existing Condition, Facility, Equipment, Material
DIP	Ductile Iron Pipe	EP	Edge of Pavement
GIP	Galvanized Iron Pipe	GB	Grade Break
SS	Stainless Steel (Pipe or Valve)	TBD	To Be Determined
PE or PET	Polyethylene (Pipe or Tank)	OF	Overflow
CPEP	Corrugated Polyethylene Pipe	RDWD	Redwood
HDPE	High Density Polyethylene Pipe	Map	Maple
CMP	Corrugated Metal Pipe	Syc	Sycamore
CP	Concrete Pipe	Oak	Oak
RCP	Reinforced Concrete Pipe	RD	Road
ADS	Advance Drainiange Systems (CPEP)	ST	Street
GV	Resilient Wedge Gate Valve (AWWA C509)	HWY	Highway
BFV	Butterfly Valve (AWWA C504)	CULV	Culvert
BV	Ball Valve	Grate	Inlet Grate
GFTS	Glass-Fused-To-Steel Tank (AWWA D103)	Rim	Manhole or Inlet Rim
Slip	Solvent Weld Slip Fitting (Existing Only)	Inv	Invert
GR or VIC	Victaulic Groove Pipe or Fitting	Crown	Crown of Pipe (Top of Pipe)

Chemeketa Park Mutual Water Company System
Table of Major Quantities

Item No.	Description	Unit	Quantity
1	Mobilization	LS	1
2	Installation of Temporary Storage including Connection to (E)Upper Tank Supply System	LS	1
3	Demolition of (E)Upper Storage Tanks including PCC pad	LS	1
4	Construct (N)Soldier Pile Retaining Wall at Lower Tank Site	SF	1 545
5	Lower Tank Site Grading – Cut (Overexcavation) plus Retaining Wall Excavation	CY	199
6	Lower Tank Grading –Backfill including Controlled Low Strength Material and Retaining Wall Backfill	CY	198.6
	Lower Contact Tank Grading Total inc. Excavation and Backfill	CY	397.6
7	6-inch Class 2 Aggregate Base Pad	CY	18
8	Lower Tank Driveway Improvements – Excavation	CY	13
9	Lower Tank Driveway Improvements – 6-inch AC Pavement	SF	705
10	Erect New Lower Tank: 88,000-gallon (net) Potable Water Storage Tank with Piping	LS	1
11	Upper Tank Site Grading – Cut (Overexcavation)	CY	140
12	Upper Tank Grading –Foundation Backfill (Controlled Low Strength Material)	CY	140
	Upper Tank Grading Total	CY	280
13	Erect New Upper Tank: 157,000-gallon (net) Potable Water Storage Tank with Piping	LS	1
14	New 10"ø PVC (AWWA C900) Pipeline with Valves and Fittings	LF	85
15	Reconnection to Supplying Water System	LS	1
16	New 4"ø CPEP Drain Line (ADS N12)	LF	40
17	Service Reconnection to 17680 Ogallala Warpath Road	LS	1

Revision	Date:
Updated Grading to inc. N.V.I.	dtx - 2/24
CCO No. 1 - Eliminate Upper Tank	dtx - 4/24
Add Atlas Map, Landscaping and Erosion Control Plans	dtx - 5/24

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Tank Replacement Project
General Notes, Sheet Index, Table of Major Quantities

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588 95044
Los Gatos, California
(650)859-1833

Date: 8/23
Scale: None
Drawn: DRA
Job: 22-002
Sheet C1 of 27

C:\Chemeketa Park\C1 - General Notes, Sheet Index, TAble of Major Quantities

This Atlas Map has been reproduced from that of Raymond Vail and Associates dated April 1982;

Wy'east Engineering makes no warranty, expressed or implied as to the accuracy or adequacy said Atlas Map;

This Atlas Map is provided to show the relative locations of improvements to be constructed;

This Atlas Map is not to scale.

~~SCALE: 1"=200'~~

CHEMEKETA PARK WATER STORAGE
AND
DROUGHT RELIEF PROJECT

~

Department of Water Resources
Agreement No. 4600014993

~

Funding by California Department of Water Resources
under the
Small Community Drought Relief Program

~

Lower Tank – 18000 Ogallala Warpath Road
Upper Tank – 17680 Ogallala Warpath Road

(E)Treatment Plant
(E)Contact Tank
WATER STORAGE AREA
PROPOSED TREATMENT PLANT
(E)Pump Station
(P)Lower Contact Tank
MOODY CREEK
APACHE
WALLA WALLA
OGALLALLA
KIOWA
CROW
COMANCHE
N. COMANCHE
BLACKFOOT
CHEROKEE
NEZ PERCE
NAKOOCHE
UMATILLA
OLD SANTA CRUZ HWY.
NAVAJO
ARAPAHOE
S. COMANCHE
PAWNEE
DELEWARE
SEQUIX
MODOC
1"W
2"W
4"W
6"W
SHEET 2
SHEET 3
(E)Upper Tank Site
(3-tanks, 160,000-gallons total)

Date: 4/24
Scale: None
Drawn: DRA
Job: 22-002
Sheet C1A of 27

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

Revision | Date:

CHEMEKETA PARK MUTUAL WATER COMPANY
~
System Atlas Map

REGISTERED PROFESSIONAL ENGINEER DAVID R. ALLEN No. C 69734 Exp. 6/30/24 CIVIL STATE OF CALIFORNIA

C:\Chemeketa\Santa Clara County\CPMWC-Atlas Map-1982.dwg, Sheet 1A - Atlas Map

TOPOGRAPHIC SURVEY
CHEMEKETA PARK
MUTUAL WATER COMPANY
OLD SANTA CRUZ HIGHWAY
MAY 2013
UPDATED: APRIL 2014
SCALE: 1" = 20'
CONTOUR INTERVAL = 1 FOOT

EASEMENT NOTES: 558-13-011

1) PG&E 271 O.R. 213 – CANNOT ASCERTAIN FROM THE RECORD
2) INDENTURE 606 O.R. 321–CANNOT ASCERTAIN FROM THE RECORD
3) WATER PIPELINE EASEMENT–"TO LAY AND MAINTAIN WATER PIPES/OR SERVICE PIPES OF ANY NAME OR NATURE, PROVIDED SAME DO NOT INTERFERE WITH FREE INGRESS OR EGRESS TO OR FROM THE PROPERTY, OR WITH ANY IMPROVEMENTS THEREON" 737 O.R. 445 & 858 O.R. 224

EASEMENT NOTES: 558-13-014

1) PG&E 271 O.R. 213 – CANNOT ASCERTAIN FROM THE RECORD
2) BRIDGE AGREEMENT 274 O.R. 100 "PERPETUAL USE OF A BRIDGE AND ROADWAY"–CANNOT ASCERTAIN FROM THE RECORD
3) WATER PIPELINE EASEMENT–"TO LAY AND MAINTAIN WATER PIPES/OR SERVICE PIPES OF ANY NAME OR NATURE, PROVIDED SAME DO NOT INTERFERE WITH FREE INGRESS OR EGRESS TO OR FROM THE PROPERTY, OR WITH ANY IMPROVEMENTS THEREON" 1294 O.R. 9
4) "ONE-INCH GRAVITY FLOW PIPE LINE OVER ALL THAT PORTION OF THE PREMISES HEREINAFTER DESCRIBED" 2141 O.R. 548–CANNOT ASCERTAIN FROM THE RECORD

EASEMENT NOTES: 558-13-016

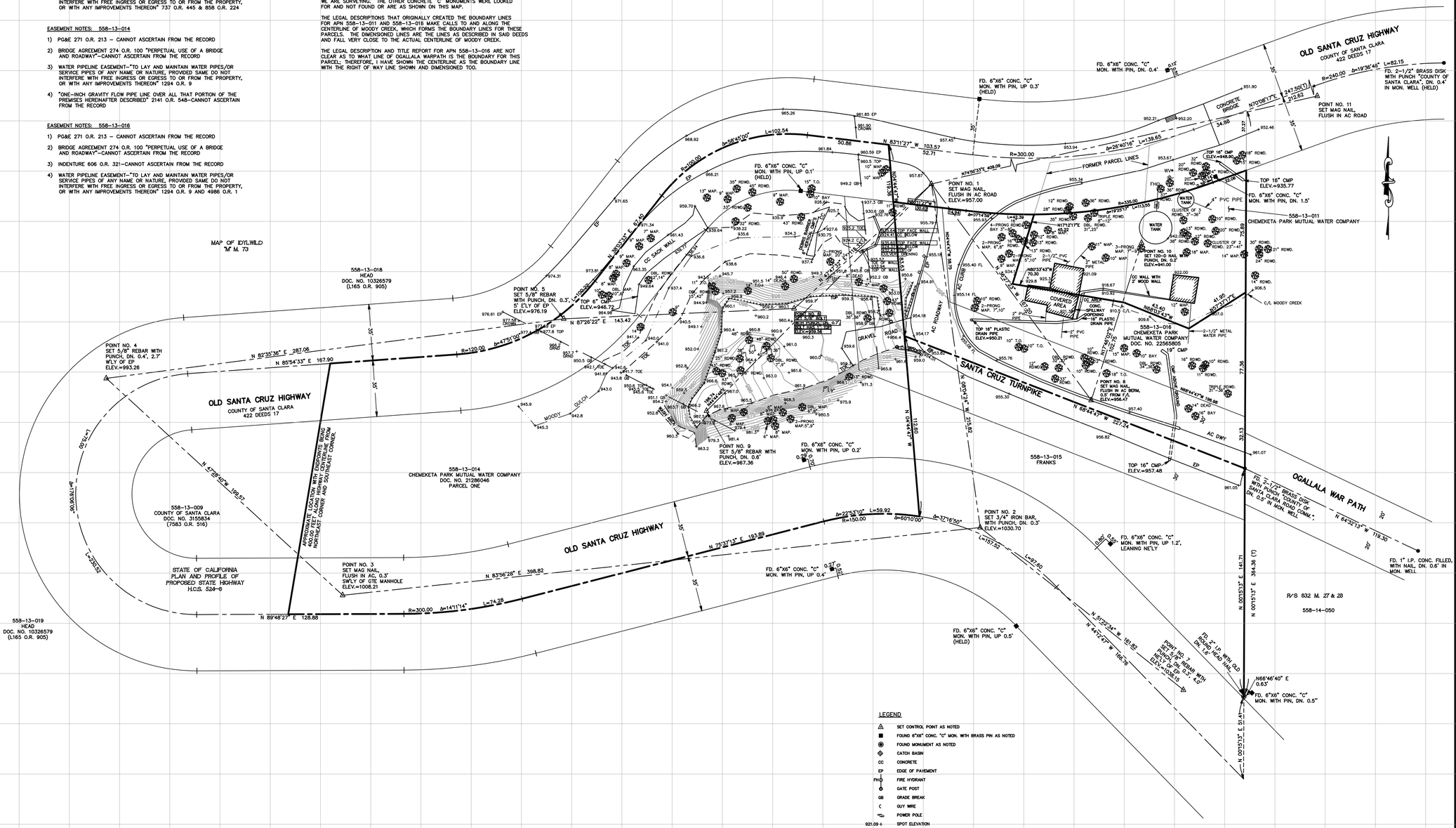
1) PG&E 271 O.R. 213 – CANNOT ASCERTAIN FROM THE RECORD
2) BRIDGE AGREEMENT 274 O.R. 100 "PERPETUAL USE OF A BRIDGE AND ROADWAY"–CANNOT ASCERTAIN FROM THE RECORD
3) INDENTURE 606 O.R. 321–CANNOT ASCERTAIN FROM THE RECORD
4) WATER PIPELINE EASEMENT–"TO LAY AND MAINTAIN WATER PIPES/OR SERVICE PIPES OF ANY NAME OR NATURE, PROVIDED SAME DO NOT INTERFERE WITH FREE INGRESS OR EGRESS TO OR FROM THE PROPERTY, OR WITH ANY IMPROVEMENTS THEREON" 1294 O.R. 9 AND 4986 O.R. 1

BOUNDARY NOTE

THE COURSES IN THE DEED FOR OLD SANTA CRUZ HIGHWAY, RECORDED IN BOOK 422 OF DEEDS AT PAGE 17 DO NOT MATCH THE COURSES SHOWN ON THE STATE CALIFORNIA HIGHWAY COMMISSION MAPS. THE DEED HAS AN "EXTRA" COURSE OF "S 89° 52' W. 15.6 FEET" ALONG THE COURSE SHOWN ON THIS MAP AS N 89°48'27" E 128.88. THE BOUNDARY ALONG THE CENTERLINE OF THE OLD SANTA CRUZ HIGHWAY WAS DERIVED BY HOLDING FOUND CONCRETE "C" MONUMENTS AT EACH END OF THE AREA WE ARE SURVEYING. THE OTHER CONCRETE "C" MONUMENTS WERE LOOKED FOR AND NOT FOUND OR ARE AS SHOWN ON THIS MAP.

THE LEGAL DESCRIPTIONS THAT ORIGINALLY CREATED THE BOUNDARY LINES FOR APN 558-13-011 AND 558-13-016 MAKE CALLS TO AND ALONG THE CENTERLINE OF MOODY CREEK, WHICH FORMS THE BOUNDARY LINES FOR THESE PARCELS. THE DIMENSIONED LINES ARE THE LINES AS DESCRIBED IN SAID DEEDS AND FALL VERY CLOSE TO THE ACTUAL CENTERLINE OF MOODY CREEK.

THE LEGAL DESCRIPTION AND TITLE REPORT FOR APN 558-13-016 ARE NOT CLEAR AS TO WHAT LINE OF OGALLALA WARPATH IS THE BOUNDARY FOR THIS PARCEL; THEREFORE, I HAVE SHOWN THE CENTERLINE AS THE BOUNDARY LINE WITH THE RIGHT OF WAY LINE SHOWN AND DIMENSIONED TOO.



LEGEND

- SET CONTROL POINT AS NOTED
- FOUND 6"X6" CONC. "C" MON. WITH BRASS PIN AS NOTED
- FOUND MONUMENT AS NOTED
- CATCH BASIN
- CC CONCRETE
- EP EDGE OF PAVEMENT
- FHC FIRE HYDRANT
- GATE POST
- GB GRADE BREAK
- GUY WIRE
- POWER POLE
- 921.09+ SPOT ELEVATION
- MAP. MAPLE TREE AS NOTED
- RDWD. REDWOOD TREE AS NOTED
- T.O. TAN OAK TREE AS NOTED
- STUMP AS NOTED
- WL WATER LINE
- WVD WATER VALVE
- SURVEY CONTROL LINE
- BOUNDARY LINE
- BUILDING LINE
- CENTERLINE CREEK
- CENTERLINE STREET
- CROSS-SECTION LOCATION
- GUARD RAIL
- TOE OF SLOPE
- TOP OF SLOPE

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF DAN MARKEY, DGA IN APRIL 2013 WITH ADDITIONAL INFORMATION ADDED IN APRIL 2014.

Kristina D. Comerer
KRISTINA D. COMERER, PLS 6766

DATE: APRIL 15, 2014

KRISTINA D. COMERER — LICENSED LAND SURVEYOR — No. 6766 — STATE OF CALIFORNIA

PLS 6766
Exp. 9/30/14

BASIS OF BEARINGS

THE BEARING OF NORTH 64°32'13" WEST ALONG THE CENTER LINE OF OGALLALA WAR PATH AS SHOWN ON THE RECORD OF SURVEY MAP FILED ON NOVEMBER 27, 1991 IN BOOK 632 OF MAPS AT PAGES 27 AND 28, SANTA CLARA COUNTY RECORDS, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS SURVEY AND WAS ESTABLISHED BETWEEN FOUND MONUMENTS.

BENCH MARK

THE ELEVATION OF 957.00 FEET WAS ASSUMED AT SURVEY CONTROL POINT NUMBER 1. THIS ELEVATION WAS DERIVED FROM THE GOOGLE EARTH WEBSITE.

ATTENTION:

THIS MAP IS PROVIDED IN AN ELECTRONIC FORMAT (ON COMPUTER DISK) AS A COURTESY TO DGA. THE DELIVERY OF THE ELECTRONIC FILE DOES NOT CONSTITUTE THE DELIVERY OF OUR PROFESSIONAL WORK PRODUCT. THE SIGNED PAPER PRINT DELIVERED WITH THIS ELECTRONIC FILE CONSTITUTES OUR PROFESSIONAL WORK PRODUCT, AND IN THE EVENT THE ELECTRONIC FILE IS ALTERED, THE PRINT MUST BE REFERRED TO, FOR THE ORIGINAL AND CORRECT SURVEY INFORMATION. WE SHALL NOT BE RESPONSIBLE FOR ANY MODIFICATIONS MADE TO THE ELECTRONIC FILE, OR FOR ANY PRODUCTS DERIVED FROM THE ELECTRONIC FILE WHICH ARE NOT REVIEWED, SIGNED AND SEALED BY US.

BY: Kristina D. Comerer

DATE: APRIL 15, 2014

CROSS LAND SURVEYING, INC.
2210 MT. PLEASANT ROAD
SAN JOSE, CA 95148
(408) 274-7994
PROJECT NO. 13-33

Revision	Date:

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Lower Tank Site
Cross Land Surveying Topographic and Boundary Survey

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)603-6126

Date:	9/23
Scale:	N'S
Drawn:	DRA
Job:	22-002
Sheet	C2 of 27

C:\Chemeketa\Lower Tank\Cross Lower Topo.dwg, Sheet C2 - Cross Lower Topographic and Boundary Survey

LOWER CONTACT TANK SITE PLAN with BOUNDARIES and OFFSETS

SCALE: 1" = 20'

Scale: 1" = 20'

For Topographical Detail
See Sheet C7, Topographic Survey
by Cross Land Surveyors

OLD SANTA CRUZ HIGHWAY
(County Road, County Maintained)

Old Santa Cruz Highway
(County Road, County Maintained)

OLD SANTA CRUZ HIGHWAY
(County Road, County Maintained)

Ohlonis Wagnath Road
(Old Santa Cruz Turnpike)
(County Road, County Maintained)

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Lower Contact Tank Site
Site Plan with Boundaries and Offsets

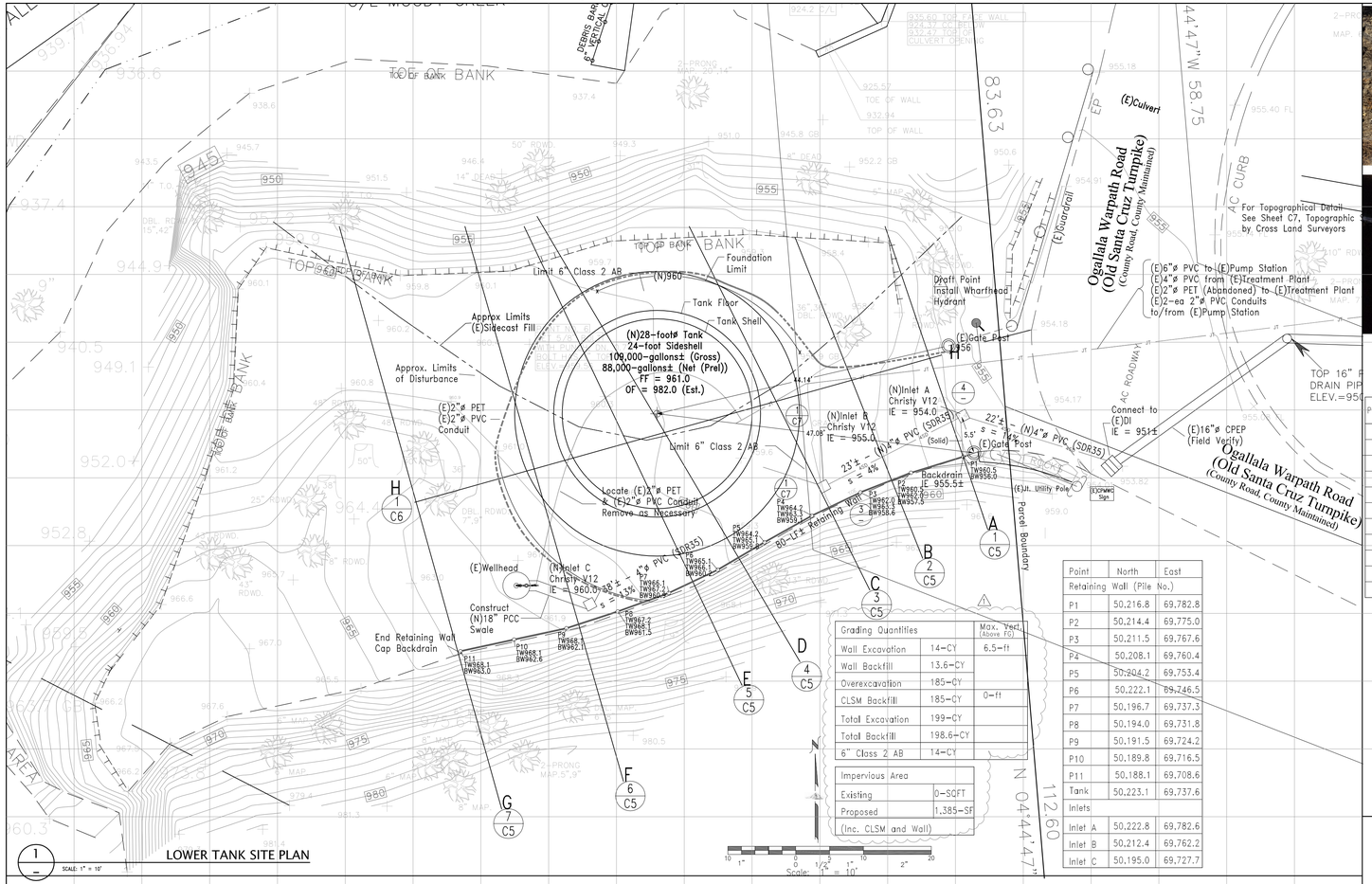
Date:
Revision

Wyeast Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 8/23
Scale: 1" = 20'
Drawn: DRA
Job: 22-002
Sheet C3 of 24

C:\Chemeketa\Lower Tank\Lower Tank Site Plan.dwg, Sheet C3 - Lower Tank Boundary Offsets



1 — LOWER TANK SITE PLAN
SCALE: 1" = 10'

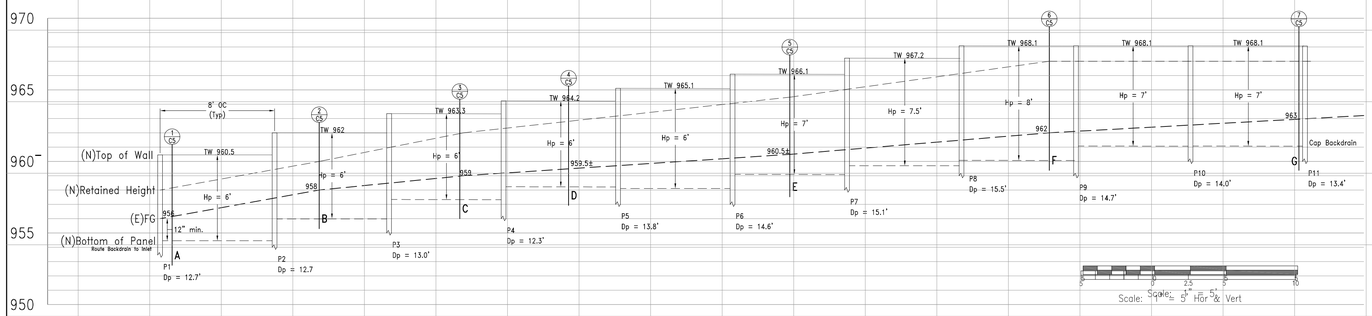
Grading Quantities		Max. Yect. (Above FG)
Wall Excavation	14-CY	6.5-ft
Wall Backfill	13.6-CY	
Overexcavation	185-CY	0-ft
CLSM Backfill	185-CY	
Total Excavation	199-CY	
Total Backfill	198.6-CY	
6" Class 2 AB	14-CY	

Impervious Area	
Existing	0-SQFT
Proposed (Inc. CLSM and Wall)	1,385-SF

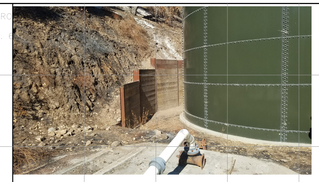
Point	North	East
Retaining Wall (Pile No.)		
P1	50,216.8	69,782.8
P2	50,214.4	69,775.0
P3	50,211.5	69,767.6
P4	50,208.1	69,760.4
P5	50,204.2	69,753.4
P6	50,222.1	69,746.5
P7	50,196.7	69,737.3
P8	50,194.0	69,731.8
P9	50,191.5	69,724.2
P10	50,189.8	69,716.5
P11	50,188.1	69,708.6
Tank	50,223.1	69,737.6
Inlets		
Inlet A	50,222.8	69,782.6
Inlet B	50,212.4	69,762.2
Inlet C	50,195.0	69,727.7

RETAINING WALL NOTES

1. The plans and details shown hereon are intended to demonstrate the intent of the work required to construct the retaining wall at the Lower Tank site;
2. The dimensions and elevations shown hereon are provided solely for the Contractor's convenience in preparing his proposal;
3. The Contractor shall be responsible for field verifying all conditions and for determining the means and methods for executing the work;
4. Soldier piles shall be W-section wide flange beams;
5. Soldier piles shall be A36 mild steel (Fy = 36-ksi);
6. Retaining wall lagging shall be 4x12 pressure treated Structural Grade No 1 Douglas Fir (PTDF);
7. Lagging shall be blocked against the front flange of the pile until backfilling is complete;
8. Pile spacing shall be a nominal 8-feet OC. Exact spacing shall be determined in the field to minimize field cutting of PTDF materials;
9. Hp = Panel (Lagging) Height (min.);
10. Dp = Depth of Pile Below (E)FG (min.);
11. Hr = Retained Height of soil
12. H = Hr + 2-feet for calculation purposes;
13. TW = Top of Panel (may be stepped);
14. BW = (E)Finish Grade;
15. Bp = Bottom of Pile;
16. Embed lagging 12" min. below (E)FG;
17. Cut ends of lagging shall be soaked in a copper napthante solution (Cuprinol or approved substitute) and coated with bitumastic prior to installation.



2 — LOWER TANK- RETAINING WALL PROFILE
SCALE: 1" = 5' Hor & Vert



Representative Photos of a Soldier Pile Retaining Wall with PTDF Lagging

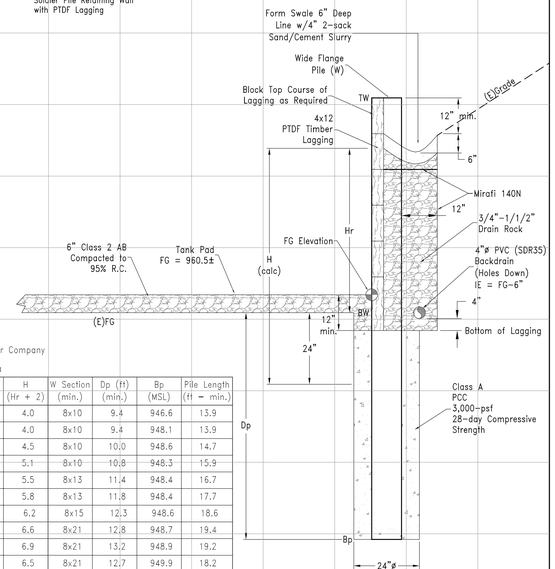
Chemeketa Park Mutual Water Company
Lower Tank Site
Retaining Wall Data

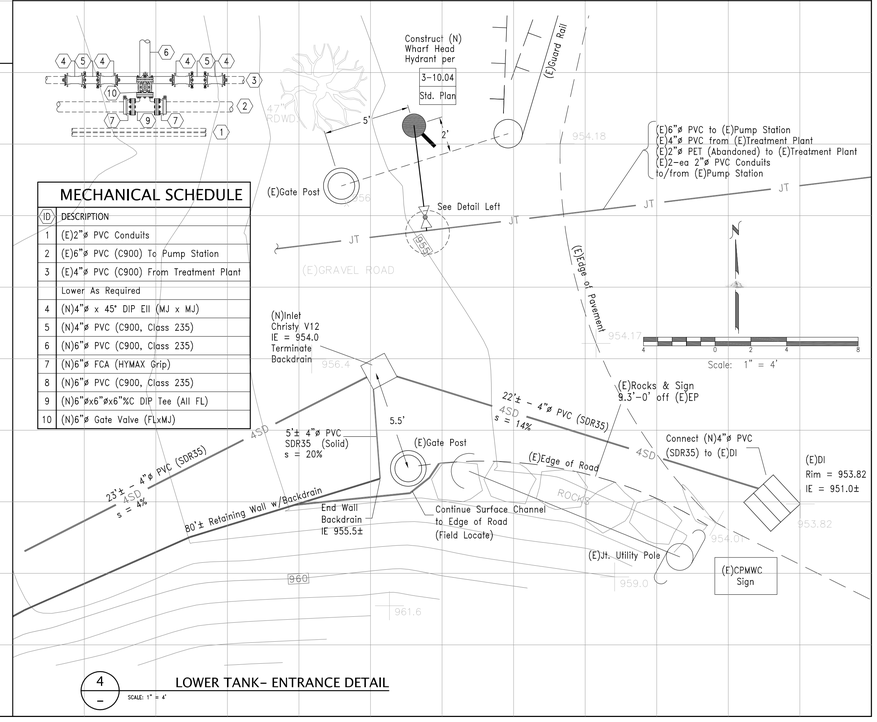
Pile No.	North	East	TW (MSL)		BW (MSL) (E)FG	Hr (ft)	H (Hr + 2)	W Section (min.)	Dp (ft) (min.)	Bp (MSL)	Pile Length (ft + min.)
P1	50,216.8	69,782.8	960.5		956.0	2.0	4.0	8x10	9.4	946.6	13.9
P2	50,214.4	69,775.0	960.5	962.0	957.5	2	4.0	8x10	9.4	948.1	13.9
P3	50,211.5	69,767.6	962.0	963.3	958.6	2.5	4.5	8x10	10.0	948.6	14.7
P4	50,208.1	69,760.4	963.3	964.2	959.1	3.1	5.1	8x10	10.8	948.3	15.9
P5	50,204.2	69,753.4	964.2	965.1	959.8	3.5	5.5	8x13	11.4	948.4	16.7
P6	50,222.1	69,746.5	965.1	966.1	960.2	3.8	5.8	8x13	11.8	948.4	17.7
P7	50,196.7	69,737.3	966.1	967.2	960.9	4.2	6.2	8x15	12.3	948.6	18.6
P8	50,194.0	69,731.8	967.2	968.1	961.5	4.6	6.6	8x21	12.8	948.7	19.4
P9	50,191.5	69,724.2	968.1		962.1	4.9	6.9	8x21	13.2	948.9	19.2
P10	50,189.8	69,716.5	968.1		962.6	4.5	6.5	8x21	12.7	949.9	18.2
P11	50,188.1	69,708.6	968.1		963.0	4.0	6.0	8x13	12.0	951.0	17.1

Grading Quantities	
Wall Excavation	14-CY±
Wall Backfill	13.6-CY±
Overexcavation	100-CY±
CLSM Backfill	100-CY±

Notes
1. Geotechnical Report: Lower Tank E5074 Chemeka Park Tank Rpt 2014 Cotton Shires April 2014;
2. Calculation software: Cantilever Shoring V1.18 by SoilStructure Software
3. All piles shall be W-section A36 steel;
4. All lagging shall be 4x12 Structural Grade No. 1 PTDF;
5. Pile spacing shall be a nominal 8-feet on center;
6. Equivalent Fluid Pressure (Lateral Load) 80-psf;
7. Equivalent Fluid Pressure (Passive Resistance) 450-psf;
8. Diameter of Pile Bore = 24";
9. Hr = height above (E)FG;
10. Calculated H = Hr + 2' for calculation purposes;

3 — LOWER TANK- RETAINING WALL SECTION
SCALE: NTS





4 — LOWER TANK- ENTRANCE DETAIL
SCALE: 1" = 4'

Revision	Date:
Update Wall Table	dm - 2/24
Add Quantities	dm - 2/24
Add Wharf Head	
Hydrant per SCFM	

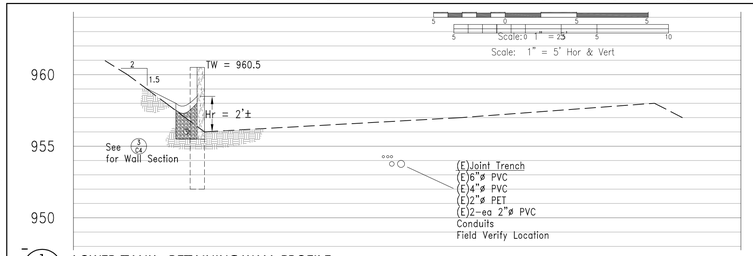
CHEMEKETA PARK MUTUAL WATER COMPANY
~
Lower Contact Tank Site
Site Plan, Profile and Wall Section

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

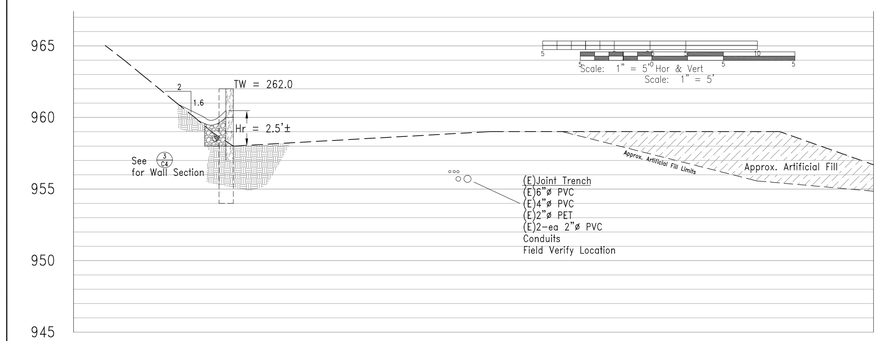
CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588 95044
Los Gatos, California
(650)859-1833

Date: 8/23
Scale: As Shown
Drawn: DRA
Job: 22-002
Sheet C4 of 24

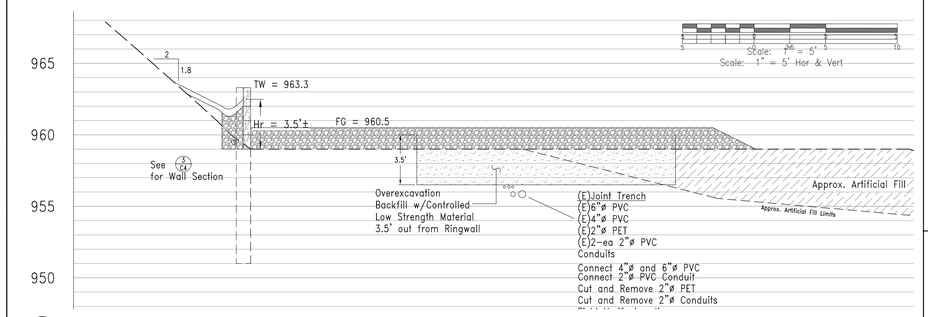
C:\Chemeketa\Lower Tank\Lower Tank Site Plan.dwg, Sheet C4 - Lower Tank Site Plan



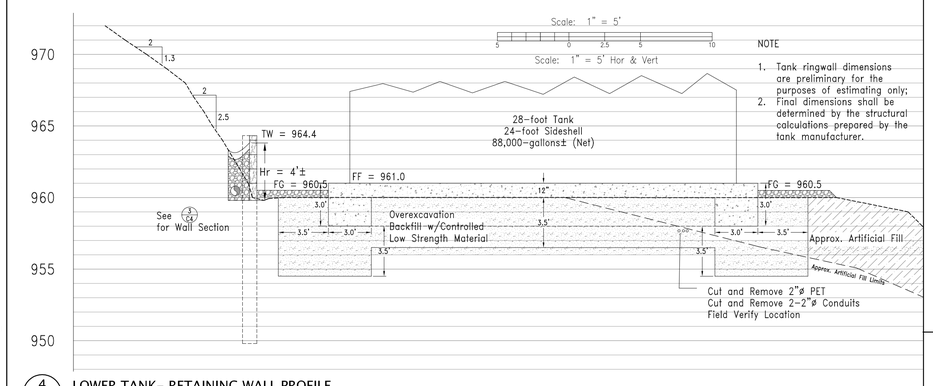
1 / – LOWER TANK- RETAINING WALL PROFILE
SCALE: 1" = 5' Hor & Vert
SECTION A-A



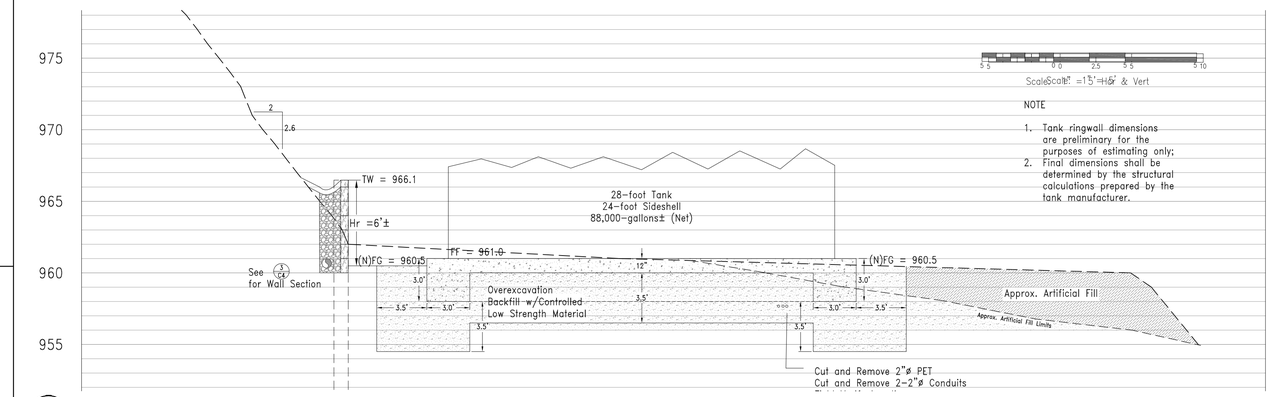
2 / – LOWER TANK- RETAINING WALL PROFILE
SCALE: 1" = 5' Hor & Vert
SECTION B-B



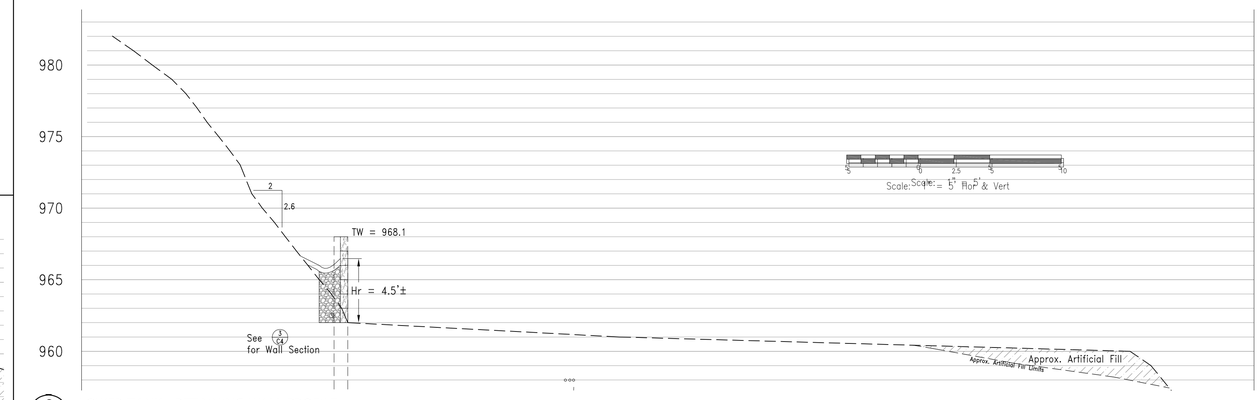
3 / – LOWER TANK- RETAINING WALL PROFILE
SCALE: 1" = 5' Hor & Vert
SECTION C-C



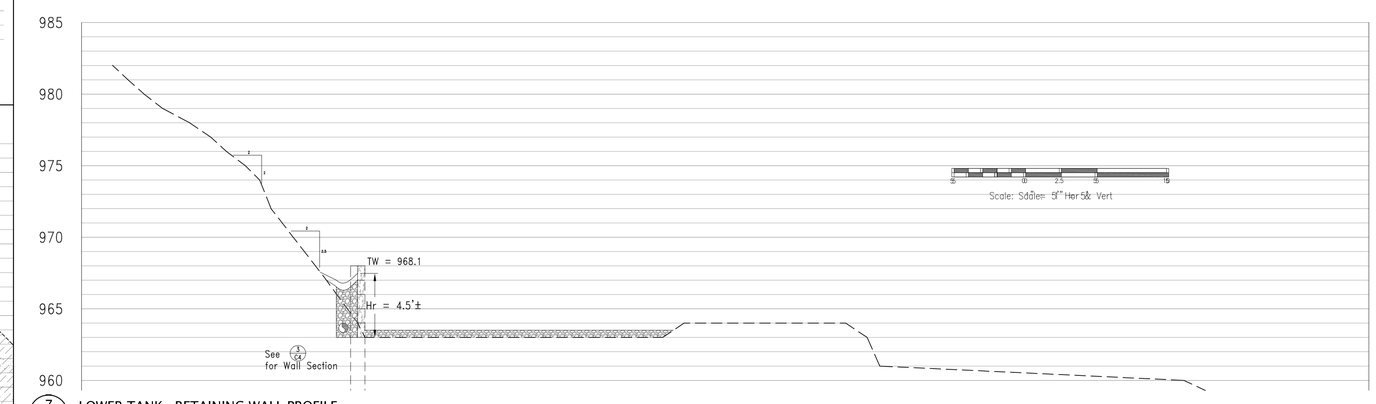
4 / – LOWER TANK- RETAINING WALL PROFILE
SCALE: 1" = 5' Hor & Vert
SECTION D-D



5 / – LOWER TANK- RETAINING WALL PROFILE
SCALE: 1" = 5' Hor & Vert
SECTION E-E



6 / – LOWER TANK- RETAINING WALL PROFILE
SCALE: 1" = 5' Hor & Vert
SECTION F-F



7 / – LOWER TANK- RETAINING WALL PROFILE
SCALE: 1" = 5' Hor & Vert
SECTION G-G

Revision	Date:

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Lower Contact Tank Site
Cross Sections A through G

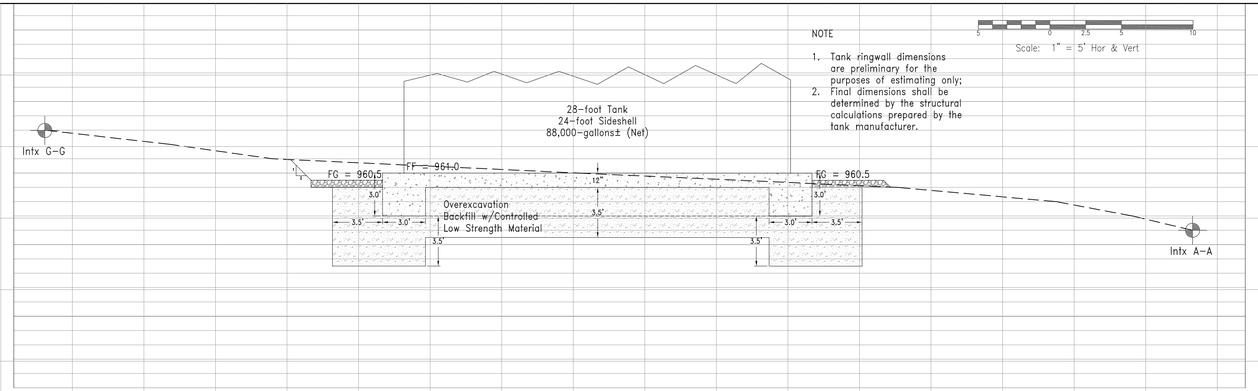
PROFESSIONAL ENGINEER
RANDALL D. WYE
No. C 43029
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

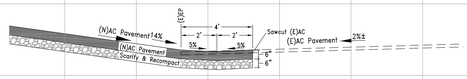
CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date:	8/23
Scale:	As Shown
Drawn:	DRA
Job:	22-002
Sheet	C5 of 27

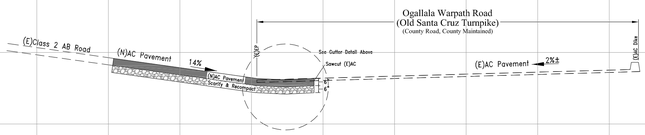
C:\Chemeketa\Lower Tank\Site Plan - Lower Tank.dwg, Sheet C5 - Lower Cross Sections A-E



1 — LOWER TANK- SITE CROSS SECTION
SECTION H-H
SCALE: 1" = 5' Hor & Vert



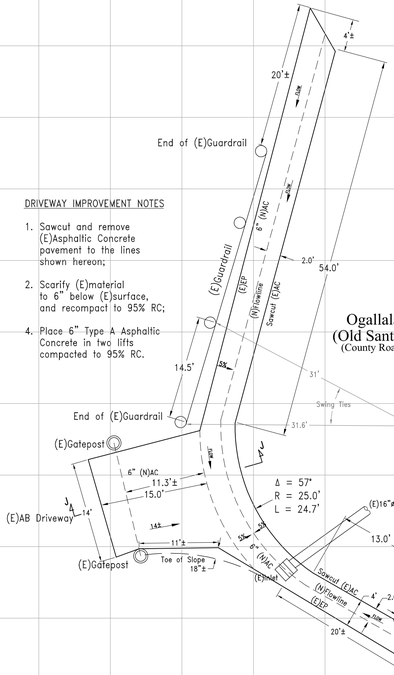
Gutter Detail



Section J-J

DRIVEWAY IMPROVEMENT NOTES

1. Sawcut and remove (E)Asphaltic Concrete pavement to the lines shown hereon;
2. Scarify (E)material to 6" below (E)surface, and recompact to 95% RC;
4. Place 6" Type A Asphaltic Concrete in two lifts compacted to 95% RC.



2 — 18000 OGALLALA WARPATH ROAD – DRIVEWAY IMPROVEMENTS
SCALE: 1" = 10'

Revision	Date:

CHEMEKETA PARK MUTUAL WATER COMPANY
Lower Contact Tank Site
Cross Section H-H
Driveway Improvements

PROFESSIONAL ENGINEER — REGISTERED — No. 64904 — CIVIL — STATE OF CALIFORNIA

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 8/23
Scale: As Shown
Drawn: DRA
Job: 22-002
Sheet C6 of 27

C:\Chemeketa\Lower Tank\Site Plan - Lower Tank.dwg Sheet C6 - Lower Cross Section H-H and Driveway Improvements

Point	North	East
Retaining Wall (Pile No.)		
P1	50,216.8	69,782.8
P2	50,214.4	69,775.0
P3	50,211.5	69,767.6
P4	50,208.1	69,760.4
P5	50,204.2	69,753.4
P6	50,222.1	69,746.5
P7	50,196.7	69,737.3
P8	50,194.0	69,731.8
P9	50,191.5	69,724.2
P10	50,189.8	69,716.5
P11	50,188.1	69,708.6
Tank	50,219.4	69,739.8
Inlets		
Inlet A	50,222.8	69,782.6
Inlet B	50,212.4	69,762.2
Inlet C	50,195.0	69,727.7

Grading Quantities		Max. Vert.
Wall Excavation	14-CY	6.5-ft
Wall Backfill	13.6-CY	
Overexcavation	100-CY	
CLSM Backfill	100-CY	0-ft
		(Above FG)

Impervious Area	
Existing	0-SQFT
Proposed	1,125-SF
(Inc. CLSM and Wall)	

SCALE: 1" = 10'

LEGEND FOR SUGGESTED PLANT MATERIAL

Quantity	Botanical Name	Common Name	Mature Height/Width	WUCOLS	California Native (Y/N)
2	Aesculus californica	California Buckeye	20'x20'	Very low (.1-.3)	Yes
2	Heteromeles arbutifolia	Toyon	10'x10'	Low (.3)	Yes
3	Myrica californica	Pacific Wax Myrtle	15'x15'	Moderate (.4-.6)	Yes

1 LOWER TANK- LANDSCAPE PLAN
SCALE: 1" = 10'

C:\Chemeketa\Lower Tank\Site Plan - Lower Tank.dwg, Sheet C6A-Lower Tank Landscaping

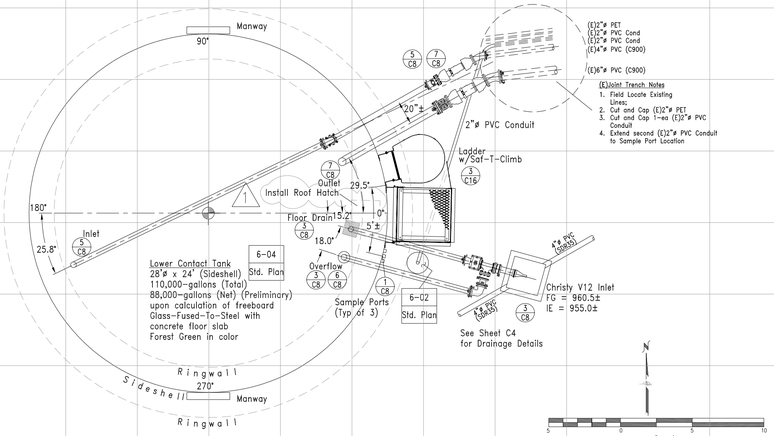
Revision | Date:

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Lower Contact Tank Site
Landscaping Plan

Wyeast Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 5/24
Scale: As Shown
Drawn: DRA
Job: 22-002
Sheet C6A of 27

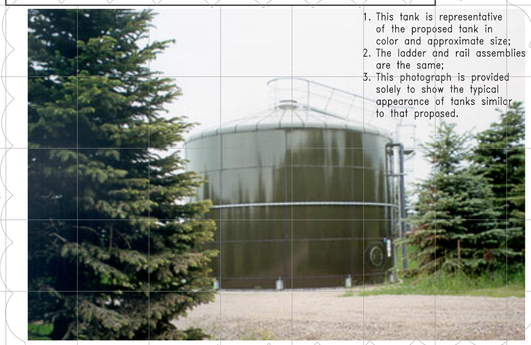


1 - SCALE: 1" = 5'

LOWER TANK LAYOUT

TANK GENERAL NOTES

1. The tank shall be Glass-Fused-To-Steel manufactured in accordance with AWWA D103;
2. The tank manufacturer shall provide plans, details and calculations signed and stamped by an engineer licensed to practice in the State of California;
3. Structural and seismic design of the tank and foundation shall refer to that geotechnical report prepared by Cotton Shires and Associates dated May 2014 and the Supplemenatal Report dated April 2023;
4. Special Inspection per CBC may be required by the design cited in 2 above;
5. The documents in 2 above will be submitted for review as a deferred submittal upon ordering the tank;
6. The tank shall be 110,000-gallon nominal capacity;
7. Tank side shell shall be 23.84-feet including freeboard (4-feet max);
8. Tank diameter shall be 28-feet;
9. Floor shall be Class A portland cement concrete, w/XYPEX C500 added as designed in 2 above;
10. Site piping for inlet, outlet, and overflow discharge shall be as provided for on Sheet C8 of 23;
11. Coatings shall be NSF61 Compliant;
12. Tank vents shall be screened with 1/8" or smaller mesh insect screen;
13. No logo sheet will be permitted;
14. Level indication shall be a dual read pressure gauge installed on one sample tap per Standard Plan 6-04;
15. The tank floor slab shall be cured by ponding for a minimum of 7-days or that method recommended by the manufacturer;
16. Upon completion of the leak test, the tank shall be disinfected in accordance with AWWA C652, Method 3.
17. Wherever herein the word Contractor is used, it shall mean the General Contractor and any specialty subcontractors for which this proposal is solicited;
18. The Tank Contractor as herein defined shall be responsible for all work within 3-feet of the ringwall including but not limited to, foundation excavation, piping, valving, floor penetrations, all concrete work, ladders and tank erection;
19. All work outside 3-feet outside the ringwall shall be the responsiblity of the General Engineering contractor.



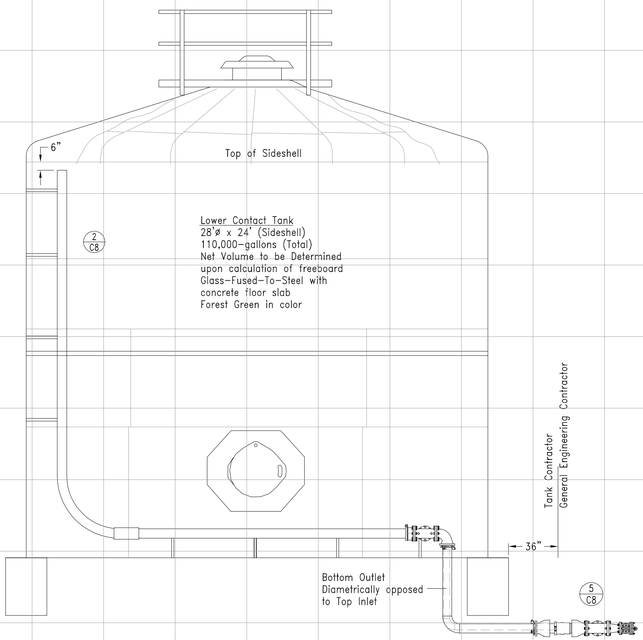
1 -

1. This tank is representative of the proposed tank in color and approximate size;
2. The ladder and rail assemblies are the same;
3. This photograph is provided solely to show the typical appearance of tanks similar to that proposed.

Water Storage Tank
Information to Bidders Checklist
Chemeketa Park Mutual Water Company
Lower Tank

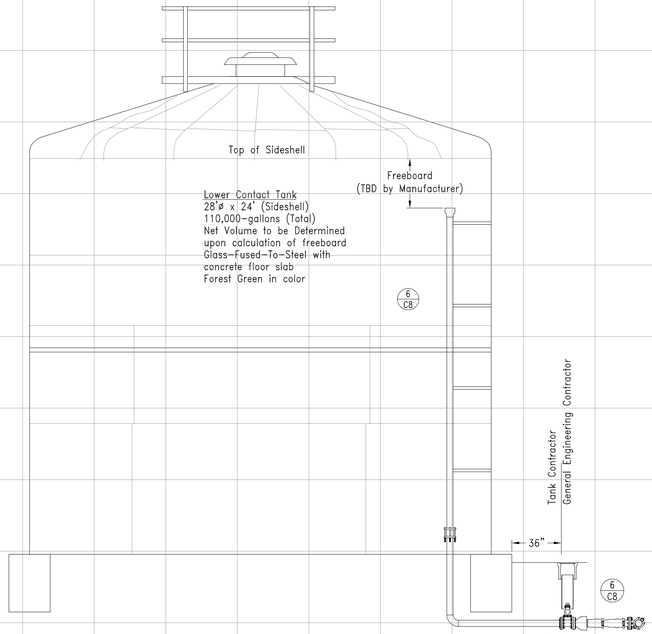
Date: 8/1/2023

1	**Tank Identification**	Chemeketa Lower Tank						
2	**Owner**			3	**Engineer**			
	A	Name	Chemeketa Park Mutual Water Company		A	Name	Wyeast Engineering	
	B	Address	P.O. Box 588		B	Address	1245 Kari Lane	
			Redwood Estates, CA 95044				Nipomo, California 93444	
	C	Telephone	(408)859-1833		C	Tele.	(831)443-5514	
	D	FAX			D	Mobile	(831)594-2660	
	E	E-mail	gbruder@gmail.com		E	E-mail	Doug.Allen@wyeasteng.com	
	F	Prevailing Wage	Yes					
4	**Tank Location**			9	**Life Cycle Cost Analysis**			
5	A	Address	18000 Ojallala Warpath Road		A	Inspection & Touch Up Schedule		N/A
	B	Latitude	N37.1639		B	Recoating Schedule		N/A
	C	Longitude	W121.9867		C	Replacement Schedule		N/A
	D	Access	AC Pavement		D	Present Worth Rate		N/A
	E	Staging Area	Unpaved		E	Annual Inflation Rate		N/A
	F	Nearest City	Los Gatos, CA	10	Tank Function			Surface Water Treatment Contact Tank
	G	Nearest Railhead	San Jose, CA	11	NSF61 Compliant Required			Yes
	H	On-site Power	Yes per Details	12	Site Specific Health Requirements			None
	I	On-site Pneumatic	No	13	Tank Structure Type			AWWA D103 Bolted Steel GFTS
6	**Schedule**			14	Applicable Standards			
	Bid Opening Date		TBD		A	General	NFPA 22, AWWA D103	
	Assumed Notice to Proceed		TBD		B	Structure	NFPA 22, AWWA D103	
	Resulting Completion Date		TBD		C	Coating	Glass-Fused-To-Steel (GFTS)	
7	**Geotechnical Report**	Cotton Shires & Associates E5074 and E5074B						
	Soil Bearing Load		2000-psf	15	Cathodic Protection Required			Yes
8	Shop Inspection Required		No	16	Warranty		5-year	
17	**Tank Geometry**			18	Piping Requirements			Supply by Others; Connection by Contractor
	Net Capacity (after freeboard)		88,000-gallon net (preliminary)	19	Piping Depth of Cover			See Project Plans
	Diameter (max. allow.)		28' nominal	20	Roof Type		GFTS	
	Sideshell Height (max. allow.)		24' nominal	21	Floor Type		Reinforced concrete with embedded starter sheet	
	Min. Foundation Exposure		6"	22	Special Inspection Req'd			Provided by Owner
	Tank Color		Forest Green Green	Interior	N/A			
23	**Appurtenances**			25	**Design Criteria**			
	A	Interior Ladder	Yes per Manufacturer		A	Seismic Design		
	B	Exterior Ladder	Yes per Manufacturer			i	Seismic Risk Categ.	IV	Design Categ.	F
	C	Landing Platform	Yes per Manufacturer			ii	Site Specific Spectral Response			
	D	Anti-Climb	Yes per Manufacturer				S_{S} =	2.78	$S_{MS}=F_a S_s$ =	2.89	PGA_M = 1.02
	E	Safety Climb	Yes				S_{1} =	1.07	$S_{M1}=F_v S_1$ =	1.53	V_{S30} = 530
	F	Vent Access w/Hand Rails	Locking Roof Hatch Off Ladder Landing				T_L =	12-sec	$S_{DS}=(2/3)S_{MS}$ =	1.93	
	G	Vent Capacity	500-CFM minimum with 24-mesh screening				Site Class =	C	$S_{D1}=(2/3)S_{M1}$ =	1.02	
	H	Manways	2-ea 24-inch		B	Wind Loading					
	I	Sampling Ports									
		i	Size	2-inch			V_{3s} =	85-mph			
		ii	No.	3-each per Details			V_{FM} =	71-mph			
24	**Piping Requirements**				C	Snow Loading		25-psf			
	I	Inlet	4-inch per Details		D	Special Loadings		No			
	J	Outlet	6-inch per Details	26	Foundation (inc. Seismic Restraint as Required)						
	K	Overflow	4-inch per Details		A	Designed By		Contractor			
	L	Removable Silt Stop	No		B	Constructed By		Contractor			
	M	Drain	4-inch floor drain per Details								
	N	Vent Screening	Yes per Details								
27	**Shop Drawings Required**										
	A	Structural Calculations			B	Dimensioned Drawings Required					
		i	Loads for the Shell and Roof			i	Foundation	viii			
		ii	Loads Imposed on Foundation			ii	Tank Shell				
		iii	Moment and Shear under Seismic & Wind Loading			iii	Tank Roof				
		iv	Shell, roof and anchorage calculations			iv	Seismic Restraint				
			Structural calculations shall be prepared, signed and stamped			v	Piping Details				
			by an Engineer licensed to practice in the the state of California			vi	Shell Penetrations				



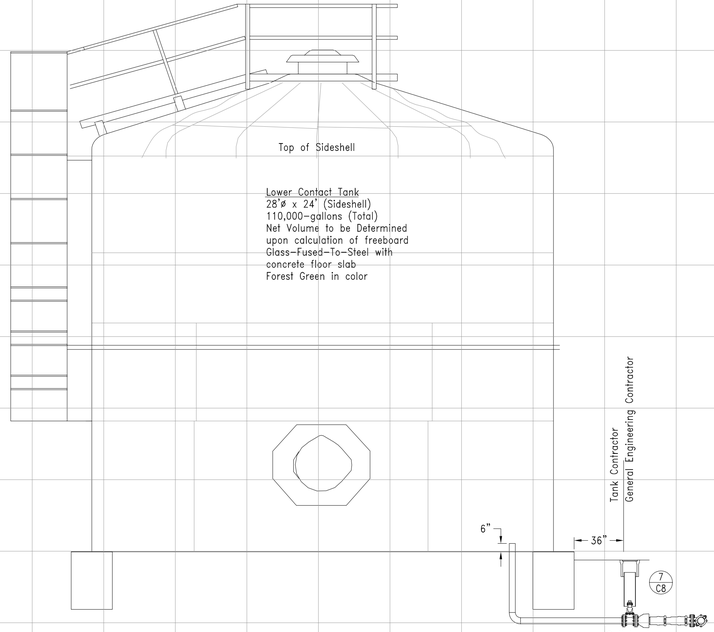
2 - SCALE: NTS

LOWER TANK - INLET ELEVATION



3 - SCALE: NTS

LOWER TANK - OVERFLOW ELEVATION



4 - SCALE: NTS

LOWER TANK - OUTLET ELEVATION

Revision	Date:
Add Tank Photo dtd - 2/24	
Addroof hatch	

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Lower Contact Tank Site
Tank Plan and Elevations

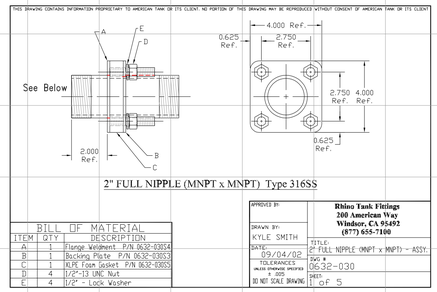
REGISTERED PROFESSIONAL ENGINEER — No. C43774 — CIVIL — STATE OF CALIFORNIA — 8/31/25

Wyeast Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)603-6126

Date:	8/23
Scale:	None
Drawn:	DRA
Job:	15-010
Sheet	C7 of 27

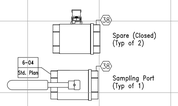
C:\Chemeketa Park\Lower Tank\LowerTank Details.dwg Sheet C7 - Lower Tank Plan and Elevations



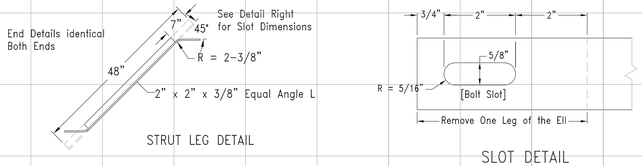
2" FULL NIPPLE (MNPT x MNPT) Type 316SS

BILL OF MATERIAL		
ITEM	QTY.	DESCRIPTION
A	1	Flange Weldment P/N 0632-03034
B	1	Backing Plate P/N 0632-03033
C	1	KLP# Foam Gasket P/N 0632-03035
D	4	1/2"-13 UNC Nut
E	4	1/2" - Lock Washer

APPROVED BY:	Rhino Tank Fittings 200 American Way Windsor, Ca 95492 (877) 655-7100
DRAWN BY: KYLE SMITH	TITLE: 2" FULL NIPPLE (MNPT x MNPT) - ASSY.
DATE: 09/04/02	SIZE: B
TOLERANCES UNLESS OTHERWISE SPECIFIED ± .030	DWG #: 0632-030
DO NOT SCALE DRAWING	SHEET: 1 OF 5

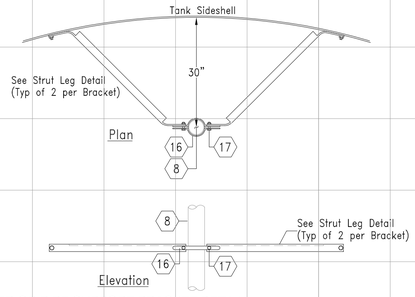


1 - SAMPLE PORT DETAIL (Typical of 3)
SCALE: NTS

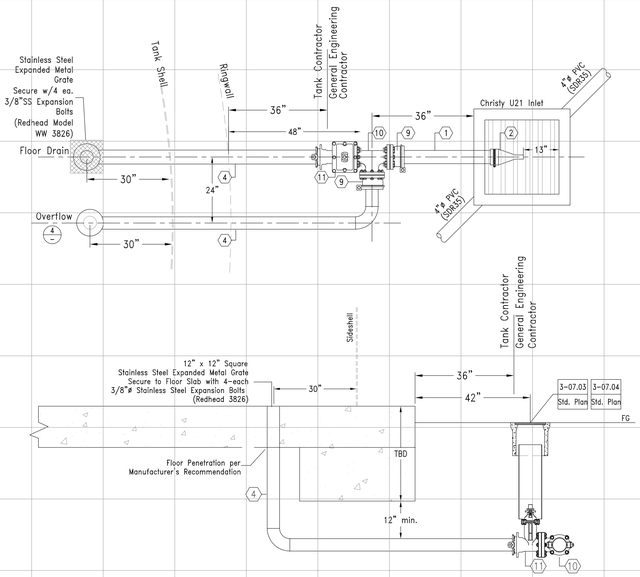


STRUT LEG DETAIL

SLOT DETAIL



2 - INTERIOR PIPE SUPPORT BRACKET DETAIL
SCALE: NTS



3 - OVERFLOW/DRAIN DETAIL
SCALE: NTS

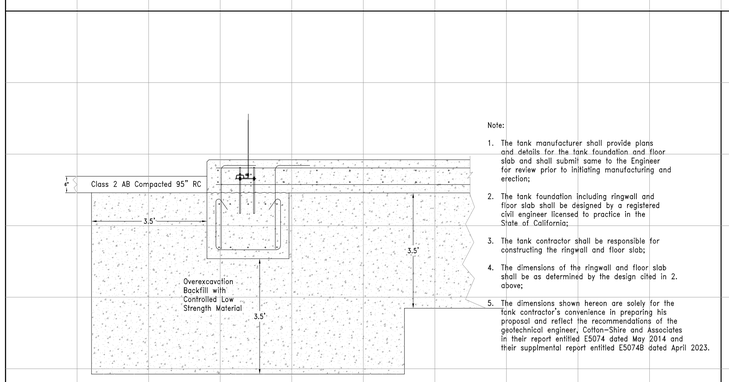
Wy'east Engineering Circular Weir Calculator		
Project:	Chemeketa Park Mutual Water Company Tank OVerflow Calculation	
Date:	8/2/2023 Q=CLH^3/2 (cfs)	
H=	0.25 -feet	Height above Crest
h=	20.00 -feet	Height of Weir
C=	3.27+0.40*(H/h)	
=	3.28	
N=	0	
D=	8.66 -inches	8-inch x 4-inch Reducer
=	0.72 -feet	
L'=PI*D		
=	2.27 -feet	
L=	2.267183	
Q =	0.93 -cfs	
	416.54-gpm OK	Qmax = 50-gpm

Where:
L= L'-0.1NH
N= Number of Contractions
C= 3.27+0.40*(H/h) H/h<5
5.68*((1+Hc/H)^1.5) H/h>15

Ven Te Chow
Open Channel Hydraulics - 1959
Page 361

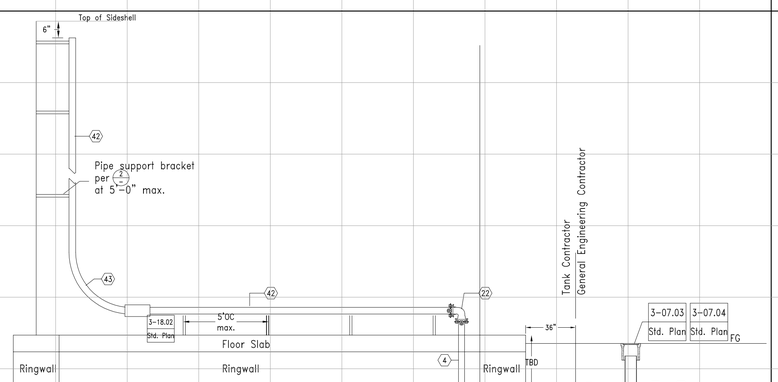
TANK MECHANICAL SCHEDULE

ID	DESCRIPTION
1	4"# PVC (C900)
2	4"# Duckbill Check Valve (Tideflex Series 39 w/Hypalon or EPDM Duckbill)
3	4"# Gate Valve (MJxFL)
4	4"# Welded Stainless Steel (Type 304, Sch. 40 PE x PE - Fabricated, Ames 1BR2 Fire Riser or Approved Substitute)
5	4"# x 90° (MJxFL)
6	6"# Welded Stainless Steel (Type 304, Sch. 40 PE x PE - Fabricated, Ames 1BR2 Fire Riser or Approved Substitute)
7	4"# Coupling (Smith-Blair 413-4.50-4.80 Grade 30 Gaskets Epoxy Coated)
8	Carrier Pipe (Size As Shown)
9	4"# Flange Coupling Adapter (HYMAX Standard Body)
10	4"# x 4"# x 4"# Tee (All FL)
11	4"# Resilient Seat Gate Valve (MJ x FL)
12	4"# DIP
13	4"# x 4"# x 4"# PVC Tee (Slip x Slip x Slip - Orient horizontally)
14	4"# PVC (Sch. 40)
15	8"# x 4"# PVC Reducer (Sch. 40 - SxS Specified Fittings Model 3260084, Spears 829-582F or approved substitute)
16	Stainless Steel Clamp Hanger (B-Line 3373 or approved substitute) (Size as Shown)
17	1/2"# Clamp Hanger Bolt (Confirm size before fabricating strut)
18	Stainless Steel Strut (2" x 2" 3/8" Equal Leg L per detail)
19	4"# Double Ball Expansion Fitting (EBAA Iron Flex Tend - FL x MJ)
20	(N)4"# x 45° (MJxMJ) w/MegaLug 1104 Restraining Gland
21	4"# Double Ball Expansion Fitting (EBAA Iron Flex Tend - FL x FL)
22	4"# x 90° (MJ x MJ w/ EBAA Iron MegaLug 1106 Restraining Gland)
23	Overflow Spool per Detail
24	4"# Welding Flange
25	4"# Welded Steel Pipe (Sch. 20)
26	4"# x 90° Weld Ell (Sch. 20)
27	4" Gate Valve (MJxMJ w/MegaLug 2004)
28	4"# Flange Coupling Adapter (EBAA Iron MegaFlange Series 2104)
29	4"# Adaptor (StG)
30	4"# Victaulic Coupling (Style 77)
31	4"# Stainless Steel Nozzle (Sch. 40)
32	1/8" Stainless Steel Backing Plate (Type 304 or 316)
33	4"# Double Ball Flexible Expansion Joint (EBAA Iron FlexTend FLxMJ)
34	8"# Double Ball Flexible Expansion Joint (EBAA Iron FlexTend FL x MJ)
35	4"# Flange Coupling Adapter (EBAA Iron MegaFlange 2104)
36	8"# x 8"# x 4"# Tee (All FL)
37	2"# Stainless Steel Nozzle (Sch. 40)
38	2"# Stainless Steel Ball Valve w/Locking Lug
39	6"# Resilient Seat Gate Valve (FL x MJ)
40	6"# Double Ball Flexible Expansion Joint (EBAA Iron FlexTend FLxFL)
41	6"# x 45° DIP Ell (FL x MJ w/MegaLug 2006)
42	4"# PVC (CertaLok RJ900)
43	4"# x 90° PVC Ell (CertaLok RJ900)
44	2"# x 8" Stainless Steel Nipple (MIPT x MIPT) (Type 304)
45	2"# Resilient Seat Gate Valve (FIPT x FIPT)
46	2"# Coupling (FJ x MIPT) (FORD C84-77-NL)
47	2"# PET (SDR9)
48	10"# x 10"# x 10"# x 4"# x 4"# DIP Cross (All FL)
49	4"# Blind Flange Tapped 2"# FIPT
50	10"# Resilient Seat Gate Valve (FL x MJ w/MJ Cap)
51	(F)10"# PVC (AWWA C900, Class 235 - NIC)
52	10"# Double Ball Flexible Expansion Joint (EBAA Iron FlexTend FLxMJ)
53	10"# Welded Epoxy Coated Steel
54	~
55	~

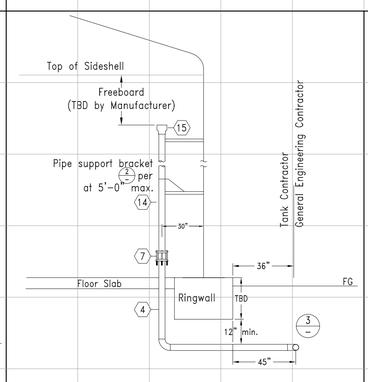


Note:
1. The tank manufacturer shall provide plans and details for the tank foundation and floor slab and shall submit same to the Engineer for review prior to initiating manufacturing and erection;
2. The tank foundation including ringwall and floor slab shall be designed by a registered civil engineer licensed to practice in the State of California;
3. The tank contractor shall be responsible for constructing the ringwall and floor slabs;
4. The dimensions of the ringwall and floor slab shall be as determined by the design cited in 2. above;
5. The dimensions shown hereon are solely for the tank contractor's convenience in preparing his proposal and reflect the recommendations of the geotechnical engineer, Cotton-Shire and associates in their report entitled ES074 dated May 2014 and their supplmental report entitled ES074B dated April 2023.

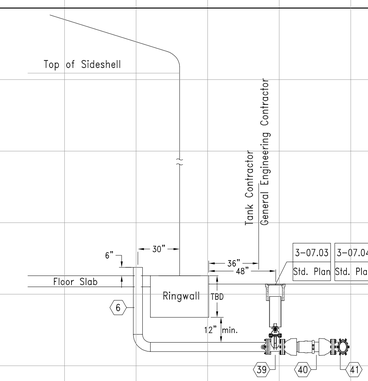
4 - FOUNDATION OVEREXCAVATION DETAIL
SCALE: NTS



5 - INLET DETAIL (ELEVATION)
SCALE: NTS



6 - OVERFLOW/DRAIN ELEVATION DETAIL
SCALE: NTS



7 - OUTLET ELEVATION DETAIL
SCALE: NTS

Revision	Date:

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Lower Contact Tank Site Plan
Tank Details

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)603-6126

Date:	8/23
Scale:	None
Drawn:	DRA
Job:	15-010
Sheet	C8 of 27

C:\Chemeketa Park\Lower Tank\LowerTank Details.dwg Sheet C8 - Lower Tank Details

BOUNDARY AND TOPOGRAPHIC SURVEY
15201 CAMELOT DRIVE
SAN JOSE, CALIFORNIA
FEBRUARY 6, 2023
SCALE: 1" = 20'
CONTOUR INTERVAL = 1 FOOT

OWNERSHIP TABLE

558-16-020
① LANDS OF CHEMEKETA PARK MUTUAL WATER COMPANY
664 O.R. 544

558-16-020
② LANDS OF CHEMEKETA PARK MUTUAL WATER COMPANY
794 O.R. 95

558-16-020
③ LANDS OF CHEMEKETA PARK MUTUAL WATER COMPANY
2633 O.R. 17

BASIS OF BEARINGS

THE BEARING OF NORTH 53° 45' 24" WEST ALONG THE CENTERLINE OF COMANCHE TRAIL, AS SHOWN ON THE RECORD OF SURVEY FILED ON NOVEMBER 9, 2021 IN BOOK 943 OF MAPS AT PAGE 28, SANTA CLARA COUNTY RECORDS, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS SURVEY AND WAS ESTABLISHED BETWEEN FOUND MONUMENTS.

BENCH MARK

THE ELEVATION OF 905.00 WAS ASSUMED ON POINT NO. 2. THE ELEVATION WAS OBTAINED FROM GOOGLE EARTH.

LINE TABLE

NO.	BEARING	DISTANCE
L1	N 12°08'18" E	106.01
L2	N 12°08'18" E	31.19
L3	N 12°08'18" E	25.00
L4	N 12°08'18" E	49.82
L5	N 77°51'42" W	25.00
L6	N 12°08'18" E	25.00
L7	N 77°51'42" W	25.00
L8	N 12°08'18" E	89.55
L9	ALONG CENTER OF SMALL CREEK (NO CREEK HERE NOW)	

ATTENTION:

THIS MAP IS PROVIDED IN AN ELECTRONIC FORMAT (ON COMPUTER DISK) AS A COURTESY TO GEORGE BRUDER. THE DELIVERY OF THE ELECTRONIC FILE DOES NOT CONSTITUTE THE DELIVERY OF OUR PROFESSIONAL WORK PRODUCT. THE SIGNED PAPER PRINT DELIVERED WITH THIS ELECTRONIC FILE CONSTITUTES OUR PROFESSIONAL WORK PRODUCT, AND IN THE EVENT THE ELECTRONIC FILE IS ALTERED, THE PRINT MUST BE REFERRED TO, FOR THE ORIGINAL AND CORRECT SURVEY INFORMATION. WE SHALL NOT BE RESPONSIBLE FOR ANY MODIFICATIONS MADE TO THE ELECTRONIC FILE, OR FOR ANY PRODUCTS, DERIVED FROM THE ELECTRONIC FILE WHICH ARE NOT REVIEWED, SIGNED AND SEALED BY US.

BY: Kristina D. Comerer

DATE: APRIL 2, 2023

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF GEORGE BRUDER IN DECEMBER 2022.

Kristina D. Comerer
KRISTINA D. COMERER, PLS 6766

DATE: APRIL 2, 2023

LICENSED LAND SURVEYOR
KRISTINA D. COMERER
L.S. 6766
Exp. 9/30/24
STATE OF CALIFORNIA

LEGEND

- △ SET MAG NAIL, UNLESS OTHERWISE NOTED
- ▲ FD. MAG NAIL, UNLESS OTHERWISE NOTED
- ● FD. MONUMENT AS NOTED
- ① PROPERTY OWNERSHIP PARCEL ID
- CC CONCRETE
- • CONCRETE RETAINING WALL SUPPORT PILLAR SIZE RANGES FROM 14" DIA. TO 18" DIA.
- FH ○ FIRE HOOKUP
- H═ HATCH OPENING
- HB ⊡ HOSE BIB
- L═ LADDER
- MB ⊡ MAIL BOX
- SIGN
- 1182.47 + SPOT ELEVATION
- SOIL BORING-APPROXIMATE LOCATION
- 2" SUPPORT PIPE
- 14" TREE AS NOTED
- RDWD. REDWOOD TREE AS NOTED
- WM ⊡ WATER METER
- WV ○ WATER VALVE
- WP ⊡ 4" X 4" WOOD POST WITH CONDUIT
- BOUNDARY LINE
- BUILDING LINE
- FENCE LINE AS NOTED
- METAL POLE BARRIER
- SURVEY CONTROL LINE
- TOE OF SLOPE
- TOP OF SLOPE

CROSS LAND SURVEYING, INC.
2210 MT. PLEASANT ROAD
SAN JOSE, CA 95148
(408) 274-7994
PROJECT NO. 22-213

Revision	Date:
⚠ CCO No. 1 - Eliminate dtra - 4/24	
Upper Tank	

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Upper Tank Site
Cross Land Surveying Topographic and Boundary Survey

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 9/23
Scale: 1" = 20'
Drawn: DRA
Job: 22-002
Sheet C9 of 27

C:\Chemeketa\Cross\Cad\Upper Tank Site Topo.dwg Sheet C9 - Cross Upper Topo

(E)Propane Tank

24" RDWD.

50" RDWD.

38" RDWD.

4.06'

40" RDWD.

50" RDWD.

40" RDWD.

40" RDWD.

40" RDWD.

55.8'

2"ø ELEV.=1155.63

17680 Ogallalla Warpath Road
CPWMC Tank Site
Common Driveway
Minimize Truck Traffic
Sawcut, Remove
and Replace All
Concrete Damaged
by Contractor's
Operations

(P)GFTS Tank
34'± x 28' Sideshell
157,000-gallons (net)
FF = 1,157.5
FG = 1,157.0

TANK 2
(GFTS70)
84'DIA
TANK
To Be Demolished
Under Stage 2 Demolition

24.0'

31.6'

22.2'

(E)Retaining Wall
Protect at All Times

WV
ELEV.=1163.27

Temporarily Terminate
10"ø Pipeline

Temporarily Terminate
3"ø PET

Temporary Storage
Vertical Polyethylene Tank
(10,000-gallon (min))

Top of Slope

10' Min. Setback
Top of Slope

C/L Existing
Creek

Ogallalla Warpath (Private)

14" RDWD.

NORTH 1" = 5'

For Topographical Detail
See Sheet C0, Topographic Survey
by Cove Land Surveyors

N

SCALE: 1" = 10'

558-12-005
LANDS OF HOLY CITY, LLC
DOC. NO. 23391655
PARCEL ONE

1 SCALE: 1" = 10'

TEMPORARY STORAGE PLAN

Revision	Date:
CCO No. 1 - Eliminate 4ea - 4/24	
Upper Tank	

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Upper Tank Site
Site Plan with Boundaries and Offsets

REGISTERED PROFESSIONAL ENGINEER
Kenneth R. Cole
No. C 51742
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

Wyeast Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date:	2/24
Scale:	1" = 10'
Drawn:	DRA
Job:	22-002
Sheet	C10
of	27

C:\Chemeketa Park\Upper Tank\Upper Tank Site, Awg Sheet\C10 - Upper Tank Site with Boundaries

Reconnect to (E)2"ø Service

40" RDWD.

WV ELEV.=1163.83

1155

1150

1140

TANK 3
(E)STEEL WATER TANK
18' HIGH
To Be Demolished Under Stage 2 Demolition

Remove

17680 Ogallalla Warpath Road
CPMWC Tank Site
Common Driveway
Minimize Truck Traffic
Sawcut, Remove and Replace All Concrete Damaged by Contractor's Operations

52"

(E)2"ø PVC To Remain

(E)Level Sensor (Reactivate)

Remove

14" RDWD

N

SCALE: 1" = 5'

For Topographical Detail
See Sheet C8, Topographic Survey by Cross Land Surveyors

(E)2"ø PVC To Remain

(E)Retaining Wall
Protect at All Times

Remove

TANK 2
(E)STEEL WATER TANK
24' HIGH
To Be Demolished Under Stage 2 Demolition

WV ELEV.=1163.27

(E)Level Sensor
Relocate to Temporary Storage

TANK 1
(E)STEEL WATER TANK
24' HIGH
To Be Demolished Under Stage 1 Demolition

1150

1155

Top of Slope

EP

165

EP

10-foot Setback
Top of Slope

Curb

(E)Retaining Wall
Protect at All Times

1165

1160

C/L EXISTING CREEK

20"

Ogallalla Warpath
(Private Road)

1170

15"

Chemeketa Park Mutual Water Company
Upper Storage Tank Replacement
Order of Work

The Contractor shall be responsible for determining the specific order of work pursuant to Section 1-06.06, Schedule of the Standard Specifications;

The Contractor is hereby advised of certain considerations that must be addressed in his scheduling and order of work:

1. Service interruptions shall be kept to the minimum required to prosecute the work;
2. A minimum storage shall be maintained at all times;
3. Demolition of the existing storage tanks and attendant pipelines and appurtenances shall be staged to ensure storage throughout the work with Tank 1 being the first demolished;
4. The new 10-inch pipeline shall be constructed and connected to the existing supply system as shown on the Project Plans;
5. The temporary storage tank shall be installed and connected to the existing supply system as shown on the Project Plans;
6. Tanks 2 and 3 and attendant pipelines and shall be demolished once the temporary storage tank is approved for use;
7. Subexcavation and new tank erection construction and erection may proceed once demolition is compete.

1
SCALE: 1" = 5'

STAGE 1 DEMOLITION

Revision	Date:
CCO No. 1 - Eliminate dra - 4/24	
Upper Tank	

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Upper Tank Site
Stage 1 Demolition Plan

REGISTERED PROFESSIONAL ENGINEER — Steven Wyeast — No. C43925 Exp. 6/30/25 — CIVIL — STATE OF CALIFORNIA

Wy'east Engineering
784 Northridge Center; Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date:	2/24
Scale:	1" = 5'
Drawn:	DRA
Job:	22-002
Sheet	C11 of 27

C:\Chemeketa Park\Upper Tank\Upper Tank Site.dwg, Sheet C11 - Stage 1 Demolition

558-16-019
LANDS OF BLACK
DOC. NO. 24651216
PARCEL 2

17680 Ogallalla Warpath Road
CPMWC Tank Site
Common Driveway
Minimize Truck Traffic
Sawcut, Remove
and Replace All
Concrete Damaged
by Contractor's
Operations

40" RDWD.

50" RDWD.

2-WV
ELEV.=1153.83

WV
ELEV.=1163.27

TANK 3
(E)STEEL
WATER
TANK
18' HIGH
To Be Demolished
Under Stage 2 Demolition

TANK 2
(E)STEEL
WATER
TANK
24' HIGH
To Be Demolished
Under Stage 2 Demolition

Guide Line
(Perp. to DW)

19.80'

52'

35.5'

(E)Retaining Wall
Protect at All Times

EP

Curb

Intx D

30'± 10"ø PVC (AWWA C900, Class 235)

Temporarily Terminate
10"ø Pipeline

Temporarily Terminate
2"ø PE

Temporary Storage
Vertical Polyethylene Tank
10,000-gallon (min)

13'± 10" PVC
(AWWA C900, Class 235)

Valve A
10"ø GV
(MJ x MJ)

12'± 10" PVC
(AWWA C900, Class 235)

Intx B
10"ø x 90° DIP Ell
(MJ x FL)

(MJ x FL)

26'± 10"ø PVC (AWWA C900, Class 235)

Intx C
10"ø x 45° DIP Ell
(MJ x MJ)

Top of Slope

40-lf± 4"ø CPEP
(ADS N12)

10-foot Setback
Top of Slope

C/L EXISTING
CREEK

14" RDWD.

20"

15"

Ogallalla Warpath
(Private Road)

1155 1150 1145 1140 1160 1165 1170

For Topographical Detail
See Sheet C8, Topographic Survey
by Cross Land Surveyors

N

SCALE: 1" = 5'

TEMPORARY STORAGE MECHANICAL SCHEDULE

ⓘ	DESCRIPTION
1	(N)4"ø PVC (C900)
2	4"ø x 4"ø x 4"ø DIP Tee (All FL)
3	4"ø Resilient Wedge Gate Valve (MJxFL)
4	4"ø x 3"ø Stainless Steel Reducing Flange
5	3"ø Resilient Wedge Gate Valve (All FL)
6	(E)3"ø GIP
7	(E)3"ø PVC
8	3"ø Coupling (HYMAX Grip)
9	3"ø x 8"ø Stainless Steel Toe Nipple (Type 304, Sch. 40)
10	4"ø x 3"ø Stainless Steel Reducing Flange
11	2"ø PET (SDR9)
12	2"ø Coupling (PJ x MIPT) (FORD CL-84-NL)
13	(E)2"ø PVC (Sch. 40)
14	(E)2"ø PVC Ball Valve (Sch. 80)
15	(E)2"ø x 90° PVC Ell (Sch. 40)
16	(N)2"ø PVC Coupling (Sch. 80 – Slip x FIPT)
17	(N)6"ø x 6" PVC (Sch. 80 – MIPT x MIPT)
18	(N)2"ø PVC True Union Ball Valve (Sch. 80 – FIPT x FIPT)
19	(N)2"ø x 2"ø x 2"ø PVC Tee (Sch. 80 – All Thread)
20	(N)2"ø PVC Cap (Sch. 80 – Slip)
21	(N)2"ø x 18" Flexible Stainless Steel Hose (Swivel Female x Swivel Female) (Falcon SWC218, Charman 173218)
22	4"ø MJ Cap Topped 2"ø FIPT with EBAA Iron MegaLug 2004
23	(N)4"ø PVC (CertaLok RJ900 – Class 235)
24	(N)4"ø PVC (AWWA C900, Class 235)
25	(N)2"ø x 90° PVC Ell (Sch. 80 – FIPT x FIPT)
26	(N)2"ø PVC True Union Ball Check Valve (Sch. 80 – FIPT x FIPT)
27	(N)2"ø PVC Bulkhead Fitting (Sch. 80 – FIPT)
28	(N)4"ø x 4"ø x 4"ø x 4"ø DIP Cross (MJ x MJ x MJ x MJ with EBAA Iron Mega Lug 2004 (2-each))
29	(N)2"ø x 12" PVC (Sch. 80 – MIPT x MIPT)
30	(N)2"ø PVC Coupling (Sch. 80 – Slip x FIPT)
31	(N)2"ø PVC (Sch. 80 – Length to Fit)
32	(N)4"ø x 4"ø x 4"ø DIP Tee (MJ x MJ x MJ with EBAA Iron Mega Lug 2004 (1-each))
33	(N)10"ø PVC (AWWA C900, Class 235)
34	(N)10"ø x 10"ø x 4"ø DIP Tee (All FL)
35	(N)10"ø DIP MJ Cap Topped 3"ø FIPT
36	(N)3"ø x 10" Stainless Steel Nipple (MIPT x MIPT)
37	(N)10"ø Resilient Wedge Gate Valve (FL x MJ)

1

Chemeketa Park Mutual Water Company
Upper Tank Site
Point Table

Point	North	East
Pipeline		
Valve A	49,572.7	59,167.0
Pipeline Intx B	49,563.2	59,175.3
Pipeline Intx C	49,555.7	59,153.1
Tie In D	49,570.6	59,121.5
(N)Tank	49,607.4	59,140.9
Temporary Tank	49,579.1	59,159.6
Inlets		
Inlet A	49,598.2	59,167.8

Chemeketa Park Mutual Water Company
Upper Storage Tank Replacement
Temporary Storage Scope of Work

The Contractor shall be responsible for determining the specific order of work pursuant to Section 1-06.06, Schedule of the Standard Specifications;

The Contractor is hereby advised of certain considerations that must be addressed in his scheduling and order of work:

1. Construct (N)10"ø pipeline to tank end of flexible fitting;
2. Install (N)2"ø PET past footprint of Temporary Storage Tank;
3. Install Temporary Storage Tank;
4. Connect Temporary Storage Tank to (E)2"ø PVC serving (E)Tank No. 1 serving (E)Tank No. 1 per details on Sheect C13.

TEMPORARY STORAGE PLAN

SCALE: NTS

Revision	Date:
1 Add Point Table	dra - 2/24
2 CCO No. 1 - Eliminate Upper Tank	dra - 4/24

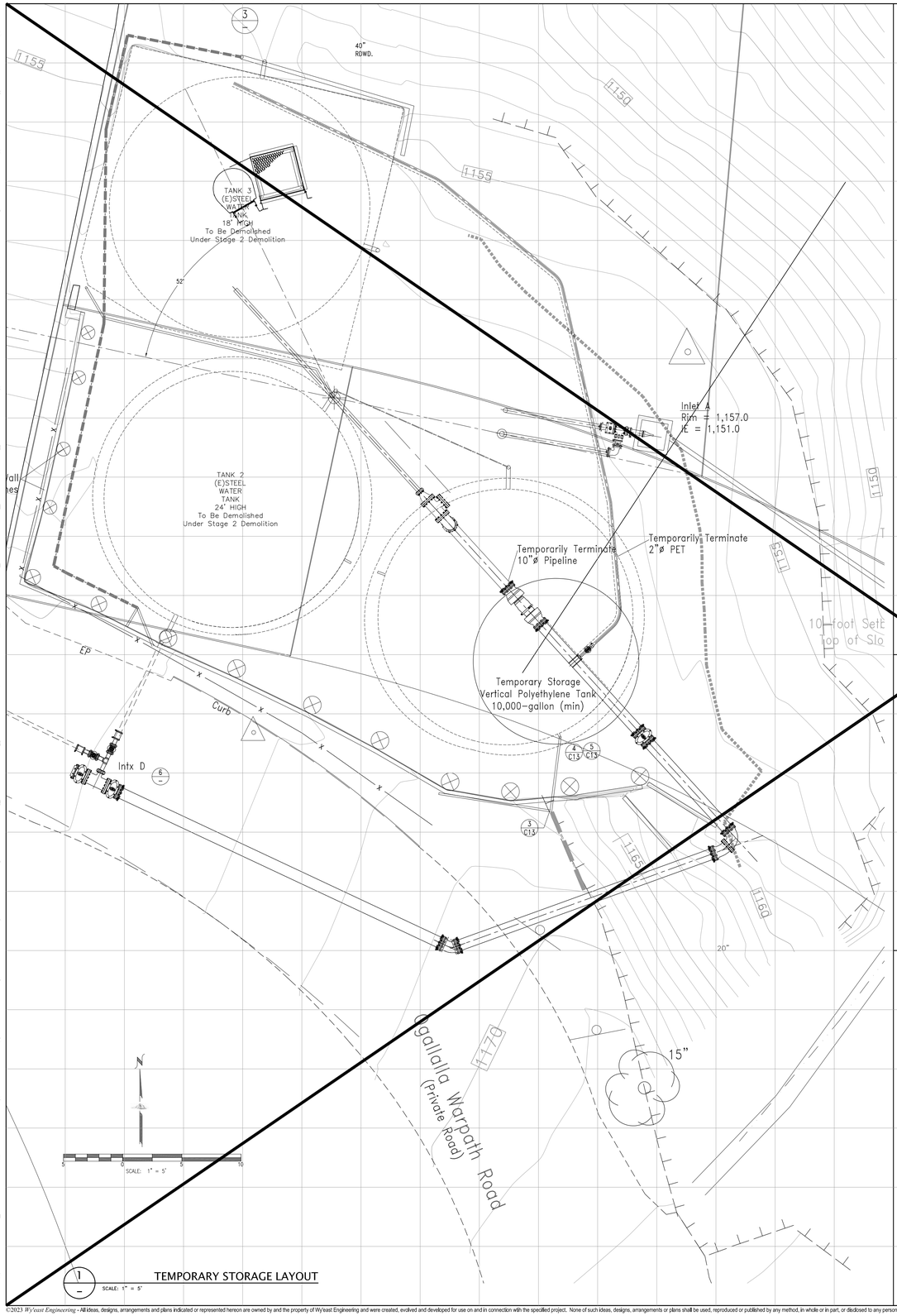
CHEMEKETA PARK MUTUAL WATER COMPANY
~
Upper Tank Site
Temporary Storage Plan

Wyeast Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

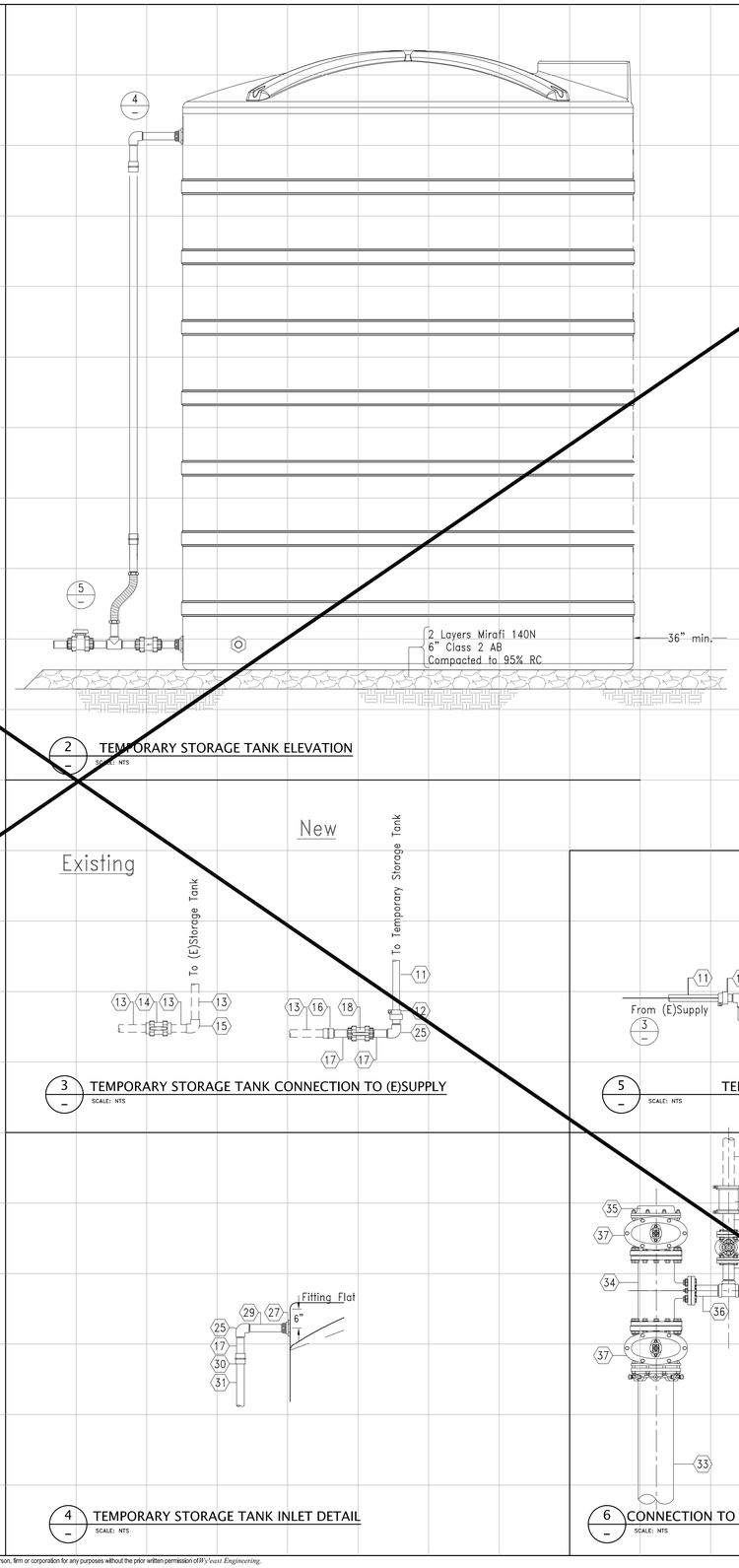
CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 2/24
Scale: 1" = 10'
Drawn: DRA
Job: 22-002
Sheet C12 of 27

C:\Chemeketa Park\Upper Tank\Upper Tank Site .dwg, Sheet:C12 - Temporary Storage



1 — TEMPORARY STORAGE LAYOUT
SCALE: 1" = 5'



2 — TEMPORARY STORAGE TANK ELEVATION
SCALE: NTS

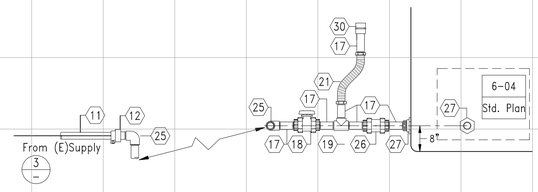
TEMPORARY STORAGE MECHANICAL SCHEDULE

ID	DESCRIPTION
1	(N)4"ø PVC (C900)
2	4"ø x 4"ø x 4"ø DIP Tee (All FL)
3	4"ø Resilient Wedge Gate Valve (MJxFL)
4	4"ø x 3"ø Stainless Steel Reducing Flange
5	3"ø Resilient Wedge Gate Valve (All FL)
6	(E)3"ø GIP
7	(E)3"ø PVC
8	3"ø Coupling (HYMAX Grip)
9	3"ø x 8"ø Stainless Steel Toe Nipple (Type 304, Sch. 40)
10	4"ø x 3"ø Stainless Steel Reducing Flange
11	2"ø PET (SDR9)
12	2"ø Coupling (PJ x MIPT) (FORD C84-NL)
13	(E)2"ø PVC (Sch. 40)
14	(E)2"ø PVC Ball Valve (Sch. 80)
15	(E)2"ø x 90° PVC Ell (Sch. 40)
16	(N)2"ø PVC Coupling (Sch. 80 – Slip x FIPT)
17	(N)6"ø x 6" PVC (Sch. 80 – MIPT x MIPT)
18	(N)2"ø PVC True Union Ball Valve (Sch. 80 – FIPT x FIPT)
19	(N)2"ø x 2"ø x 2"ø PVC Tee (Sch. 80 – All Thread)
20	(N)2"ø PVC Cap (Sch. 80 – Slip)
21	(N)2"ø x 18" Flexible Stainless Steel Hose (Swivel Female x Swivel Female) (Falcon SWC218, Charman 173218)
22	4"ø MJ Cap Tapped 2"ø FIPT with EBAA Iron MegaLug 2004
23	(N)4"ø PVC (CertaLok RJ900 – Class 235)
24	(N)4"ø PVC (AWWA C900, Class 235)
25	(N)2"ø x 90° PVC Ell (Sch. 80 – FIPT x FIPT)
26	(N)2"ø PVC True Union Ball Check Valve (SCh. 80 – FIPT x FIPT)
27	(N)2"ø PVC Bulkhead Fitting (Sch. 80 – FIPT)
28	(N)4"ø x 4"ø x 4"ø x 4"ø DIP Cross (MJ x MJ x MJ x MJ with EBAA Iron Mega Lug 2004 (2-each))
29	(N)2"ø x 12" PVC (Sch. 80 – MIPT x MIPT)
30	(N)2"ø PVC Coupling (Sch. 80 – Slip x FIPT)
31	(N)2"ø PVC (Sch. 80 – Length to Fit)
32	(N)4"ø x 4"ø x 4"ø DIP Tee (MJ x MJ x MJ with EBAA Iron Mega Lug 2004 (1-each))
33	(N)10"ø PVC (AWWA C900, Class 235)
34	(N)10"ø x 10"ø x 4"ø DIP Tee (All FL)
35	(N)10"ø DIP MJ Cap Tapped 3"ø FIPT
36	(N)3"ø x 10" Stainless Steel Nipple (MIPT x MIPT)
37	(N)10"ø Resilient Wedge Gate Valve (FL x MJ)

Chemeketa Park Mutual Water Company
Upper Tank Site
Point Table

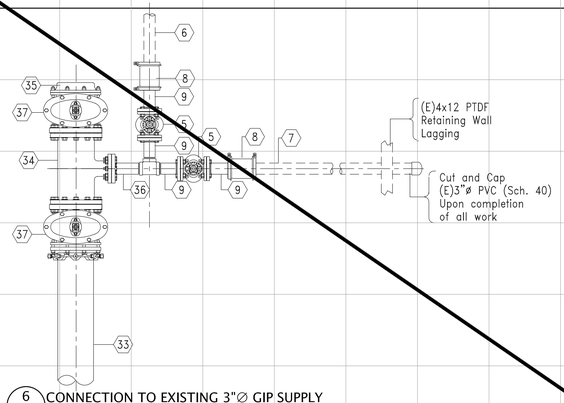
Point	North	East
Pipeline		
Valve A	49,572.7	59,167.0
Pipeline Intx B	49,563.2	59,175.3
Pipeline Intx C	49,555.7	59,153.1
Tie In D	49,570.6	59,121.5
(N)Tank	49,607.4	59,140.9
Temporary Tank	49,579.1	59,158.3
Inlets		
Inlet A	49,598.2	59,167.8

3 — TEMPORARY STORAGE TANK CONNECTION TO (E)SUPPLY
SCALE: NTS



5 — TEMPORARY STORAGE TANK OUTLET DETAIL
SCALE: NTS

4 — TEMPORARY STORAGE TANK INLET DETAIL
SCALE: NTS



6 — CONNECTION TO EXISTING 3"∅ GIP SUPPLY
SCALE: NTS

Revision	Date:
Add Point Table	dra - 2/24
CCO No. 1 - Eliminate Upper Tank	dra - 4/24

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Upper Tank Site
Temporary Storage and Tie In Details

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date:	2/24
Scale:	As Shown
Drawn:	DRA
Job:	22-002
Sheet	C13 of 27

C:\Chemeketa Park\Upper Tank\Upper Tank 30ac -Proj. Sheet\C13 - Temporary Storage Details

RDWD.

40" RDWD.

40" RDWD.

50" RDWD.

40" RDWD.

2-WV
ELEV.=1153.83

1155

1150

1140

1135

Remove PCC Pad
Under Stage 2 Demolition

Remove

TANK 3
(E)STEEL
WATER
TANK
HIGH
To Be Demolished
Under Stage 2 Demolition

52"

17680 Ogallalla Warpath Road
CPMWC Tank Site
Common Driveway
Minimize Truck Traffic
Sawcut, Remove
and Replace All
Concrete Damaged
by Contractor's
Operations

(E)2"ø PVC To be Removed

(E)Level Sensor
(Receive Air)
To Be Removed

Locate All (E)Water Lines
Remove as Required

(E)2"ø PVC To Remain

(E)Retaining Wall
Protect at All Times

WV
ELEV.=1163.27

TANK 2
(E)STEEL
WATER
TANK
24' HIGH
To Be Demolished
Under Stage 2 Demolition

(E)Level Sensor
Relocate to Temporary Storage

14"
RDWD.

SCALE: 1" = 5'

For Topographical Detail
See Sheet C8, Topographic Survey
by Cross Land Surveyors

EP

1165

Curb

Temporary Storage
Vertical Polyethylene Tank
10,000-gallon (min)

(E)Retaining Wall
Protect at All Times

1155

1150

Top of Slope

50 Foot Setback
of Slope

1165

1160

C/L EXISTING
CREEK

20"

Ogallalla Warpath Road
(Private Road)

1170

15"

C:\Chemeketa Park\Upper Tank\Upper Tank Site .dwg, Sheet C14 - Demolition Stage 2

Revision	Date:
CCO No. 1 - Eliminate Upper Tank	dra - 4-24

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Upper Tank Site
Stage 2 Demolition Plan

REGISTERED PROFESSIONAL ENGINEER
Scott A. Wyeast
No. C 58229
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

Wyeast Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date:	2/24
Scale:	1" = 5'
Drawn:	DRA
Job:	22-002
Sheet	C14 of 27

PARCEL 2

40" RDWD.

50" RDWD.

40" RDWD.

3-03 Std. Plan

1 C16

(P)GFTS Tank
34'ø x 28' Sideshell
157,000-gallons (net)
FF = 1,157.5
FG = 1,157.0

17680 Ogallalla Warpath Road
CPMWC Tank Site
Common Driveway
Minimize Truck Traffic
Sawcut, Remove
and Replace All
Concrete Damaged
by Contractor's
Operations

Guide Line
(Perp. to DW)

19.80'

WV
ELEV.=1163.27

(E)Retaining Wall
Protect at All Times

EP

1165

(E)3"ø GIP

(E)3"ø PVC

Curb

Intx D

6 C13

33'± 10"ø PVC (AWWA C900, Class 235)

Construct Air/Vac
Valve per
3-11
Std. Plan

Intx C
10"ø x 45° DIR EII
(MJ x MJ)

26'± 10"ø PVC (AWWA C900, Class 235)

Temporary Storage
Vertical Polyethylene Tank
10,000-gallon (min)

(E)Retaining Wall
Protect at All Times

13'± 10" PVC
(AWWA C900, Class 235)

Valve A
10"ø GV
(MJ x MJ)

12'± 10" PVC
(AWWA C900, Class 235)

Intx B
10"ø x 90° DIP EII
(MJ x FL)

(MJ x FL)

1165

1160

1170

20'

15"

1 C17

2 C17

55'± 4"ø PEP
2.4 PET

1155

1150

1140

1145

1155

14" RDWD.

Inlet A
Rim = 1,157.0
IE = 1,151.0

35.5'

52'

Top of Slope

40-lf± 4"ø CPEP
(ADS N12)

10-foot Setback
Top of Slope

(E)18"ø CPEP

C/L EXISTING CREEK

Approx. Location of
Break in (E)18"ø CPEP
Connect Tank Drainage
System - Field Verify

2 C16

N

SCALE: 1" = 5'

For Topographical Detail
See Sheet C8, Topographic Survey
by Cross Land Surveyors

1

Grading Quantities		Max. Vert.
Overexcavation	140-CY±	
CLSM Backfill (Above FG)	140-CY±	0-ft

Impervious Area	
Existing	1,428-SQFT
Proposed (Inc. CLSM)	1,320-SF±

Chemeketa Park Mutual Water Company
Upper Tank Site
Point Table

Point	North	East
Pipeline		
Valve A	49,572.7	59,167.0
Pipeline Intx B	49,563.2	59,175.3
Pipeline Intx C	49,555.7	59,153.1
Tie In D	49,570.6	59,121.5
(N)Tank	49,607.4	59,140.9
Temporary Tank	49,579.1	59,159.6
Inlets		
Inlet A	49,598.2	59,167.8

1 — UPPER TANK - SITE PLAN
SCALE: NTS

Revision	Date:
1 Add Quantities and Point Table	dra - 2/24
2 CCO No. 1 - Eliminate Upper Tank	dra - 4/24

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Upper Tank Site
Site Plan

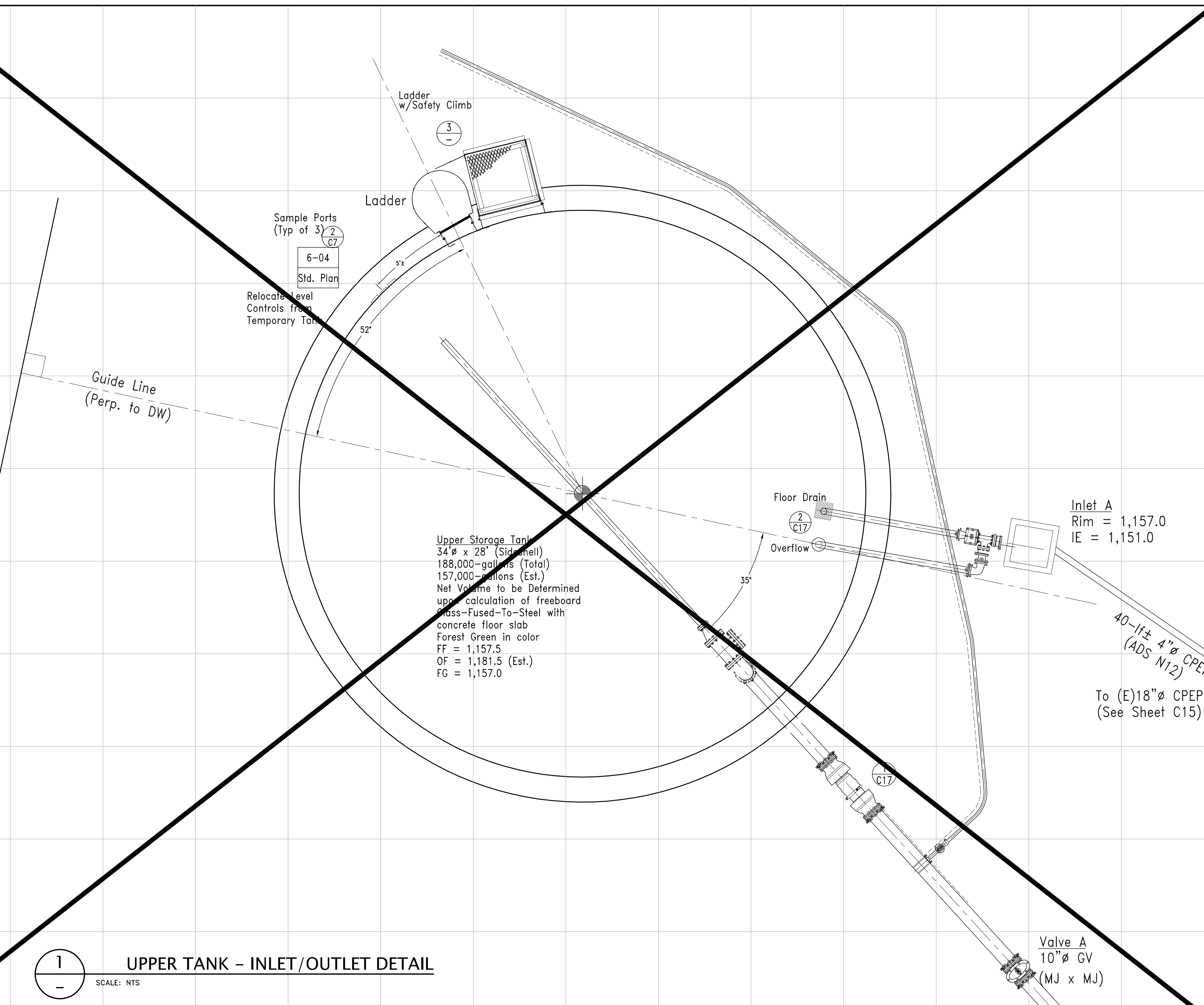
REGISTERED PROFESSIONAL ENGINEER — No. 57774 — Exp. 6/30/24 — CIVIL — STATE OF CALIFORNIA

Wyeast Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date:	2/24
Scale:	1" = 10'
Drawn:	DRA
Job:	22-002
Sheet	C15 of 27

C:\Chemeketa Park\Upper Tank\Upper Tank Site.dwg Sheet C15 - Upper Tank Site Plan



UPPER TANK – INLET/OUTLET DETAIL

1 / –

SCALE: NTS

TANK GENERAL NOTES

1. The tank shall be Glass–Fused–To–Steel manufactured in accordance with AWWA D103;
2. The tank manufacturer shall provide plans, details and calculations signed and stamped by an engineer licensed to practice in the State of California;
3. Structural and seismic design of the tank and foundation shall refer to that geotechnical report prepared by Cotton Shires and Associates dated May 2014 and the Supplemenatal Report dated April 2023;
4. Special Inspection per CBC may be required by the design cited in 2 above;
5. The documents in 2 above will be submitted for review as a deferred submittal upon ordering the tank;
6. The tank shall be 188,000–gallon nominal capacity;
7. Tank side shell shall be 28.4[illegible]–feet including freeboard (4–feet max);
8. Tank diameter shall be 34–feet;
9. Floor shall be Class A portland cement concrete w/XYPEX C500 added as designed in 2 above;
10. Site piping for inlet, outlet, and overflow discharge shall be as provided for on Sheet C13 of X;
11. Coatings shall be NSF61 Compliant;
12. Tank vents shall be screened with 1/8" or smaller mesh insect screen;
13. No logo sheet will be permitted;
14. Level indication shall be a dual read pressure gauge installed on one sample tap per Standard Plan 6–04;
15. The tank floor slab shall be cured by ponding for a minimum of 7–days or that method recommended by the manufacturer;
16. Upon completion of the leak test, the tank shall be disinfected in accordance with AWWA C652, Method 3.
17. Wherever herein the word Contractor is used, it shall mean the and any specialty subcontractors for which this proposal is solicited;
18. The Contractor as herein defined shall be responsible for all work within 3–feet of the ringwall including but not limited to, foundation excavation, piping, valving, floor penetrations all concrete work and and tank erection;
19. All work outside 3–feet outside the ringwall shall be the responsiblity of the general engineering contractor;

Chemeketa Park Mutual Water Company
Upper Tank Site
Point Table

Point	North	East
Pipeline		
Valve A	49,572.7	59,167.0
Pipeline Intx	B 49,563.2	59,175.3
Pipeline Intx	C 49,555.7	59,153.1
Tie In D	49,570.6	59,121.5
(N)Tank	49,6[illegible]	59,140.9
Temporary Tank	49,579.1	59,159.6
Inlets		
Inlet A	49,598.2	59,167.8

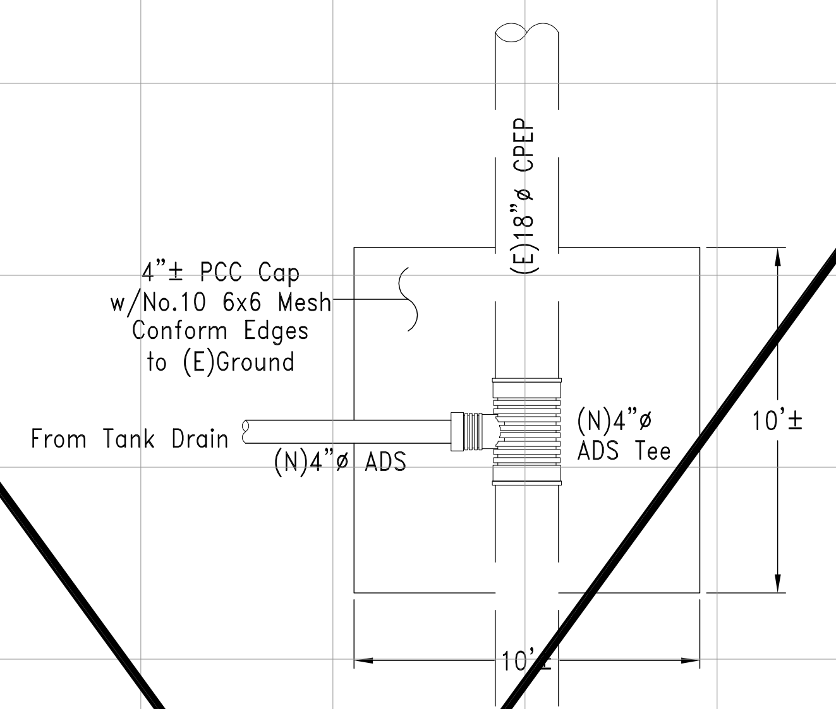
Water Storage Tank
Information to Bidders Checklist
Chemeketa Park Mutual Water Company
Upper Tank

Date: 8/1/2023

1		**Tank Identification**	Chemeketa Upper Tank
2		**Owner**	
	A	Name	Chemeketa Park Mutual Water Company
	B	Address	P.O. Box 588 Los Gatos, CA 95044
	C	Telephone	(408)859-1833
	D	FAX	
	E	E-mail	gbruder@gmail.com
	F	Prevailing Wage	Yes
4		**Tank Location**	
5	A	Address	[illegible]7680 Ogallala Warpath Road
	B	Latitude	N3[illegible]1597
	C	Longitude	W121.[illegible]800
	D	Access	AC Pavement
	E	Staging Area	Unpaved
	F	Nearest City	Los Gatos, CA
	G	Nearest Railhead	San Jose, CA
	H	On-site Power	No
	I	On-site Pneumatic	No
6		**Schedule**	
		Bid Opening Date	TBD
		Assumed Notice to Proceed	TBD
		Resulting Completion Date	TBD
7		**Geotechnical Report**	Cotton Shires & Associates E5074B
		Soil Bearing Load	2000-psf Dead + Live Loads; 3,000-psf Total Loads
8		Shop Inspection Required	No
17		**Tank Geometry**	
		Net Capacity (after freeboard)	157,000-gallon net (preliminary)
		Diameter (max. allow.)	34' nominal
		Sideshell Height (max. allow.)	28' nominal
		Min. Foundation Exposure	6"
		Tank Color	Forest Green Green
23		**Appurtenances**	
	A	Interior Ladder	Yes per Manufacturer
	B	Exterior Ladder	Yes per Manufacturer
	C	Landing Platform	Yes per Manufacturer
	D	Anti-Climb	Yes per Manufacturer
	E	Safety Climb	No
	F	Vent Access w/Hand Rails	Locking Roof Hatch
	G	Vent Capacity	500-CFM minimum
	H	Manways	2-ea 24-inch
	I	Sampling Ports	
	i	Size	2-inch
	ii	No.	3-each per Details
24		**Piping Requirements**	
	I	Inlet	10-inch per Details
	J	Outlet	10-inch per Details
	K	Overflow	4-inch per Details
	L	Removable Silt Stop	No
	M	Drain	4-inch floor drain per Details
	N	Vent Screening	Yes per Details
27		**Shop Drawings Required**	
	A	Structural Calculations	
	i		Loads for the Shell and Roof
	ii		Loads Imposed on Foundation
	iii		Moment and Shear under Seismic & Wind Loading
	iv		Shell, roof and anchorage calculations
			Structural calculations shall be prepared, signed and stamped by an Engineer licensed to practice in the the state of California
28		**Miscellaneous**	
	A	Tideflex Mixing System required	

3		**Engineer**			
	A	Name	Wy'east Engineering		
	B	Address	1245 Kari Lane Nipomo, California 93444		
	C	Tele.	(831)443-5514		
	D	Mobile	(831)594-2660		
	E	E-mail	Doug.Allen@wyeasteng.com		
9		**Life Cycle Cost Analysis**			
	A	Inspection & Touch Up Schedule	N/A		
	B	Recoating Schedule	N/A		
	C	Replacement Schedule	N/A		
	D	Present Worth Rate	N/A		
	E	Annual Inflation Rate	N/A		
10		Tank Function	Potable Water Storage Tank		
11		NSF61 Compliant Required	Yes		
12		Site Specific Health Requirements	None		
13		Tank Structure Type	AWWA D103 Bolted Steel GFTS		
14		Applicable Standards			
	A	General	NFPA 22, AWWA D103		
	B	Structure	NFPA 22, AWWA D103		
	C	Coating	Glass-Fused-To-Steel (GFTS)		
15		Cathodic Protection Required	Yes		
16		Warranty	5-year		
18		Piping Requirements	Supply by Others; Connection by Contractor		
19		Piping Depth of Cover	See Project Plans		
20		Roof Type	GFTS or Geodesic Dome		
21		Floor Type	Reinforced concrete with embedded starter sheet		
22		Special Inspection Req'd	Provided by Owner		
		Interior	N/A		
25		**Design Criteria**			
	A	Seismic Design			
	i	Seismic Risk Categ.	IV	Design Categ.	F
	ii	Site Specific Spectral Response			
		S_S =	2.80	$S_{MS} = F_aS_s$ =	2.91 PGA$_M$ = 1.02
		S_1 =	1.07	$S_{M1} = F_VS_1$ =	1.54 V_{S30} = 530
		TL =	[illegible]2-sec	$S_{DS} = (2/3)S_{MS}$ =	1.94
		Site Class =	C	$S_{D1} = (2/3)S_{M1}$ =	1.02
	B	Wind Loading			
		V3s =	85-mph		
		VFM =	71-mph		
	C	Snow Loading	25 psf		
	D	Special Loadings	No		
26		Foundation (inc. Seismic Restraint as Required)			
	A	Designed By	Contractor		
	B	Constructed By	Contractor		
	B	Dimensioned Drawings Required			
	i	Foundation	viii		
	ii	Tank Shell			
	iii	Tank Roof			
	iv	Seismic Restraint			
	v	Piping Details			
	vi	Shell Penetrations			
	vii	Mixing system			

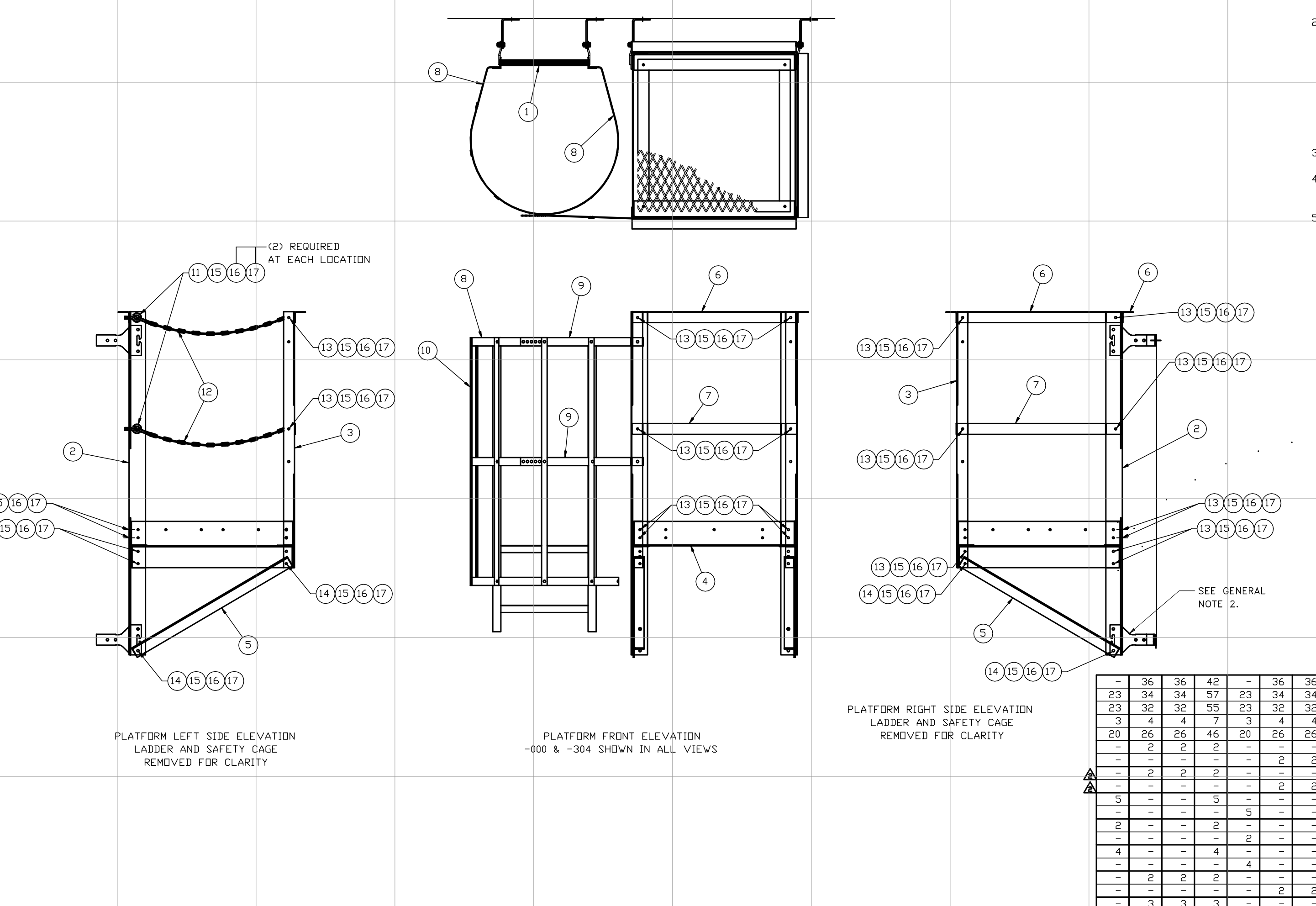
Note
Wherever herein the word Contractor is used, it shall mean the tank manufacturer, his approved erector, and any specialty subcontractors for which this proposal is solicited.



UPPER TANK – DRAIN CONNECTION DETAIL

2 / –

SCALE: NTS



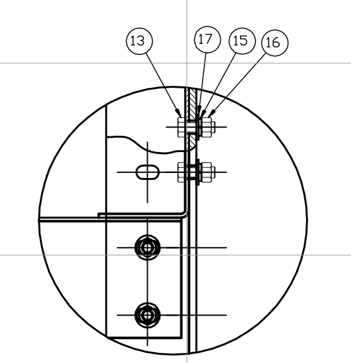
PLATFORM LEFT SIDE ELEVATION
LADDER AND SAFETY CAGE
REMOVED FOR CLARITY

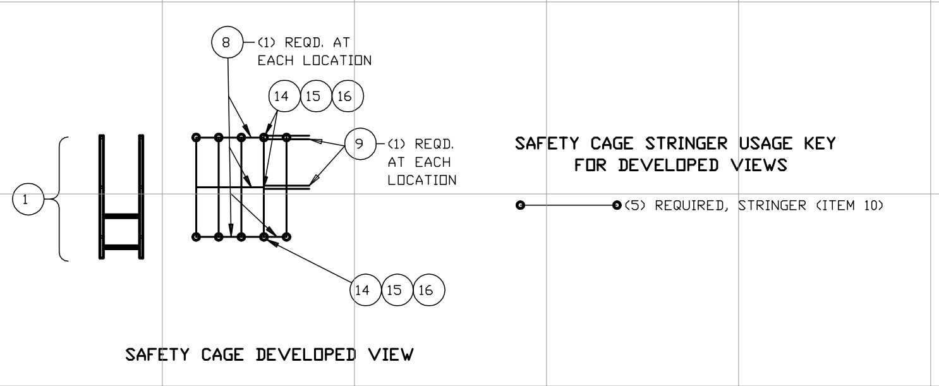
PLATFORM FRONT ELEVATION
-000 & -304 SHOWN IN ALL VIEWS

PLATFORM RIGHT SIDE ELEVATION
LADDER AND SAFETY CAGE
REMOVED FOR CLARITY

GENERAL NOTES:
1. RIGHT HAND PLATFORM MOUNT IS SHOWN. DEPENDENT ON SITE REQUIREMENTS, THE PLATFORM MAY BE MOUNTED ON THE LEFT SIDE OF THE LADDER.
2. LADDER BRACKET ASSEMBLIES ARE SHOWN FOR REFERENCE ONLY. FASTENERS REQUIRED TO MOUNT THE LADDER AND PLATFORM TO THE BRACKETS ARE INCLUDED IN THE BRACKET ASSEMBLIES, P/N'S 260910 AND 260911.
AQUASTORE APPLICATIONS:
SEE PROJECT SUBMITTAL DOCUMENTATION FOR SPECIFIC BRACKET TYPES AND RING LOCATIONS.
SLURRYSTORE APPLICATIONS:
SEE STRUCTURE SHELL ASSEMBLY DRAWINGS, P/N'S 261283 THRU 261286 FOR SPECIFIC BRACKET TYPES AND RING LOCATIONS.
3. USE 3/8" DIA. X 1" LONG FASTENER SETS, ITEMS 13, 15, AND 16, AT ALL UNMARKED LADDER AND SAFETY CAGE FASTENER LOCATIONS.
4. POSITION ALL FASTENER SETS SUCH THAT THE CAP SCREW HEAD IS ON THE INSIDE OF THE LADDER PLATFORM AND SAFETY CAGE ASSEMBLY.
5. FOR ADDITIONAL ASSEMBLY INFORMATION SEE THE FOLLOWING CONSTRUCTION DETAIL DRAWINGS.

261313	TOP RING, INSIDE ANGLE
261314	TOP RING, INSIDE ANGLE, 3" OUTSIDE TRUSS
261315	TOP RING, INSIDE ANGLE, 5-1/2" OUTSIDE SHORT TRUSS
261316	TOP RING, INSIDE ANGLE, 5-1/2" OUTSIDE LONG TRUSS
261317	TOP RING, INSIDE AND OUTSIDE 5-1/2" SHORT TRUSS
261318	TOP RING, INSIDE AND OUTSIDE 5-1/2" LONG TRUSS





SAFETY CAGE DEVELOPED VIEW

PART NUMBER	DESCRIPTION & USAGE
-000	ALUMINUM LADDER, WITH GALV. STEEL PLATFORM & SAFETY CAGE (PRODUCTION SUB-ASSY)
-001	ALUMINUM LADDER, WITH GALV. STEEL PLATFORM (PRODUCTION SUB-ASSY)
-002	GALV. STEEL PLATFORM ONLY (MRKTG. OPTION)
-003	GALV. STEEL SAFETY CAGE ONLY (SERVICE SUB-ASSY)
-304	ALUMINUM LADDER, WITH TYPE 304 S.S. PLATFORM & SAFETY CAGE (MRKTG. OPTION SUB-ASSY)
-305	ALUMINUM LADDER, WITH TYPE 304 S.S. PLATFORM (MRKTG. OPTION SUB-ASSY)
-306	TYPE 304 S.S. PLATFORM ONLY (MRKTG. OPTION)
-307	TYPE 304 S.S. SAFETY CAGE ONLY (MRKTG. SERVICE OPTION)

QTY.								PART NO.	DESCRIPTION	ITEM
-307	-306	-305	-304	-003	-002	-001	-000			
–	36	36	42	–	36	36	42	084434-002	WASER, FLAT, 3/8"	17
23	34	34	57	23	34	34	57	084324-001	NUT, HEX., 3/8"	16
23	32	32	55	23	32	32	55	084325-001	WASHER, LOCK, 3/8"	15
3	4	4	7	3	4	4	7	084323-013	SCREW, HHC, 3/8" x 1 1/4"	14
20	26	26	46	20	26	26	46	084323-006	SCREW, HHC, 3/8" x 1"	13
–	2	2	2	–	–	–	–	252735-003	CHAIN ASSEMBLY	12
–	–	–	–	–	2	2	2	252735-001		
–	2	2	2	–	–	–	–	019157-016	EYE BOLT, 3/8"	11
–	–	–	–	–	2	2	2	019157-007		
5	–	–	5	–	–	–	–	264092-304	STRINGER, 1/8" x 1" x 45-1/2"	10
–	–	–	–	5	–	–	5	264092-000		
2	–	–	2	–	–	–	–	264387-304	CAGE BAND, 1/8" x 1-1/2" X 22-1/2"	9
–	–	–	–	2	–	–	2	264387-000		
4	–	–	4	–	–	–	–	252621-304	CAGE RING HALF, 1/8" x 1-1/2" x 13-1/2" R.	8
–	–	–	–	4	–	–	4	252621-000		
–	2	2	2	–	–	–	–	264380-304	STRAP, 1/8" x 2" X 30 1/8"	7
–	–	–	–	–	2	2	2	264380-000		
–	3	3	3	–	–	–	–	264379-304	RAIL, 2"x 2"x 1/8" x 30-1/8" LG.	6
–	–	–	–	–	3	3	3	264379-000		
–	2	2	2	–	–	–	–	264378-304	GUSSET ANGLE, 2"x 2"x 1/8" x 33-1/8" LG.	5
–	–	–	–	–	2	2	2	264378-000		
–	1	1	1	–	–	–	–	264381-304	PLATFORM WELDMENT, 30" x 30"	4
–	–	–	–	–	1	1	1	264381-000		
–	2	2	2	–	–	–	–	264377-304	POST, 2" x 2" x 1/8" x 47" LONG	3
–	–	–	–	–	2	2	2	264377-000		
–	2	2	2	–	–	–	–	264376-304	MOUNTING ANGLE, 3"x 3"x 1/4" x 63" LG.	2
–	–	–	–	–	2	2	2	264376-000		
–	–	1	1	–	–	1	1	264085-000	LADDER SECTION, TOP	1
-307	-306	-305	-304	-003	-002	-001	-000	264390	LADDER & PLATFORM KIT, OPEN TOP	--

REV	CHANGE DESCRIPTION	ECN DATE MADE/CHKD	APPVD BY DATE
1	RELEASED FOR PILOT PRODUCTION RUN.	96044 02/15/96 MCA/RKK	RKK 2/96
2	ITEM 11 P/N 019157-007 WAS 019157-006; ITEN 11 P/N 019157-016 WAS 018157-016; RELEASED FOR PRODUCTION.	96076 03/27/96 MCA/RKK	RKK 4/96
3	REVISED GRAPHICS BY REMOVING PHANTOM LINES OF BOTTOM SECTION STRINGER EXTENSIONS	96283 9-26-96 RON/RKK	RKK 9-96

DR M. AHRENS | DATE 02/15/96
CHECKED RKK | DATE 02/16/96
APPROVED R. KRAUSE | DATE 02/16/96
SCALE 1/8" = 1" | MATERIAL NOTED

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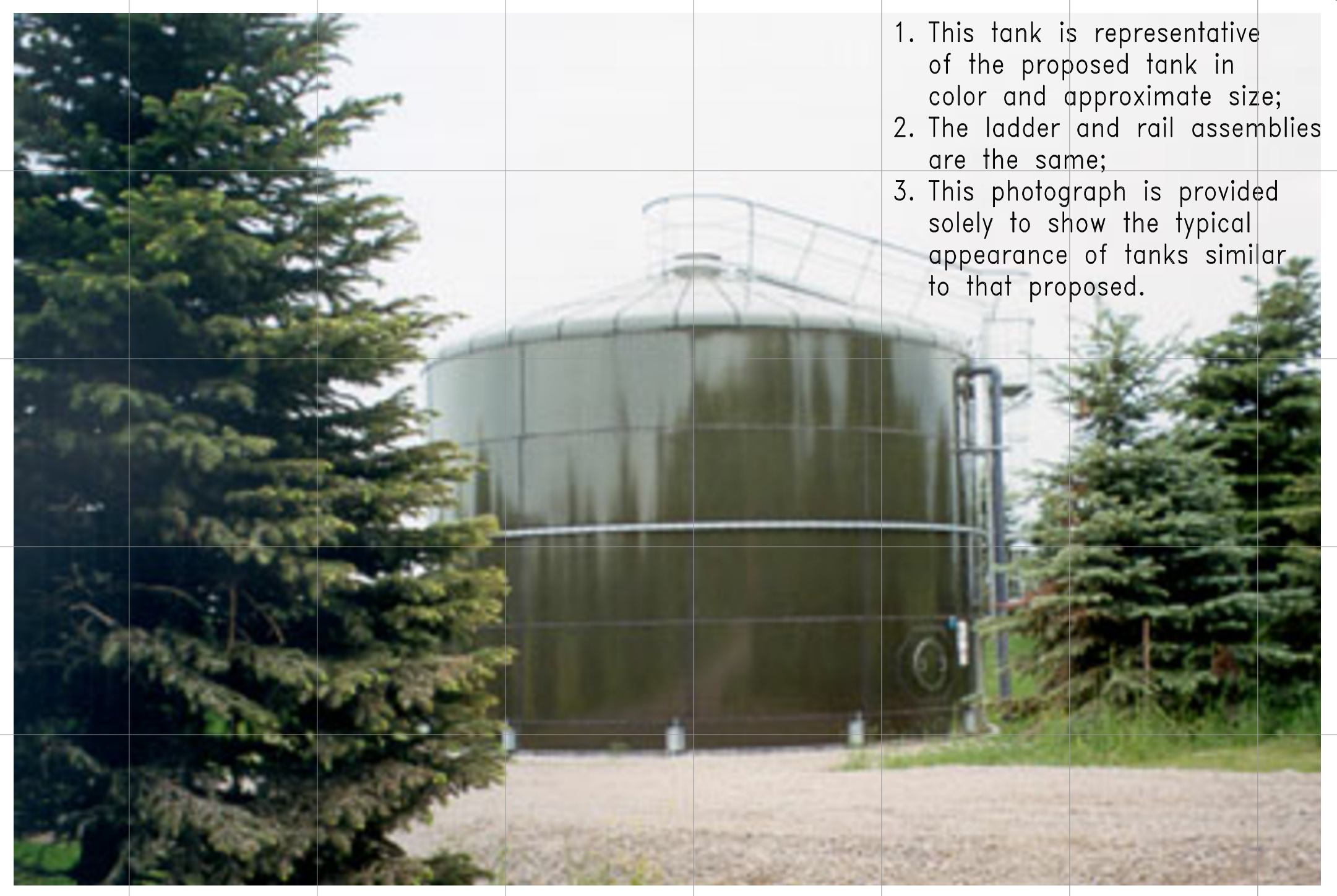
NAME: LADDER & PLATFORM KIT, OPEN TOP
PRODUCT: LADDER KITS
NEXT ASSY: -
SUPERSEDES: 264080
SIZE: 2
DRAWING NUMBER: 264390
REV: 3

UPPER TANK – EXTERIOR LADDER DETAIL

3 / –

SCALE: NTS

By CST Aquastore



1. This tank is representative of the proposed tank in color and approximate size;
2. The ladder and rail assemblies are the same;
3. This photograph is provided solely to the typical appearance of tanks similar to that proposed.

1

	Revision	Date:
1	Add Tank Photo	dra - 2/24
2	CCO No. 1 - Eliminate	dra - 4/24
	Upper Tank	

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Upper Tank Site
Tank Layout and Details

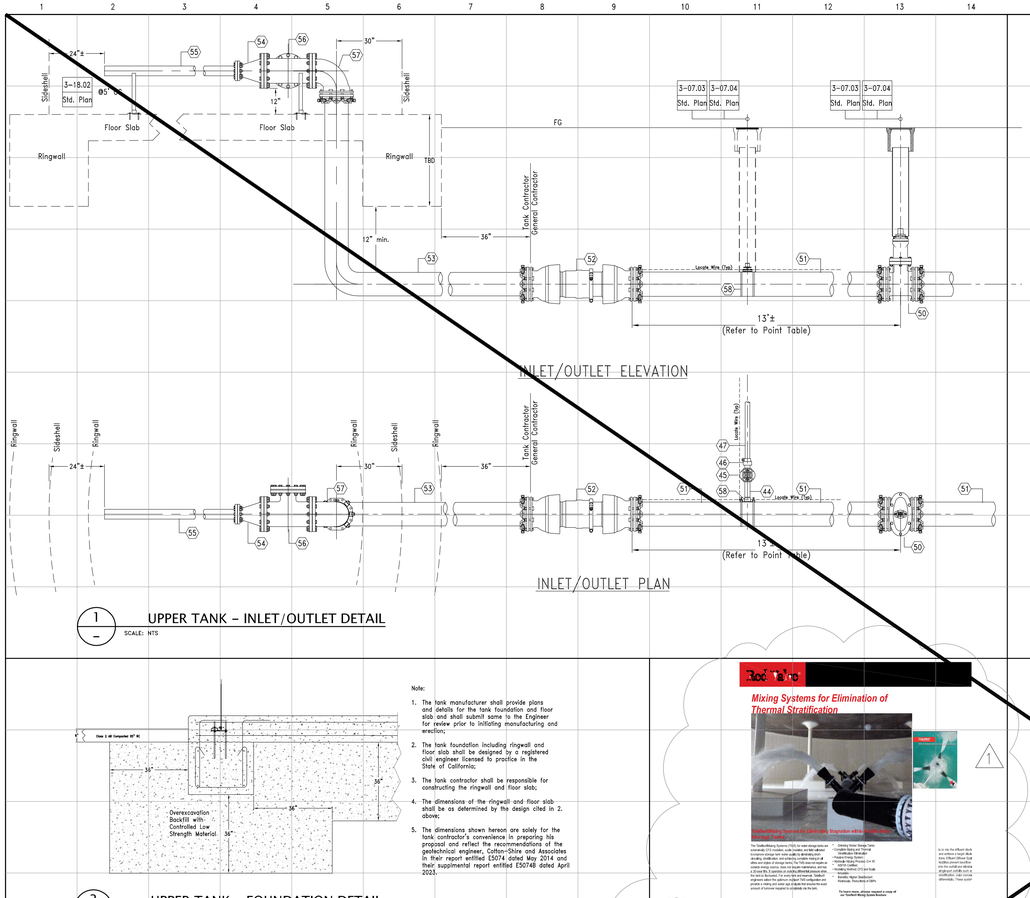
REGISTERED PROFESSIONAL ENGINEER
DOUGLAS R. ALLEN
No. C43544
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA
5/10/24

Wy'east Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

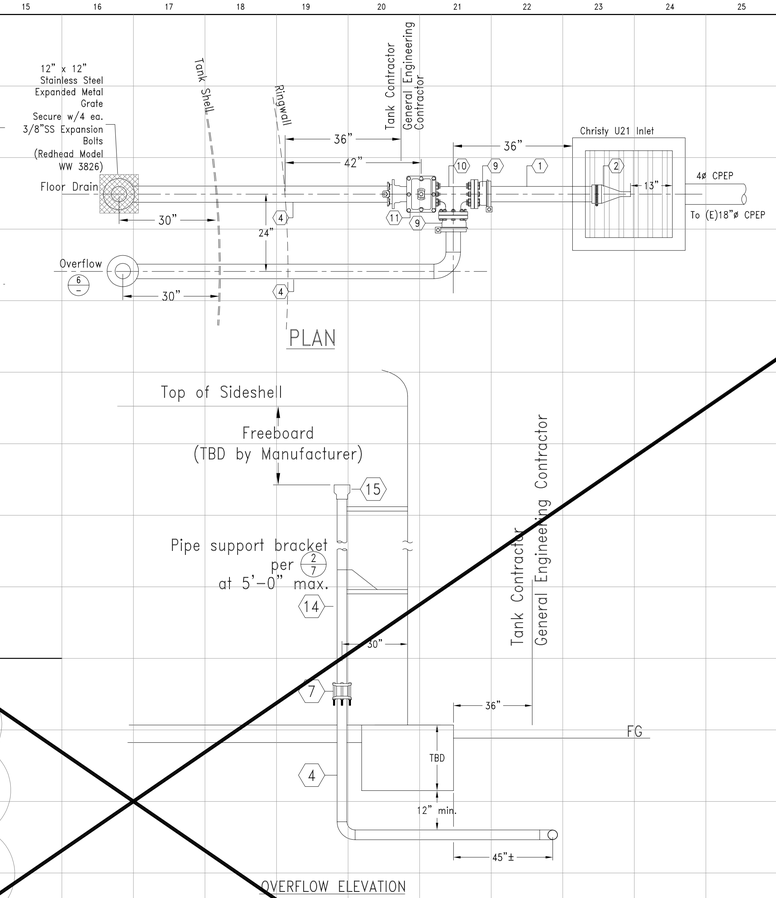
CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 2/24
Scale: 1" = 10'
Drawn: DRA
Job: 22-002
Sheet C16 of 27

C:\Chemeketa Park\Upper Tank\Upper Tank Site. dwg, Sheet C16 - Upper Tank Details



1 — UPPER TANK – INLET/OUTLET DETAIL
SCALE: NTS



2 — UPPER TANK – OVERFLOW/DRAIN DETAIL
SCALE: NTS

TANK MECHANICAL SCHEDULE

ID	DESCRIPTION
1	4"ø PVC (C900)
2	4"ø Duckbill Check Valve (Tideflex Series 39 w/Hypalon or EPDM Duckbill)
3	4"ø Gate Valve (MJxFL)
4	4"ø Stainless Steel (Type 304, Sch. 40 – PE x PE – Fabricated, Ames Fire Riser IBR2 or Approved Substitute)
5	4"ø x 90° (MJxFL)
6	6"ø Stainless Steel (Type 304, Sch. 40 – PE x PE – Fabricated, Ames Fire Riser IBR2 or Approved Substitute)
7	4"ø Coupling (Smith-Blair 413-4.50-4.80 Grade 30 Gaskets Epoxy Coated)
8	Carrier Pipe (Size As Shown)
9	4"ø Flange Coupling Adapter (HYMAX Standard Body)
10	4"ø x 4"ø x 4"ø Tee (All FL)
11	4"ø Resilient Seat Gate Valve (MJ x FL)
12	4"ø DIP
13	4"ø x 4"ø x 4"ø PVC Tee (Slip x Slip x Slip – Orient horizontally)
14	4"ø PVC (Sch. 40)
15	8"ø x 4"ø PVC Reducer (Sch. 40 – SxS Specified Fittings Model 3260084, Spears 829-582F or approved substitute)
16	Stainless Steel Clamp Hanger (B-Line 3373 or approved substitute) (Size as Shown)
17	3/8"ø Clamp Hanger Bolt (Confirm size before fabricating strut)
18	Stainless Steel Strut (2" x 2" 3/8" Equal Leg L per detail)
19	4"ø Double Ball Expansion Fitting (EBAA Iron Flex Tend – FL x MJ)
20	(N)4"ø x 45° (MJxMJ) w/MegaLug 1104 Restraining Gland
21	4"ø Double Ball Expansion Fitting (EBAA Iron Flex Tend – FL x FL)
22	4"ø x 90° (MJ x MJ w/ EBAA Iron MegaLug 1106 Restraining Gland)
23	Overflow Spool per Detail
24	4"ø Welding Flange
25	4"ø Welded Steel Pipe (Sch. 20)
26	4"ø x 90° Weld Ell (Sch. 20)
27	4" Gate Valve (MJxMJ w/MegaLug 2004)
28	4"ø Flange Coupling Adapter (EBAA Iron MegaFlange Series 2104)
29	4"ø Adaptor (SxG)
30	4"ø Victaulic Coupling (Style 77)
31	4"ø Stainless Steel Nozzle (Sch. 40)
32	1/8" Stainless Steel Backing Plate (Type 304 or 316)
33	4"ø Double Ball Flexible Expansion Joint (EBAA Iron FlexTend FLxMJ)
34	8"ø Double Ball Flexible Expansion Joint (EBAA Iron FlexTend FL x MJ)
35	4"ø Flange Coupling Adapter (EBAA Iron MegaFlange 2104)
36	8"ø x 8"ø x 4"ø Tee (All FL)
37	2"ø Stainless Steel Nozzle (Sch. 40)
38	2"ø Stainless Steel Ball Valve w/Locking Lug
39	6"ø Resilient Seat Gate Valve (FL x MJ)
40	6"ø Double Ball Flexible Expansion Joint (EBAA Iron FlexTend FLxFL)
41	6"ø x 45° DIP Ell (FL x MJ w/MegaLug 2006)
42	4"ø PVC (CertaLok RJ900)
43	4"ø x 90° PVC Ell (CertaLok RJ900)
44	2"ø x 8" Stainless Steel Nipple (MIPT x MIPT) (Type 304)
45	2"ø Resilient Seat Gate Valve (FIPT x FIPT)
46	2"ø Coupling (PJ x MIPT) (FORD C84-77-NL)
47	2"ø PET (SDR9)
48	(E)3"ø GIP
49	3"ø Coupling (HYMAX Grip)
50	10"ø Resilient Seat Gate Valve (FL x MJ w/MegaLug 2010 Gland)
51	10"ø PVC (AWWA C900, Class 235)
52	10"ø Double Ball Flexible Expansion Joint (EBAA Iron FlexTend FLxMJ)
53	10"ø Stainless Steel (Type 304, Sch. 40 – PE x PE – Fabricated, Ames Fire Riser IBR2 or Approved Substitute)
54	10"ø x 4"ø DIP Reducer (All FL)
55	Tideflex Mixing System including 10"ø WF-2 Check Valve
56	10"ø x 10"ø x 10"ø DIP Tee (All FL)
57	10"ø x 90° DIP Ell (FL x MJ)
58	10"ø x 2"ø Saddle Tap (FORD 202)
59	2"ø x 3" Stainless Steel Nipple (MIPT x MIPT) (Type 304)
60	2"ø x 90° Stainless Steel Ell (Type 304)
61	2"ø x 2"ø x 2"ø Stainless Steel Tee (Type 304)
62	10"ø MJ Cap Tapped 3"ø FIPT
63	3"ø x 12" Stainless Steel (MIPT x PE – Sch. 40 Type 304)

3 — UPPER TANK – FOUNDATION DETAIL
SCALE: NTS

Note:

1. The tank manufacturer shall provide plans and details for the tank foundation and floor slab and shall submit same to the Engineer for review prior to initiating manufacturing and erection;
2. The tank foundation including ringwall and floor slab shall be designed by a registered civil engineer licensed to practice in the State of California;
3. The tank contractor shall be responsible for constructing the ringwall and floor slab;
4. The dimensions of the ringwall and floor slab shall be as determined by the design cited in 2. above;
5. The dimensions shown hereon are solely for the tank contractor's convenience in preparing his proposal and reflect the recommendations of the geotechnical engineer, Cotton-Shire and Associates in their report entitled ES074 dated May 2014 and their supplimental report entitled ES074B dated April 2023.

4 — UPPER TANK – TIDEFLEX MIXING SYSTEM
SCALE: NTS

5 — UPPER TANK – IN:ET/OUTLET ELEVATION
SCALE: NTS

6 — UPPER TANK – OVERFLOW ELEVATION
SCALE: NTS

7 — UPPER TANK – LADDER ELEVATION
SCALE: NTS

Chemeketa Park Mutual Water Company
Upper Tank Site
Point Table

Point	North	East
Pipeline		
Valve A	49,572.7	59,167.0
Pipeline Intx B	49,563.2	59,175.3
Pipeline Intx C	49,555.7	59,153.1
Tie In D	49,570.6	59,121.5
(N)Tank	49,607.4	59,140.9
Temporary	49,579.1	59,159.6
Tank		
Inlets		
Inlet A	49,598.2	59,167.8

Revision	Date:
Add Tank Elevations	dtra - 2/24
And Mixing System	
CCO No. 1 - Eliminate	dtra - 4/24
Upper Tank	

CHEMEKETA PARK MUTUAL WATER COMPANY
~
Upper Tank Site
Tank Elevations and Details

REGISTERED PROFESSIONAL ENGINEER
DAVID R. ALLEN
No. C35754
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

Wyeast Engineering
784 Northridge Center, Suite 229
Salinas, CA 93906
(831)443-5514 (FAX)444-9490

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 2/24
Scale: None
Drawn: DRA
Job: 22-002
Sheet C17 of 27

C:\Chemeketa Park\Upper Tank\Upper Tank Site dwg, Sheet C17 - Upper Tank Details

UTILITY MARKING SYSTEMS

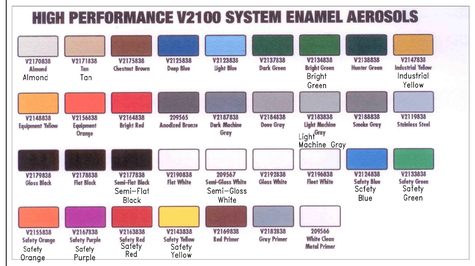
PRODUCT	COLOR	EQUIVALENT COLOR STANDARD		
		Amercn	Carboline	Rust-Oleum
Raw Water	Light Mochine Gray	GR-2	2713	V2183
Potable Water	OSHA Safety Blue	BL-6	S150	V2124
Recycled Wastewater	OSHA Safety Purple			V2167
Backwash Water	Tan	BR-3	G243	V2171
Chlorine, Sodium Hypochlorite, Mixed Oxidants	Bright Green	GN-5	2369	V2134
Caustic (NaOH)	Industrial Yellow	YE-4	5607(LF)	V2147
Meta-Bisulfite (H2S02)	Semi-Flat Black	BK-2	C900	V2177
Poly Orthophosphate (PO)	Gloss White	WH-2	S800	V2192
Gaseous Product	OSHA Safety Yellow	YE-3	S625	V2143
(Gas, Oil, Diesel, Steam, Chemical)				
Electric Power	OSHA Safety Red	RD-2	S525	V2163
Communications	OSHA Safety Orange	OR-2	S401	V2155
(Telephone, CATV, Fiber Cptic, Signal)				
Wastewater, Storm Drcin	OSHA Safety Green	GR-6	S375	V2133
Compressed Air	Almond	YE-2	0857(LF)	V2170
(LF = Lead Free)				
Fire Hydrant Hecd or Bonnet	Reflective Hydrant Paint (Color per Flow Code)			
Fire Hydrant Flow Code				
Class AA (1,500-gpm or greater)	OSHA Safety Blue	BL-6	S150	V2124
Class A (1,000-1,500 gpm)	OSHA Safety Green	GR-6	S375	V2133
Class B (500-1,000 gpm)	OSHA Safety Orange	OR-2	S401	V2155
Class C (less then 500-gpm)	OSHA Safety Red	RD-2	S525	V2163
Public Fire System Hydrant Barrel	OSHA Safety Yellow	YE-3	S625	V2143
Private Fire System Hydrant Barrel	OSHA Safety Red	RD-2	S525	V2163
Reflective Coatings shall be Seymour Reflective Hydrant Spray Paint, Rust-oleum Specialty Fluorescent or Ames Research Laboratories Reflective Safety Paint				

UTILITY MARKING SYSTEMS ~ Standard Plan No. 2-01.01

Wy'east Engineering
1245 Kari Lane ~ Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

Revisions

DESIGN: DRA DATE: 8/17
CAD: DRA DATE: 8/17
CHECKED: DRA DATE: 8/17
APPROVED: DRA DATE: 8/17



NOTES

1. This color chart is provided solely as a reference and as a convenience to teh contractor;
2. Wy'east Engineering makes no endorsement or warranty, expressed or implied, as to the adequacy, sufficency, applicability or suitability of any coating manufacturer by providing this reference;
3. The contractor shall be solely responsible for providing coatings of the type and color suitable for the work and shall submit color samps and material data sheets in accordance with Wy'east Engineering Standard Plans anc Specifications.

UTILITY MARKING SYSTEMS ~ Color Reference Chart Standard Plan No. 2-01.02

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APPROVED: DRA DATE: 8/17

NOTE:

1. Pursuant to Section 1-06.07 of the Wy'east Engineering Standard Specifications, the Contractor shall notify the One Call Service USA North, at 811 or (800)227-2600 or USA South at 811 or (800)422-4133 a minimum of 2-working days in advance of commencing work;
2. The Contractor is reminded that, pursuant to California Business and Professions Code Section 7110, California Code, Section 4216 and CalOSHA Regulation Title 8, Chapter 4, Subchapter 4, Article 6, Section 1541, all Contractors are required to call for underground utility locations a minimum of two (2) working days in advance of commencing construction on underground facilities or facilities related thereto;
3. The provided color codes, facility identifiers and infrastructure material tables are provided solely for the Contractor's convenience;
4. The Contractor is referred to USA North's California Excavation Manual for additional details;
5. Wy'east Engineering assumes no responsibility, expressed or implied, as to the accuracy, adequacy or sufficiency of any utility locations determined by others.

TYPICAL UTILITY MARKINGS

Owner/Facility identifier/Infrastructure Material/Size
Typical underground utility location field markings will follow one of two protocols, horizontal and vertical as shown below:

Horizontal
Owner/Facility identifier/Infrastructure Material/Size Example: PGE/G/PLA/2"

Vertical
Owner Example: PGE
Facility Identifier G
Infrastructure Material PLA
Size 2"

Would be read as a 2"# Plastic Gas Line owned by PG&E

UTILITY MARKING SYSTEMS One Call Marking Systems Sheet 1 ~ Notes and Descriptions Standard Plan No. 2-01.03A

Wy'east Engineering
1245 Kari Lane ~ Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

Revisions

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CHECKED: DRA DATE: 8/17
APPROVED: DRA DATE: 8/17

ONE CALL UTILITY MARKING SYSTEMS

PRODUCT	COLOR		
Proposed Excavation	White	Temporary Survey Markings	Pink
Potable Water	Blue	Electric Power	Red
Recycled Wastewater	Purple	Communications	Orange
Gaseous Product	Yellow	(Telephone, CATV, Fiber Optic, Signal)	
(Gas, Oil, Diesel, Steam, Chemical)		Wastewater, Storm Drain	Green

COMMON ABBREVIATIONS

FACILITY IDENTIFIER				INFRASTRUCTURE MATERIAL			
CH	Chemical	SS	Storm Sewer	ABS	Acrylonfrile-Butadiene- Styrene	PVC	Polyvinyl Chloride Pipe
E	Electric	SL	Street Lighting	ACP	Asbestos Cement Pipe	RCB	Reinforced Concrete Box
FO	Fiber Optic	STM	Steam	CI	Cast Iron	RCP	Reinforced Concrete Pipe
G	Gas	SP	Slurry System	CMC	Cement Mortar Coated	RF	Reinforced Fiberglass
LPG	Liquefied Petroleum Gas	TEL	Telephone	CML	Cement Mortar Lined	SCCP	Steel Cylinder Concrete Pipe
C	Conduit	MH	Manhole	CPP	Corrugated Plastic Pipe	STL	Steel
CDR	Corridor	PB	Pull Box	CMP	Corrugated Metal Pipe	VCP	Vitrified Clay Pipe
D	Distribution Facility	R	Radius	CWD	Creosote Wood Duct		
		STR	Structure	DIP	Ductile Iron Pipe		
DB	Direct Bury	T	Transmission Facility	FRP	Fiber Reinforced Plastic		
DE	Dead End	WW	Wastewater	GIP	Galvanized Iron Pipe		
JT	Joint Trench			HDPE	High Density Polyethylene Pipe		
HP	High Pressure			MTD	Multiple Tile Duct		
				PET	Polyethylene Tubing		
				PLA	Plastic (Pipe or Conduit)		

UTILITY MARKING SYSTEMS One Call Utility Marking Systems Sheet 2 ~ Color Code, Facility Identifiers, Infrastructure Material Details Standard Plan No. 2-01.03B

Wy'east Engineering
1245 Kari Lane ~ Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

Revisions

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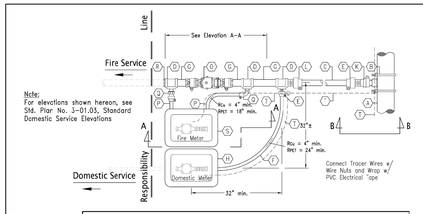
APPROVED: DRA DATE: 8/17



MECHANICAL SCHEDULE

ID	DESCRIPTION
A	Water Main
B	2"# Bronze Service Saddle (Ford Series 202B or 202BSS - 2"# FIPT Outlet)
C	2"# Service Tubing (PET or Cu Type K)
D	2"# x 2"# x 1"# Brass Tee w/Bushings as Required or 2"# x 2"# x Size Brass Tee
E	Coupling (Ford C84-44-NL (1"# PJ x 1" MIPT))
F	1"# Service Tubing (PET or Cu Type K)
G	2"# Brass Nipple (Length as Required - 4" min.)
H	5/8"# x 3/4"# Domestic Meter Installation per Standard Plan No. 3-02
J	2"# Brass Ball Valve or Ball Valve Curb Stop (Ford B11-777 (FIPT x FIPT))
K	2"# Ball Type Corporation Stop (Ford FB1100-7-NL (MIPT Inlet x FIPT Outlet))
L	Coupling (Ford C84-44-NL (2"# PJ x 2" MIPT))
M	3/4"# Angle Valve Curb Stop (Ford B1443-332M (PJ x 5/8"/3/4" Meter))
N	3/4"# Angle Cartridge Dual Check Valve (Meter Swivel x PJ - Ford HHCA34-323)
O	2"# Double Check Valve (Watts 007 QT, Febco 805/807 or approved susstitute)
	Remove 1/4"# Sample Cocks and Plug with 1/4"# Brass Pipe Plugs
P	3/4"# Service Tubing (PET or Cu Type K)
Q	Coupling ((3/4"# PJ x 3/4" MIPT) Ford C84-3-NL or L84-34-NL)
R	2"# PVC Pipe Plug Hand Tight Until Service is Extended
S	Meter Box (Christy B6) w/5/8" x 3/4" Meter; Location per Standard Plan No. 3-02
T	#14AWG Cu Tracer Wire (THHN or THWN)
U	5/8"# x 3/4"# Meter (Supplied and Installed by Water Agency)

NOTES

1. Field verify pipe size and type;
2. All buried fittings shall be liberally coated with a bituminatic compound (Permatex 81833, 3M 3584, T. Christy H050 or approved subsitute);
3. Overall length to fit;
4. All work left of the Responsibility Line shall be the responsibility of the Customer to install and maintain in accordance with Agency Standards.

STANDARD DOMESTIC COMBINATION SERVICE 2-inch Fire or Irrigation and Domestic Combined Installation Below Grade Backflow Device Installation Standard Plan No. 3-01.01

Wy'east Engineering
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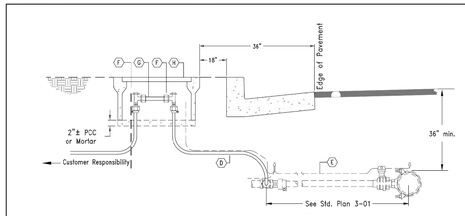

MECHANICAL SCHEDULE

ID	DESCRIPTION
A	Water Main (New or Existing) per Stc. Plan No. 3-01
B	Tapping Sacdle per Std. Plan 3-01
C	2"# Corporation Stop per Std. Plan 3-01
D	2"# Service Tubing
E	#14 AWG Tracer Wire - THHN, THWN
F	2"# Angle Meter Stop w/Ford A24-N, Adapter
G	Install Meter Idler Spool (Ford Idler - 2)
H	Meter Box - Christy B9

APPROVED FITTINGS

Condition	Service Tubing		Tapping Saddle			Corporation Stop		Angle Meter Stop	
	PET	Type K Copper	Ford 101B	Ford 101BS	Ford 202BS	Ford F1100-4-NL	Ford FB700-4-NL	Ford KV43-342W-NL	Ford KV23-342W-NL
Standard Domestic Service	●		●	●	●	●	●	●	●
Service Pressure > 150-psi		●	●	●	●	●	●	●	●

NOTES

1. All PET services using Pack Joint fittings shall be equipped with stainless steel inserts at all fittings;
2. A Ford A24-NL adapter shall be installed at the meter stops;
3. When installing a new service at an existing location, the customer plumbing
4. shall be replumbed as necessary to conform with this plan. If PVC piping is used, all pipe and fittings shall be Sch. 80;
5. Irrigation meters and domestic fire services shall be equipped with a backflow device in accordance with Wy'east Engineering Std. Plan No. 3-03;
6. New installations at existing service locations shall be relocated into the Right-of-Way;
7. Minimum bending radius for PET (SDR 9) shall be 20 x D where D = PET nominal diameter;
8. Minimum bending radius for copper tubing (Type K, L) shall be 4";
9. Copper tubing shall be bent using a tube bending device as recommended by the Copper Development Association, Copper Tubing Handbook. Free hand bending will not be permitted;
10. Copper or PET tubing evidencing crimping as a result of bending shall be removed and replaced at the Contractor's expense.

STANDARD DOMESTIC SERVICE ~ Unmetered Installation Standard Plan No. 3-02.02

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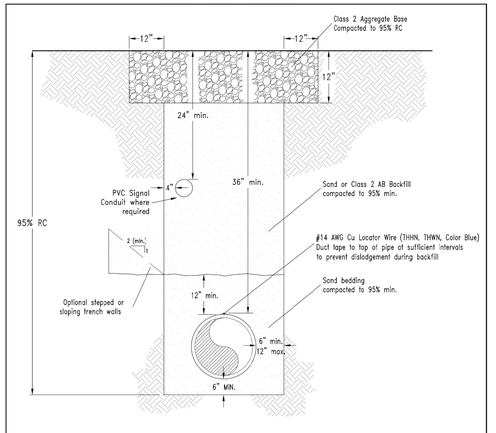

NOTES:

1. Trench construction standards are applicable to private property construction only. Within a public right of way or parcel, the requirements of the Agency of Jurisdiction may supercede these standards;
2. Class 2 AB may be continued to 12" above pipe with sand bedding as shown;
3. Trenches within a paved area or road Right-Of-Way shall be constructed in accordance with Standard Plan 3-04.01A.

TRENCH DETAIL - SAND BACKFILL ~ Unpaved Areas Standard Plan No. 3-04.01B

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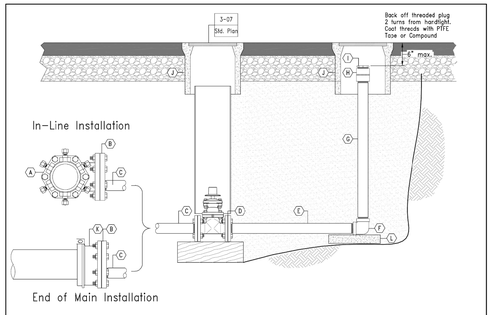
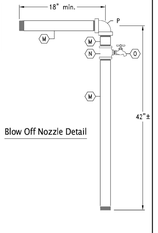


MECHANICAL SCHEDULE

ID	DESCRIPTION
A	In-Line Tee (MJ x MJ x FL - Run and branch same size)
B	Stainless steel blind flange tapped for BO - match inserts of main and blowoff
C	12" stainless steel nipple - Size as required
D	Gate valve (FL x FL)
E	30" stainless steel nipple - Size as required
F	90° stainless steel ell - size as required
G	Stainless steel nipple - size and length as required
H	PVC Coupling (Sch. 80 FIPT x FIPT - Size as required)
I	PVC Plug (Sch. 80 MIPT - Size as required)
J	Valve Box marked BLOWOFF (Christy G5)
K	Flange Coupling Adapter (HYMAX Grip Standard Body - Size as required)
L	12" x 12" x 2" PCC paving block
M	Galvanized iron pipe nipple - Size and length as required
N	Galvanized iron pipe tee with bushings - Size as required
O	No thread hose bibb - Watco Narco, Arrowhead or approved substitute
P	Galvanized iron pipe ell - Size as required

Main Size	Blowoff Size
4"# - 8"#	2"#
6"# -12"#	4"#
12"# - 18"#	6"#
>18"#	As Required



Blow Off Nozzle Detail

NOTES:

1. All blowoff pipe and fittings shall be Type 304 Stainless Steel. The Contractor may substitute fabricated fittings of stainless steel or epoxy coated steel in lieu of threaded fittings;
2. Backfill shall be that of the adjacent pipeline trench;
3. Blowoffs shall be sized such that the minimum flushing velocity of the main shall be 2.3-fps and the maximum velocity of the blowoff shall be 20-fps;
4. Thrust restraint on new pipelines shall in accordance with Std. Plan No. 3-08.02;
5. Thrust restraint on existing pipelines shall in accordance with Std. Plan No. 3-08.01.

BLOW-OFF ASSEMBLY Standard Plan No. 3-06

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Chemeketa Park Mutual Water Company
Tank Replacement Project
Standard Plans Sheet 1

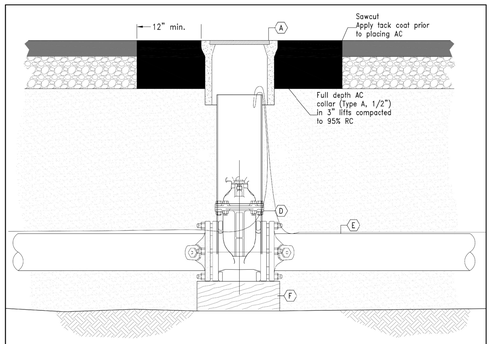
Date:
Revision

Wy'east Engineering
1245 Kari Lane
Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 8/23
Scale: None
Drawn: DRA
Job: 22-002
Sheet SP-1 of 27

C:\Chemeketa Park\Sheet SP1.5Reg\Standard Plan Sheet 1



MECHANICAL SCHEDULE	
ID	DESCRIPTION
A	Valve Box (Christy G5 – Lid marked WATER)
B	8# PVC (SDR35) or 8"ø CPEP (ADS N12)
C	#14AWG Cu Tracer wire (Color per Std. Plan 2-01) (Route outside barrel as shown)
D	Buried Valve (Gate, BFV, Ball – Center valve box over operating nut)
E	Water main size as shown on Project Plans
F	6" x 6" Block (PTDF, Redwood or Concrete – Extend past valve flanges)

NOTE:
Valve box shall be brought to finish grade prior to placing AC collar

BURIED VALVE ASSEMBLY
~
Existing Pavement Installation

Standard Plan No. 3-07.01

DESIGN:	DRA	DATE:	8/17
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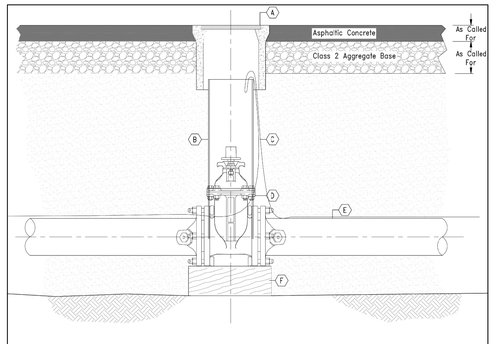

MECHANICAL SCHEDULE	
ID	DESCRIPTION
A	Valve Box (Christy G5 – Lid marked WATER)
B	8"ø PVC (SDR35) or 8"ø CPEP (ADS N12)
C	#14AWG Cu Tracer wire (Color per Std. Plan 2-01) (Route outside barrel as shown)
D	Buried Valve (Gate, BFV, Ball – Center valve box over operating nut)
E	Water main size as shown on Project Plans
F	6" x 6" Block (PTDF, Redwood or Concrete – Extend past valve flanges)

NOTE:
The valve box shall be brought to finish grade prior to placing the final lift of AC paving;

In multiple lift pavements, the valve box may be brought up in each lift or once for the final lift with a full depth AC collar.

BURIED VALVE ASSEMBLY
~
New Pavement Installation

Standard Plan No. 3-07.02

DESIGN:	DRA	DATE:	8/17
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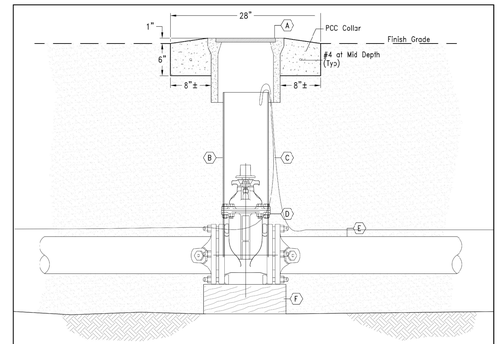

MECHANICAL SCHEDULE	
ID	DESCRIPTION
A	Valve Box (Christy G5 – Lid marked WATER)
B	8"ø PVC (SDR35) or 8"ø CPEP (ADS N12)
C	#14AWG Cu Tracer wire (Color per Std. Plan 2-01) (Route outside barrel as shown)
D	Buried Valve (Gate, BFV, Ball – Center valve box over operating nut)
E	Water main size as shown on Project Plans
F	6" x 6" Block (PTDF, Redwood or Concrete – Extend past valve flanges)

NOTE:
The valve box shall be brought to finish grade prior to placing the final lift of AC paving;

In multiple lift pavements, the valve box may be brought up in each lift or once for the final lift with a full depth AC collar.

BURIED VALVE ASSEMBLY
~
Unpaved Installation

Standard Plan No. 3-07.03

DESIGN:	DRA	DATE:	8/17
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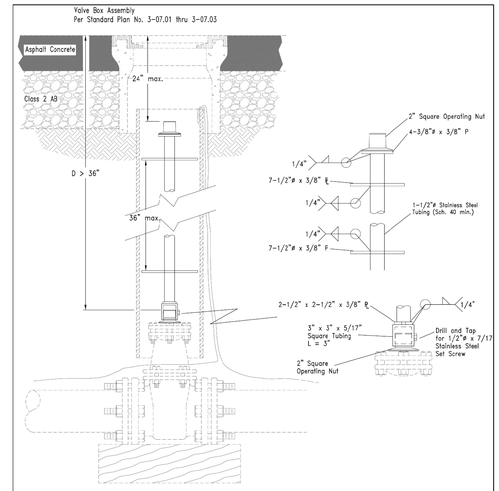

NOTES

1. Valve box assembly per Standard Plans 3-9.01 through 3-9.04;
2. Where the depth to the top of the valve operating not exceeds 36", an extension shall be fabricated in accordance with this Standard Plan 3-09.04;
3. The Contractor shall field verify the dimensions prior fabrication;
4. The extension assembly shall be fabricated of Type 304 or Type 316 stainless steel

BURIED VALVE ASSEMBLY
~
Valve Operator Extension Assembly

Standard Plan No. 3-07.04

DESIGN:	DRA	DATE:	8/17
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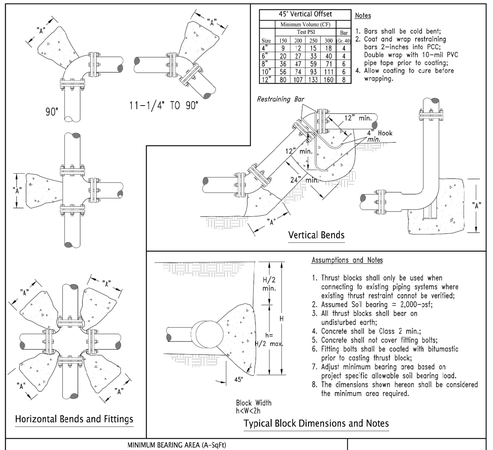

45° Vertical Offset						
Minimum Volume (CY)						
	Test PSI					Bar
Size	150	200	250	300	350	dia.
4"	9	12	15	18	21	4
6"	20	27	33	40	47	4
8"	36	47	58	71	83	5
10"	56	74	93	111	130	6
12"	80	107	133	160	187	8

Notes
1. Bars shall be cold bent;
2. Coat and wrap restraining bars 2-inches into PCC;
3. Double wrap with 10-mil PVC pipe tape prior to casting;
4. Allow coating to cure before wrapping.

Assumptions and Notes
1. Thrust blocks shall only be used when connecting to existing piping systems where existing thrust restraint cannot be verified;
2. Assumed Soil bearing = 2,000-psf;
3. All thrust blocks shall bear on undisturbed earth;
4. Concrete shall be Class 2 min.;
5. Concrete shall not cover fitting bolts;
6. Fitting bolts shall be coated with bitumastic prior to casting thrust block;
7. Adjust minimum bearing area based on project specific allowable soil bearing load.
8. The dimensions shown hereon shall be considered the minimum area required.

MINIMUM BEARING AREA (A-Sq/Ft)

Size	4"ø			6"ø			8"ø			10"ø			12"ø		
Test PSI	150	200	250	300	150	200	250	300	150	200	250	300	150	200	250	300
Fitting																
90°	1.5	1.8	2.2	2.7	3.0	4.0	5.0	6.0	5.3	7.1	8.9	10.7	8.3	11.1	13.9	16.7
45°	1.5	1.5	1.5	1.5	1.6	2.2	2.7	3.3	2.9	3.9	4.8	5.8	4.5	6.0	7.5	9.0
22-1/2°	1.5	1.5	1.5	1.5	1.5	1.5	1.7	1.9	1.5	2.0	2.5	3.0	2.3	3.1	3.9	4.6
11-1/4°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.9	2.3
Cross*	1.5	1.5	1.5	2.7	3.0	4.0	5.0	6.0	2.89	7.1		10.7	8.3	11.1	13.9	16.7
Tee*	1.5	1.5	1.5	2.7	3.0	4.0	5.0	6.0	2.89	7.1		10.7	8.3	11.1	13.9	16.7
Dead End	1.5	1.5	1.6	1.9	2.1	2.8	3.5	4.3	5.4	5.0	6.3		5.9	7.9	9.8	11.8

	10"ø				12"ø			
	150	200	250	300	150	200	250	300
Fitting								
90°	13.3	17.7	22.1	26.5	19.2	25.6	32.0	38.4
45°	7.1	9.5	11.8	14.2	10.2	13.6	17.0	20.4
22-1/2°	3.7	4.9	6.2	7.4	5.3	7.1	8.9	10.6
11-1/4°	1.9	2.5	3.1	3.8	2.7	3.6	4.5	5.4
Cross*	10.7	14.2	17.8	21.3	15.4	20.5	25.7	30.8
Tee*	10.7	14.2	17.8	21.3	15.4	20.5	25.7	30.8
Dead End	16.0	21.3	26.6	32.0	23.1	30.7	38.4	46.1

*Note: Unbalanced crosses shall be restrained as tees, 90° bends or dead ends as appropriate
*Note: Unbalanced tees shall be restrained as 90° bends or dead ends as appropriate

SOIL BEARING STRENGTH FACTOR

Bearing Strength	1000-psf	1,500-psf	2,000-psf	2,500-psf	3,000-psf
Factor	2.00	1.33	1.00	0.80	0.67

THRUST RESTRAINT
~
Thrust Blocking Details

Standard Plan No. 3-08.01

DESIGN:	DRA	DATE:	8/17
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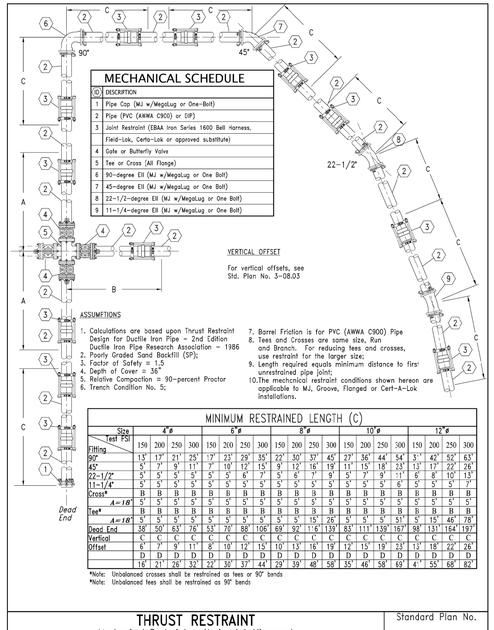

MINIMUM RESTRAINED LENGTH (C)

Size	4"ø			6"ø			8"ø			10"ø			12"ø		
Test PSI	150	200	250	300	150	200	250	300	150	200	250	300	150	200	250	300
Fitting																
90°	13'	17'	21'	25'	17'	23'	29'	35'	22'	30'	37'	45'	27'	36'	44'	54'
45°	5'	7'	9'	11'	7'	10'	12'	15'	9'	12'	16'	19'	11'	15'	18'	23'
22-1/2°	5'	5'	5'	5'	5'	5'	6'	7'	5'	6'	7'	9'	5'	7'	9'	11'
11-1/4°	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	6'
Cross* A=18'	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'
Tee* A=18'	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	15'	26'	5'	5'	5'	51'
Dead End	38'	50'	63'	76'	53'	70'	88'	106'	69'	92'	116'	139'	83'	111'	139'	167'
Vertical Offset	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	6'	7'	9'	11'	8'	10'	12'	15'	10'	13'	16'	19'	12'	15'	19'	23'
	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	16'	21'	26'	32'	22'	30'	37'	44'	29'	39'	48'	58'	35'	46'	58'	69'

*Note: Unbalanced crosses shall be restrained as tees or 90° bends
*Note: Unbalanced tees shall be restrained as 90° bends

THRUST RESTRAINT
Mechanical Restraint – Horizontal Alignment
Minimum Required Restrained Length

Standard Plan No. 3-08.02

DESIGN:	DRA	DATE:	8/17
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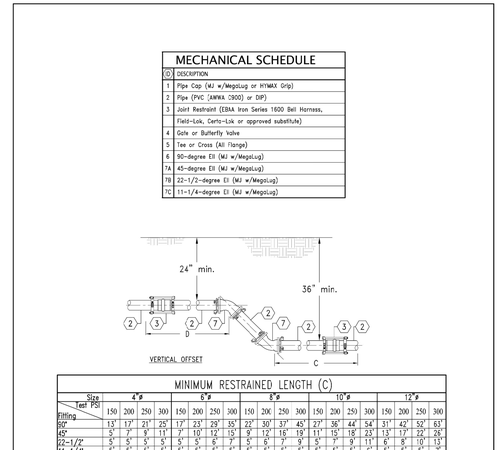

MECHANICAL SCHEDULE

ID	DESCRIPTION
1	Pipe Cap (MJ w/MegaLug or HYMAX Grip)
2	Pipe (PVC (AWWA C900) or DIP)
3	Joint Restraint (EBAA Iron Series 1600 Bell Harness, Field-Lok, Certa-Lok or approved substitute)
4	Gate or Butterfly Valve
5	Tee or Cross (All Flange)
6	90-degree Ell (MJ w/MegaLug)
7A	45-degree Ell (MJ w/MegaLug)
7B	22-1/2-degree Ell (MJ w/MegaLug)
7C	11-1/4-degree Ell (MJ w/MegaLug)

MINIMUM RESTRAINED LENGTH (C)

Size	4"ø			6"ø			8"ø			10"ø			12"ø		
Test PSI	150	200	250	300	150	200	250	300	150	200	250	300	150	200	250	300
Fitting																
90°	13'	17'	21'	25'	17'	23'	29'	35'	22'	30'	37'	45'	27'	36'	44'	54'
45°	5'	7'	9'	11'	7'	10'	12'	15'	9'	12'	16'	19'	11'	15'	18'	23'
22-1/2°	5'	5'	5'	5'	5'	5'	6'	7'	5'	6'	7'	9'	5'	7'	9'	11'
11-1/4°	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	6'
Cross* A=18'	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	15'	26'	5'	5'	5'	51'
Tee* A=18'	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	5'	5'	5'	5'	5'	5'	5'	5'	5'	5'	15'	26'	5'	5'	5'	51'
Dead End	38'	50'	63'	76'	53'	70'	88'	106'	69'	92'	116'	139'	83'	111'	139'	167'
Vertical Offset	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	6'	7'	9'	11'	8'	10'	12'	15'	10'	13'	16'	19'	12'	15'	19'	23'
	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	16'	21'	26'	32'	22'	30'	37'	44'	29'	39'	48'	58'	35'	46'	58'	69'

*Note: Unbalanced crosses shall be restrained as tees or 90° bends
*Note: Unbalanced tees shall be restrained as 90° bends

THRUST RESTRAINT
Mechanical Restraint – Vertical Offset
Minimum Required Restrained Length

Standard Plan No. 3-08.03

DESIGN:	DRA	DATE:	8/17
CAD:	DRA	DATE:	8/17
CHECKED:	DRA	DATE:	8/17
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Wy'east Engineering
1245 Kari Lane ~ Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

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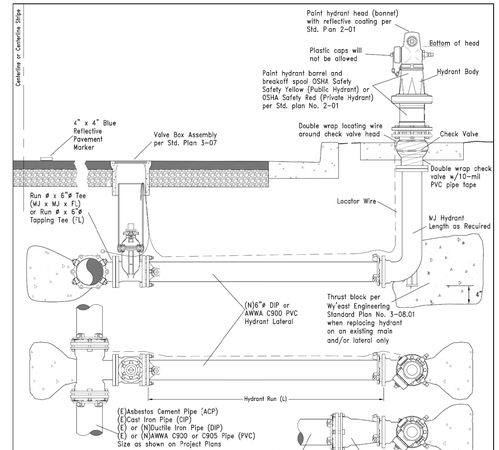

NOTES:

1. Steamer port shall be 4-1/2"ø or as directed by the Fire Agency of Jurisdiction;
2. Where the local Fire Agency of Jurisdiction has a color standard or coding system, the hydrant color, including reflective section shall be painted in accordance with that standard. Clear reflective coating may be substituted for colored reflective coatings in any installation;
3. Hydrant shall be covered with a burlap sack or bag marked NOT IN SERVICE until put into service;
4. Where the length of run (L) exceeds 20-ft, increase lateral run to 8"ø and reduce at hydrant.

MANUFACTURER	HYDRANT TYPE	
	6" Steamer	
OUTLETS	1 – 2-1/2"ø 2 – 2-1/2"ø	1-Steamer 1-Steamer
Clow	2050	2060
Jones	J-3740	J-3760
Long Beach	B125	B130
Mueller	A48:	A481
CHECK VALVES		
Jones	J5000 or J5000S	
Clow	#400	

– For Placement and Clearances (Plan) See Std. Plan 3-10.02
– For Placement and Clearances (Elevation) See Std. Plan 3-10.03
– For Wharf Head Hydrants See Std. Plan 3-10.04
– For Dry Barrel Hydrants See Std. Plan 3-10.05

GENERAL FIRE HYDRANT ASSEMBLY DETAILS
Wet Barrel Hydrant Assemblies
General Details and Notes

Standard Plan No. 3-10.01

DESIGN:	DRA	DATE:	8/17
CAD:	DRA	DATE:	8/17
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Revision | Date:

Chemeketa Park Mutual Water Company
Tank Replacement Project
Standard Plans Sheet 2

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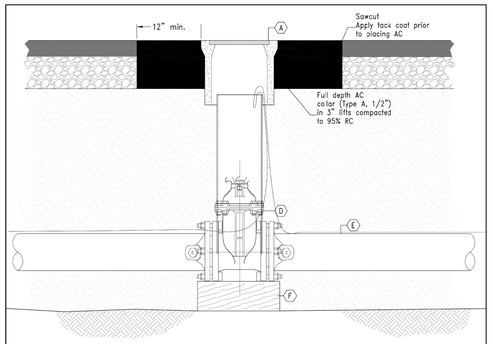
1245 Kari Lane
Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 8/23
Scale: None
Drawn: DRA
Job: 22-002
Sheet SP-2 of 27

C:\Chemeketa Park\Sheet SP1-SP6.dwg\Standard Plan Sheet 2



MECHANICAL SCHEDULE

ⓘ	DESCRIPTION
A	Valve Box (Christy G5 – Lid marked 'WATER')
B	8ø PVC (SDR35) or 8"ø CPEP (ADS N12)
C	#14AWG Cu Tracer wire (Color per Std. Plan 2-01) (Route outside barrel as shown)
D	Buried Valve (Gate, BFV, Ball – Center valve box over operating nut)
E	Water main size as shown on Project Plans
F	6" x 6" Block (PTDF, Redwood or Concrete – Extend past valve flanges)

NOTE:
Valve box shall be brought to finish grade prior to placing AC collar

BURIED VALVE ASSEMBLY
~
Existing Pavement Installation

Standard Plan No. 3-07.01

DESIGN:	DRA	DATE:	8/17
CAD:	DRA	DATE:	8/17
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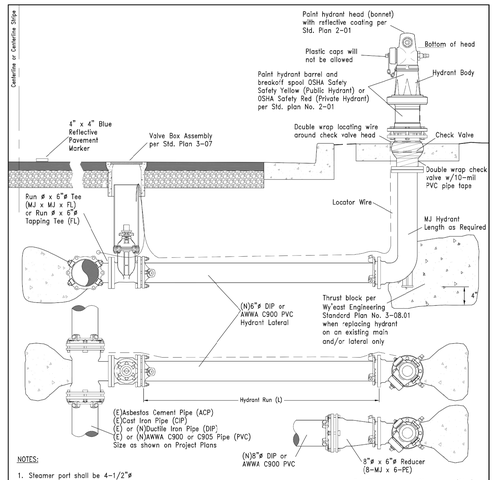

NOTES:

1. Steamer port shall be 4-1/2"ø or as directed by the Fire Agency of Jurisdiction;
2. Where the local Fire Agency of Jurisdiction has a color standard or coding system, the hydrant color, including reflective section shall be painted in accordance with that standard. Clear reflective coating may be substituted for colored reflective coatings in any installation;
3. Hydrant shall be covered with a burlap sack or bag marked NOT IN SERVICE until put into service;
4. Where the length of run (L) exceeds 20-lf, increase lateral run to 8"ø and reduce at hydrant.

MANUFACTURER	H'DRANT TYPE	
	4" Steamer	
OUTLETS	1 – 2-1/2" & 1 – 2-1/2"	2 – 2-1/2"
	1–Steamer	1–Steamer
Clow	2050	2060
Jones	J-3740	J-3760
Long Beach	B125	B130
Mueller	A481	A461
CHECK VALVES		
Jones	J5000 or J50005	
Clow	#400	

– For Placement and Clearances (Plan) See Std. Plan 3-10.02
– For Placement and Clearances (Elevation) See Std. Plan 3-10.03
– For Wharf Head Hydrants See Std. Plan 3-10.04
– For Dry Barrel Hydrants See Std. Plan 3-10.05

GENERAL FIRE HYDRANT ASSEMBLY DETAILS
Wet Barrel Hydrant Assemblies
General Details and Notes

Standard Plan No. 3-10.01

DESIGN:	DRA	DATE:	8/17
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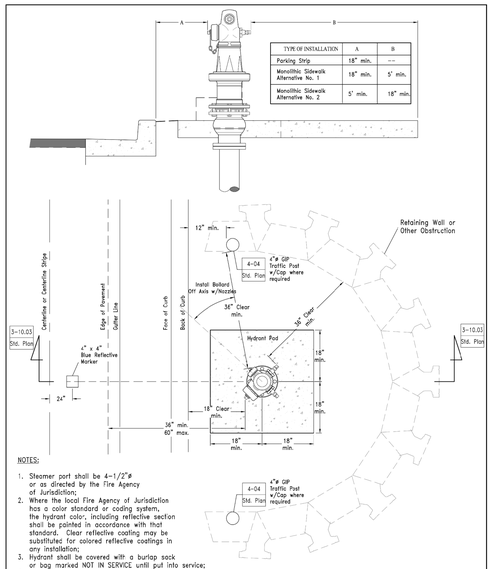

NOTES:

1. Steamer port shall be 4-1/2"ø or as directed by the Fire Agency of Jurisdiction;
2. Where the local Fire Agency of Jurisdiction has a color standard or coding system, the hydrant color, including reflective section shall be painted in accordance with that standard. Clear reflective coating may be substituted for colored reflective coatings in any installation;
3. Hydrant shall be covered with a burlap sack or bag marked NOT IN SERVICE until put into service;
4. Where the length of run (L) exceeds 20-lf, increase lateral run to 8"ø and reduce at hydrant.

GENERAL FIRE HYDRANT ASSEMBLY DETAILS
Placements and Clearances
Plan View

Standard Plan No. 3-10.02

DESIGN:	DRA	DATE:	8/17
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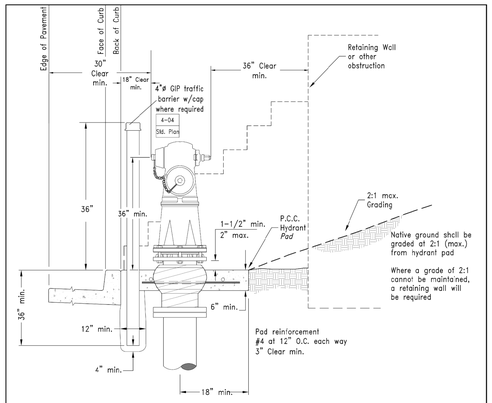

Section "A – A"

NOTES:

1. Steamer port shall be 4-1/2"ø or as directed by the Fire Agency of Jurisdiction;
2. Where the local Fire Agency of Jurisdiction has a color standard or coding system, the hydrant color, including reflective section shall be painted in accordance with that standard. Clear reflective coating may be substituted for colored reflective coatings in any installation;
3. Hydrant shall be covered with a burlap sack or bag marked NOT IN SERVICE until put into service;
4. Where the length of run (L) exceeds 20-lf, increase lateral run to 8"ø and reduce at hydrant.

GENERAL FIRE HYDRANT ASSEMBLY DETAILS
Placements and Clearances
Elevation View

Standard Plan No. 3-10.03

DESIGN:	DRA	DATE:	8/17
CAD:	DRA	DATE:	8/17
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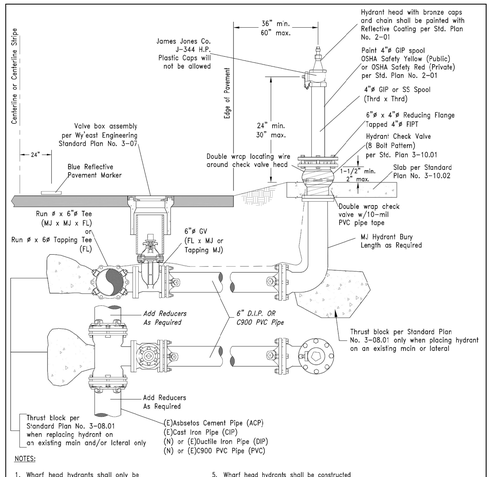

NOTES:

1. Wharf head hydrants shall only be constructed with the prior approval of the Fire Agency of Jurisdiction;
2. Where the local Fire Agency of Jurisdiction has a color standard or coding system, the hydrant color, including reflective section shall be painted in accordance with that standard. Clear reflective coating may be substituted for colored reflective coatings in any installation;
3. Hydrant shall be covered with a burlap sack or bag marked NOT IN SERVICE until put into service;
4. Where the length of run (L) exceeds 20-lf, increase lateral run to 8"ø and reduce at hydrant.
5. Wharf head hydrants shall be constructed in general conformance with Std. Plan 3-10, Sheets 1 through 3 and this Sheet 4;
6. MJ fittings shall be restrained by the use of MegaLug Series 1100 or 2000 restraining glands except for installations on existing lines.
7. Bollards shall be installed in accordance with Std. Plan 3-10 in installations without curbs or as otherwise directed or shown on the Project Plans.

GENERAL FIRE HYDRANT ASSEMBLY DETAILS
~
Wharf Head Hydrants

Standard Plan No. 3-10.04

DESIGN:	DRA	DATE:	8/17
CAD:	DRA	DATE:	8/17
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APPROVED:	DRA	DATE:	8/17

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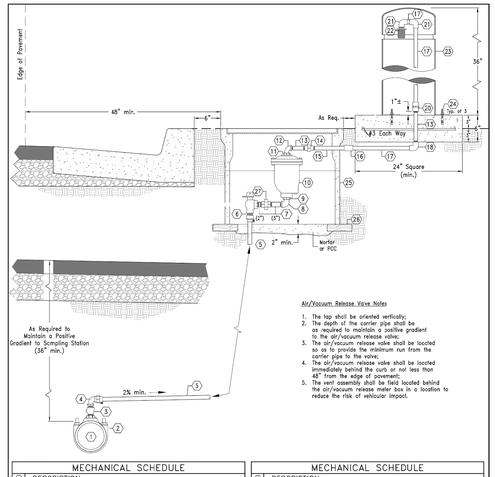

Air/Vacuum Release Valve Notes

1. The top shall be oriented vertically;
2. The depth of the carrier pipe shall be adjusted to maintain a positive gradient to the air/vacuum release valve;
3. The air/vacuum release valve shall be located so as to provide the minimum run from the carrier pipe to the valve;
4. The air/vacuum release valve shall be located immediately behind the curb or not less than 48" from the edge of pavement;
5. The vent assembly shall be field located behind the air/vacuum release meter box in a location to reduce the risk of vehicular impact.

MECHANICAL SCHEDULE	
○	DESCRIPTION
1	Carrier Pipe
2	3/4"ø Service Saddle per Std. Plan 3-01
3	3/4"ø Corporation Stop per Std. Plan 3-01
4	3/4"ø x 90° Coupling (PJ x MIPT – FORD Meter Box EB4-33)
5	3/4"ø PET (SDR9)
6	3/4"ø Angle Ball Service Valve (FORD Meter Box BA41-33W-NL PJ x FIPT)
7	3/4"ø Brass Nipple (Length to Fit)
8	3/4"ø x 90° Brass Street Ell
9	1"ø x 3/4"ø PVC Reducer Bushing (Sch. 80 – MIPT x FIPT)
10	Air/Vacuum Release Valve (ClaVal Series 35 or Approved Substitute)
11	1"ø x 1/2"ø PVC Reducer Bushing (Sch. 80 – MIPT x FIPT)
12	1/2"ø x 90° Street Ell (Brass or Stainless Steel)
13	1/2"ø Brass or Stainless Steel Nipple (Length to Fit)

MECHANICAL SCHEDULE	
ⓘ	DESCRIPTION
14	1/2"ø Brass or Stainless Steel Union
15	1/2"ø PVC Tee Nipple (Sch. 80 – Length to Fit)
16	1/2"ø PVC Coupling (Sch. 80 – Slip x Slip)
17	1/2"ø PVC Nipple (Sch. 40 (min.) – Length to Fit)
18	1/2"ø x 90° PVC Ell (Sch. 40 (min.) – Slip x FIPT)
19	1/2"ø Brass or Stainless Steel Nipple (Length to Fit)
20	1/2"ø PVC Coupling (Sch. 40 (min.) – Slip x FIPT)
21	1/2"ø x 90° PVC Ell (Sch. 40 (min.) – Slip x Slip)
22	1/2"ø Vent Screen (Northtown HYTECH MIPT – 16 mesh)
23	12"ø Air/Vacuum Release Enclosure (Armorcast P6002DG)
24	3/8"ø x 3-1/2" Stainless Steel Anchor Bolt (Starr-Tite SSB 5782-375126SS)
25	Meter Box (Christy B30)
26	2" x 4" Redwood Block (Continuous)
27	3/4"ø Brass Union

AIR/VACUUM RELEASE VALVE ASSEMBLY

Standard Plan No. 3-11

DESIGN:	DRA	DATE:	8/17
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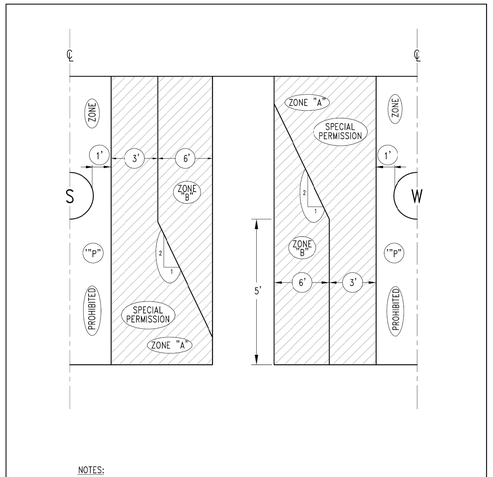
Revisions	
6/19	Added Incoming Union



NOTES:

1. See Wy'east Engineering Standard Plan No. 3-12.02 for crossing installations;
2. See Wy'east Engineering Standard Plan No. 3-12.03 for pipe materials to be used in each zone shown on Wy'east Engineering Standard Plans 3-12.01 and 3-12.02.

CRITERIA FOR SEPARTION OF MAINS
Water, Wastewater, Recycled Wastewater and Stormwater
Parallel Construction

Standard Plan No. 3-12.01

DESIGN:	DRA	DATE:	8/17
CAD:	DRA	DATE:	8/17
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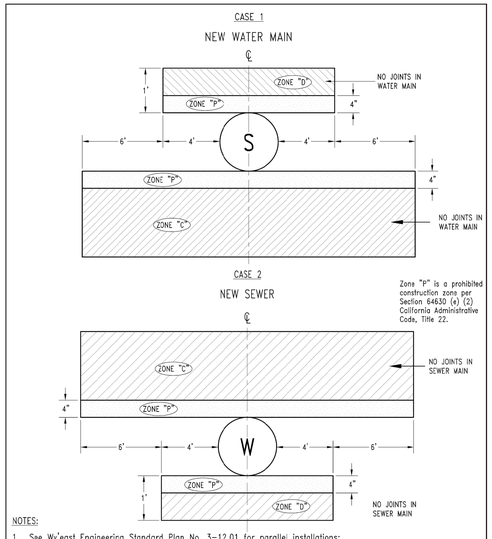

NOTES:

1. See Wy'east Engineering Standard Plan No. 3-12.01 for parallel installations;
2. See Wy'east Engineering Standard Plan No. 3-12.03 for pipe materials to be used in each zone shown on Wy'east Engineering Standard Plans 3-12.01 and 3-12.02.

CRITERIA FOR SEPARATION OF MAINS
Water, Wastewater, Recycled Wastewater and Stormwater
Crossing Construction

Standard Plan No. 3-12.02

DESIGN:	DRA	DATE:	8/17
CAD:	DRA	DATE:	8/17
CHECKED:	DRA	DATE:	8/17
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Revision	Date:

Chemeketa Park Mutual Water Company
Tank Replacement Project
Standard Plans Sheet 3

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CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 8/23
Scale: None
Drawn: DRA
Job: 22-002
Sheet SP-3 of 27

WHEN WATER AND SEWER MAINS MUST BE CONSTRUCTED WITH LESS THAN 10-LF OF SEPARATION, THE FOLLOWING MATERIALS SHALL BE USED FOR THE NEW MAIN CONSTRUCTION.

CONSTRUCTION / ZONE / CASE	PARALLEL		CROSSING	
	A	B	C	D
CASE 1 NEW WATER MAIN	SPECIAL PERMISSION ONLY	PVC AWWA – C900 CLASS 305	PVC AWWA – C900 CLASS 305	PVC AWWA – C900 CLASS 305
		DUCTILE IRON PIPE AWWA – C151 CLASS 50	DUCTILE IRON PIPE AWWA – C151 CLASS 50	
CASE 2 NEW SEWER MAIN	SPECIAL PERMISSION ONLY	PVC AWWA – C900 CLASS 305	PVC AWWA – C900 CLASS 305 (20'–LF CENTERED)	PVC AWWA – C900 CLASS 305 (20'–LF CENTERED)
		DUCTILE IRON PIPE AWWA – C151 CLASS 50	PVC AWWA – C900 CLASS 305 (20'–LF CENTERED)	PVC AWWA – C900 CLASS 305 (20'–LF CENTERED)
		VITRIFIED CLAY PIPE EXTRA–STRENGTH	CASING INSTALLATION (20'–LF CENTERED)	CASING INSTALLATION (20'–LF CENTERED)
				CAP 10" X 10" X 4" CLASS "B" PCC

NOTES:

1. See Wy'east Engineering Standard Plan No. 3–12.02 for crossing installations;
2. See Wy'east Engineering Standard Plan No. 3–12.03 for pipe materials to be used in each zone shown on Wy'east Engineering Standard Plans 3–12.01 and 3–12.02.

CRITERIA FOR SEPARATION OF MAINS

Water, Wastewater, Recycled Wastewater and Storm Water Materials Selection

Standard Plan No. 3–12.03

DESIGN:	DRA	DATE: 8/17
CAD:	DRA	DATE: 8/17
CHECKED:	DRA	DATE: 8/17
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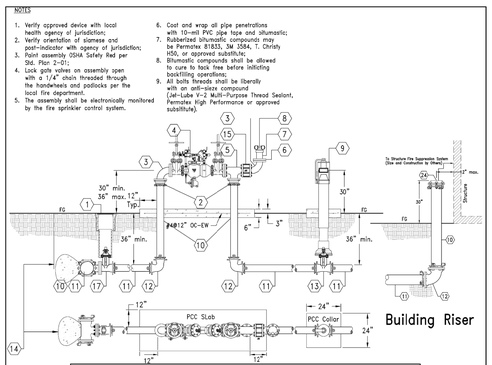
NOTES

1. Verify approved device with local health agency of jurisdiction;
2. Verify orientation of siamese and post–indicator with agency of jurisdiction;
3. Paint assembly OSHA Safety Red per Std. Plan 2–01;
4. Lock gate valves on assembly open with a 1/4" chain threaded through the handwheels and padlocks per the local fire department.
5. The assembly shall be electronically monitored by the fire sprinkler control system.
6. Coat and wrap all pipe penetrations with 10–mil PVC pipe tape and allumastic;
7. Rubberized bituminastic compounds may be Permatex 81833, 3M 3584, T. Christy H50, or approved substitute;
8. Bituminastic compounds shall be allowed to cure to tack free before initiating backfilling operations;
9. All bolts threads shall be liberally with an anti–siezs compound (Jet–Lube V–2 Multi–Purpose Thread Sealant, Permatex High Performance or approved substitute).



Building Riser

MECHANICAL SCHEDULE

ID	DESCRIPTION
1	Valve Assembly per Standard Plan No. 3–07.01 through 3–07.03
2	Flange Coupling Adapter (EBAA Iron Series 2100 MegaFlange)
3	Size x 90° (FL x FL)
4	Reduced Pressure Detector Backflow Prevention Assembly (Wilkens Model 375ADA)
5	Size Tee (All FL)
6	Reducing Companion Flange Threaded 4"ø FIPT
7	4"ø x 6" GIP Nipple
8	2–1/2"ø x 2–1/2"ø x 4"ø Siamese Clapper Snoot (Kidde Fire 6704 or approved substitute)
9	Post Indicator Valve (Size as called for on Project Plans)
10	Ductile Iron Pipe (Size as provided for on Project Plans)
11	PVC Pipe (AWWA C900 – Size as provided for on Project Plans)
12	Size x 90° (MJ x MJ w/MegaLug Restraining Gland)
13	Gate Valve (MJ x MJ w/MegaLug Restraining Glands)
14	Thrust Block per Standard Plan No. 3–10 on Existing Pipelines only
15	Silent (Spring) Check Valve (APCO Series 300, ClaVal Series 581 or approved substitute)
16	Gate Valve (FL x MJ – Size as provided for on Project Plans)
17	Ductile Iron Cap (MJ with MegaLug 1104 or 1106 as shown on the Project Plans

FIRE SERVICE ASSEMBLY – 4"ø AND LARGER

Reduced Pressure Zone Installation

Standard Plan No. 3–13

DESIGN:	DRA	DATE: 8/17
CAD:	DRA	DATE: 8/17
CHECKED:	DRA	DATE: 8/17
APPROVED:	DRA	DATE: 8/17

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Wy'east Engineering
1245 Kari Lane ~ Nipomo, California 93444
(831)443–5514 ~ (Mobile)594–2660

PRESSURE TESTING

1. The pressure test shall be conducted in such a manner as to bring the pipeline to the test pressure gradually without generating a water hammer in the pipeline. The pressure test shall be conducted in accordance with the provisions of Section 3–02.05E, "Hydrostatic Testing" of the Wy'east Engineering Standard Specifications;
2. Allowable Leakage – The allowable leakage will be calculated by the following formula:

   La = [L*D*(P^1/2)]/173,200

   where: La = Allowable leakage (gallons/hour)
   L = Length of the pipe run (ft)
   D = Nominal diameter of the pipe (in)
   (P^1/2) = Square root of test pressure (psi)
3. Duration of the test shall be 2–hours or as specified;
4. Minimum test pressure shall be 150–psi or 150–percent of the static pressure whichever is the greater unless otherwise directed by the Fire Agency of Jurisdiction.

ALLOWABLE LEAKAGE per 1,000–LF

Avg. Test Pressure	Nominal Pipe Diameter (in.)								
	4	6	8	10	12	14	16	18	20
150–psi	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84
175–psi	0.40	0.59	0.80	0.99	1.19	1.39	1.59	1.79	1.99
200–psi	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12
225–psi	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25
250–psi	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37
275–psi	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49
300–psi	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60
325–psi	0.54	0.81	1.08	1.35	1.62	1.89	2.17	2.44	2.71
350–psi	0.56	0.84	1.12	1.40	1.69	1.97	2.25	2.53	2.81

HYDROSTATIC PRESSURE TESTING

Standard Plan No. 3–14

DESIGN:	DRA	DATE: 8/17
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FLUSHING AND DISINFECTION NOTES

1. Flushing and disinfection of pipelines shall be in accordance with AWWA C651, "Disinfecting Water Mains" and the Wy'east Engineering Standard Specifications and Standard Plans;
2. All pipelines shall be flushed at a minimum velocity of 2.5–fps;
3. Disposal of flushing water shall be routed to a safe discharge point. The Contractor shall be responsible for controlling the discharge of flushing water to a safe discharge point including but not limited to, energy dissipators, diking, berms, and erosion control;
4. Disposal of chlorinated water shall include neutralizing the water by the use of sodium ascorbate, ascorbic acid or other approved means prior to release to receiving waters;
5. The water in the pipeline shall be brought to a concentration of 25–mg/l;
6. Slug disinfection shall only be used with the express prior written permission of the Engineer;
7. The Contractor shall be responsible for providing a means of injecting disinfectant to the pipelines including but not limited to, tablet chlorination or direct feed hypochlorite injection.
8. If the Contractor opts for direct feed of hypochlorite, the Contractor shall construct a chlorination tap in accordance with Std. Plan No. 3–05, Chlorination Tap of the Wy'east Engineering Standard Specifications and Standard Plans;
9. The chlorinated solution shall be held in the pipeline a minimum of 24–hours and a maximum of 48–hours with the permission of the Engineer;
10. Upon completion of the residence time, the pipeline shall be thoroughly flushed prior to sampling for bacteriological analysis;
11. Flushing and disinfection shall be so scheduled that samples may be taken by the Engineer no later than 1200 for delivery to the laboratory;
12. No samples will be taken for analysis after 1200, Thursday except for emergency conditions;
13. The pipeline shall not be put into service until a satisfactory result is obtained from laboratory analysis.

FLUSHING AND DISINFECTION

Flushing and Disinfection Notes

Standard Plan No. 3–15.01

DESIGN:	DRA	DATE: 8/17
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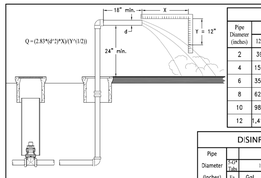

APPROXIMATE FLOW (GPM) Y = 12–inches

Pipe Diameter (inches)	X (Inches)											
	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"	32"	34"	36"
2	39	46	52	59	65	72	78	85	91	98	105	111	118
4	157	183	209	235	261	288	314	340	366	392	418	444	471
6	353	412	471	529	588	647	706	765	823	882	941	1,000	1,059
8	627	732	837	941	1,046	1,150	1,255	1,359	1,464	1,569	1,673	1,778	1,882
10	980	1,144	1,307	1,471	1,634	1,797	1,961	2,124	2,287	2,451	2,614	2,778	2,941
12	1,412	1,647	1,882	2,118	2,353	2,588	2,823	3,059	3,294	3,529	3,765	4,000	4,235

DISINFECTANT REQUIRED PER 100–lf OF PIPE (25–mg/l)

Pipe Diameter (inches)	TCP Tab. Ea.	Disinfectant Concentration (Percent)							
		12.5		1.25		1.0		0.8	
		Gal.	Liter	Gal.	Liter	Gal.	Liter	Gal.	Liter
4	1	0.0128	0.0485	0.0305	0.1155	0.1600	0.6057	0.2000	0.7571
6	1	0.0288	0.1090	0.0686	0.2597	0.3600	1.3627	0.4500	1.7034
8	2	0.0520	0.1968	0.1238	0.4686	0.6500	2.4605	0.8125	3.1892
10	3	0.0816	0.3089	0.1943	0.7355	1.0200	3.8611	1.2750	4.8264
12	4	0.1152	0.4361	0.2743	1.0383	1.4400	5.4510	1.8000	6.8137
16	7	0.2080	0.7874	0.4952	1.8745	2.6000	9.8421	3.2500	12.3026

* Tablets/20–lf pipe spool based on 3.25–g available Cl per tablet

ASCORBIC ACID NEUTRALIZER REQUIRED PER 100–LF

Pipe Diameter (inches)	Flushing (2.5–lbs) (gms)	Disinfectant Concentration (Percent)									
		1.0		2.0		5.3		10.0		25.0		50.0	
		Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)
4	100	0.0128	0.04	0.0325	0.07	0.0305	0.18	0.1600	0.37	0.1600	0.92	0.1600	1.83
6	220	0.0288	0.08	0.0686	0.16	0.0686	0.40	0.3600	0.81	0.3600	2.02	0.3600	4.03
8	400	0.0520	0.15	0.1238	0.29	0.1238	0.73	0.6500	1.47	0.6500	3.67	0.6500	7.33
10	625	0.0816	0.23	0.1943	0.46	0.1943	1.15	1.0200	2.29	1.0200	5.73	1.0200	11.46
12	900	0.1152	0.33	0.2743	0.66	0.2743	1.65	1.4400	3.30	1.4400	8.25	1.4400	16.50
16	1600	0.2080	0.59	0.4952	1.17	0.4952	2.93	2.6000	5.87	2.6000	14.67	2.6000	29.33

SODIUM ASCORBATE NEUTRALIZER REQUIRED PER 100–LF

Pipe Diameter (inches)	Flushing (2.5–lbs) (gms)	Disinfectant Concentration (Percent)									
		1.0		2.0		5.3		10.0		25.0		50.0	
		Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)	Lb./170–lf	Feed (gms)
4	100	0.0128	0.04	0.0325	0.09	0.0305	0.22	0.1600	0.43	0.1600	1.08	0.1600	2.17
6	220	0.0288	0.10	0.0686	0.19	0.0686	0.48	0.3600	0.95	0.3600	2.38	0.3600	4.77
8	400	0.0520	0.17	0.1238	0.35	0.1238	0.87	0.6500	1.73	0.6500	4.33	0.6500	8.67
10	625	0.0816	0.27	0.1943	0.54	0.1943	1.35	1.0200	2.71	1.0200	6.77	1.0200	13.54
12	900	0.1152	0.39	0.2743	0.78	0.2743	1.95	1.4400	3.90	1.4400	9.75	1.4400	19.50
16	1600	0.2080	0.69	0.4952	1.39	0.4952	3.47	2.6000	6.93	2.6000	17.33	2.6000	34.67

FLUSHING AND DISINFECTION

Flushing and Disinfection Tables

Standard Plan No. 3–15.02

DESIGN:	DRA	DATE: 8/17
CAD:	DRA	DATE: 8/17
CHECKED:	DRA	DATE: 8/17
APPROVED:	DRA	DATE: 8/17

Revisions

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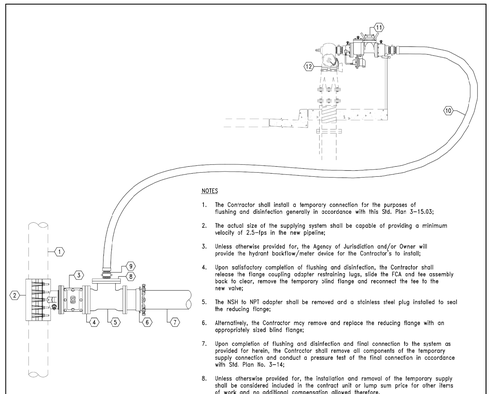

MECHANICAL SCHEDULE

ID	DESCRIPTION
1	(E)Waterline (Size as shown on Project Plans)
2	ANWA Tee, Hot Tap Tee or Saddle Tee
3	New valve (gate or butterfly) as provided for on the Project Plans
4	Temporary Blind Flange
5	New Tee (Size as shown on Project Plans – All Flange)
6	(N)Flange Coupling Adapter (Size as shown on Project Plans – Romac Series RFCA, HTMAX Grip or approved substitute)
7	(N)Waterline (Size as shown on Project Plans)
8	Stainless Steel Reducing Flange (Size as shown on Project Plans)
9	(N)MSH to NPT adapter
10	Temporary Fire Hose Connection (3"ø min.)
11	Hydrant backflow device and meter (Supplied by Agency of Jurisdiction)
12	(E)Fire Hydrant

FLUSHING AND DISINFECTION

Temporary Supply Connection for Flushing and Disinfection

Standard Plan No. 3–15.03

DESIGN:	DRA	DATE: 8/17
CAD:	DRA	DATE: 8/17
CHECKED:	DRA	DATE: 8/17
APPROVED:	DRA	DATE: 8/17

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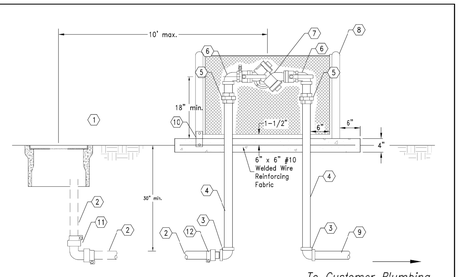

To Customer Plumbing

MECHANICAL SCHEDULE

ID	DESCRIPTION
1	Standard Domestic Water Service per Standard Plan No. 3–01
2	Polyethylene tubing (SDR 9) (Size as shown on Project Plans)
3	90° Bronze Ell (Size as shown on Project Plans)
4	Brass or bronze pipe (GIP Size) (Size as shown on Project Plans)
5	Bonze union (GIP Size) (Size as shown on Project Plans)
6	90° bronze street ell (GIP Size) (Size as shown on Project Plans)
7	Reduced pressure principal backflow prevention assembly (FEBCO 825Y or approved substitute)
8	GuardShack Enclosure (GS–3) with FrostGuard blanket
9	Customer plumbing
10	Hinge detail as shown on Standard Plan No. 3–18, Sheet 2 of 2
11	90° Pack Joint Ell (Ford L66 Series)
12	Pacx Joint Coupling (PJxMIPT) (Ford C68 Series)

3/4–INCH TO 2–INCH REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY

Standard Plan No. 3–16

DESIGN:	DRA	DATE: 8/17
CAD:	DRA	DATE: 8/17
CHECKED:	DRA	DATE: 8/17
APPROVED:	DRA	DATE: 8/17

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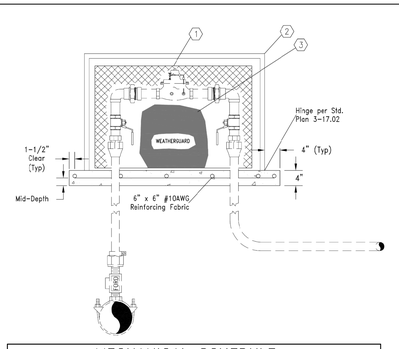

MECHANICAL SCHEDULE

ID	DESCRIPTION
1	Pipe Assembly (PRV, Backflow Prevention, Meter, etc.)
2	Pipe Assembly Enclosure (GuardShack Model as required)
3	Weatherguard Insulating Blanket

PIPE ASSEMBLY ENCLOSURE

General Layout and Dimensions

Standard Plan No. 3–17.01

DESIGN:	DRA	DATE: 8/17
CAD:	DRA	DATE: 8/17
CHECKED:	DRA	DATE: 8/17
APPROVED:	DRA	DATE: 8/17

Revisions

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Revision | Date:

Chemeketa Park Mutual Water Company
Tank Replacement Project
Standard Plans Sheet 4

PROFESSIONAL ENGINEER — No. 67457 — Exp. 6/30/24 — CIVIL — STATE OF CALIFORNIA

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Nipomo, California 93444
(831)443–5514 ~ (Mobile)594–2660

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588 95044
Los Gatos, California
(650)859–1833

Date: 8/23
Scale: None
Drawn: DRA
Job: 22–002
Sheet SP–4 of 27

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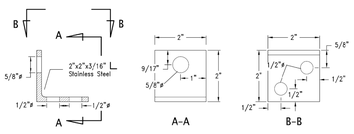
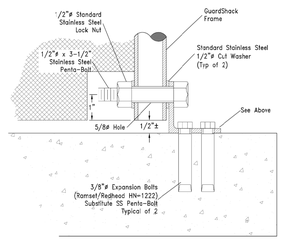


HINGE BRACKET DETAIL



NOTE

Guardshack standard stainless steel hardware kits may be substituted for the detail shown herein.

All anchor bolts, eye bolts, washers and hinge pins shall be Type 304 stainless steel minimum.

All exposed bolts, including anchor bolts and hinge pins shall be penta-head tamperproof style.

PIPE ASSEMBLY ENCLOSURE ~ Hinge Details	Standard Plan No. 3-17.02
DESIGN: DRA DATE: 8/17	Wy'east Engineering
CAD: DRA DATE: 8/17	1245 Kari Lane ~ Nipomo, California 93444
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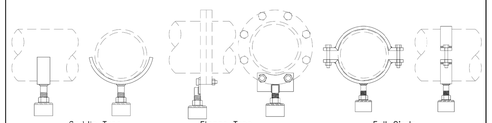
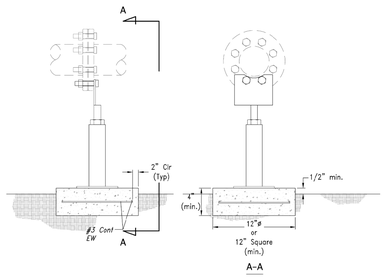
NOTES

1. The type of pipe support shall be as provided for on the Project Plans;
2. Pipe supports shall be factory fabricated;
3. No field fabricated supports shall be used;
4. Unless otherwise specified, all materials shall be A36 galvanized steel designed and tested to a minimum compressive load of 10,000-lbs;
5. Risers shall be fabricated of 2"ø Galvanized Iron Pipe;
6. Stainless steel (Type 304) may be substituted for GIP pipe, fittings and galvanized plate wherever shown hereon;
7. The pipe support shall be bolted to the concrete slab or pad with 4-ea. 3/8"ø stainless steel expansion anchors (Red Head WW-3825);
8. The pipe support may be pointed to match the assembly being supported.





PIPE SUPPORT DETAILS ~ Stand Type Support	Standard Plan No. 3-18.01
DESIGN: DRA DATE: 8/17	Wy'east Engineering
CAD: DRA DATE: 8/17	1245 Kari Lane ~ Nipomo, California 93444
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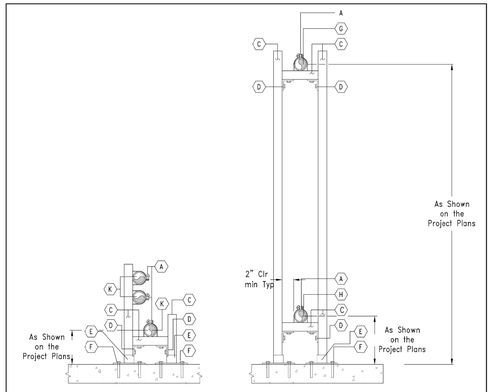

PIPE SUPPORT MECHANICAL SCHEDULE	
ID	DESCRIPTION
A	Pipe Clamp (Cooper B-Line Series B2000) (Where Shown on Project Plans)
B	Carrier Pipe or Conduit (Size As Shown on Project Plans)
C	Support Strut (Cooper B-Line B22)
D	Angle Bracket (Cooper B-Line B230)
E	Base Plate (Cooper B-Line B27850)
F	3/8"ø x 2-3/4" Stainless Steel Expansion Anchor (Red Head WW-3826 Typ of 4 per Base Plate)
G	Carrier Pipe or Conduit (Size As Shown on Project Plans)
H	Carrier Pipe or Conduit (Size As Shown on Project Plans)
J	Carrier Pipe or Conduit (Size As Shown on Project Plans)
K	Carrier Pipe or Conduit (Size As Shown on Project Plans)

NOTES

1. All pipe support materials shall be hot-dip galvanized A36 steel unless stainless steel is provided for on the Project Plans;
2. All field cut strut ends shall be liberally coated with an acrylic based sacrificial zinc coating (CRC Zinc-It Instant Cold Galvanize or approved substitute).

PIPE SUPPORT DETAILS ~ Alternative Pipe Supports	Standard Plan No. 3-18.02
DESIGN: DRA DATE: 8/17	Wy'east Engineering
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NOTES

1) All work constructing wells shall be in accordance with the State of California Department of Water Resources Bulletin 74-81 and 74-90, the California Waterworks Standards, AWWA A100, the California Electrical Code, and the Wy'east Engineering Standard Specifications and Standard Plans;
2) Unless otherwise provided for, the Contractor shall acquire the requisite permits from the Agencies of Jurisdiction prior to commencing work on the well construction and keep the permit on-site during well construction;
3) Specific details of well construction including but not limited to, final depth, bore diameter, casing and screen selection and intervals, seal depth and filter pack will be determined by the Engineer upon completion of the test well;
4) Final pump selection and related piping and electrical details will be determined by the Engineer upon completion of the well construction and the results of a pump test;
5) Dimensions shown hereon shall be considered the minimum acceptable;
6) No potential entry to the well casing including but not limited to the well casing vent, top of the well casing extension or the electrical and piping penetrations shall be less than 18-inches above finish grade;
7) The Contractor shall ensure that the top of the concrete seal is thoroughly cleaned of all deleterious material and that a firm bond can be made between the seal and the wellhead pedestal concrete;
8) The finish grade surrounding the well shall be graded to drain away from the well and sheet flow from adjacent areas shall be directed away from the well;
9) Livestock and other potentially contaminating activities shall be kept a minimum of 100-feet from the well at all times;
10) Wells and septic systems shall have a minimum clearance of 100-feet from the edge of the bore hole to the edge of any leach line or seepage pit;
11) In-line check valves shall be installed in the drop pipe at intervals not to exceed 200-feet. The non-return valve in the pump shall be considered the first check valve. If the pump is not equipped with a non-return valve, an in-line check valve shall be installed immediately after the adapter spool;
12) The tag line (safety line) shall be fabricated of stainless steel wire rope (6x19 Type 304 minimum). Safe working load shall be no greater than 20-percent of breaking strength. Tag lines shall be sized as follows:

WI = 1.5 x (Wp + Wd + Ww)

Where: WI = Safe Working Load
Wp = Weight of the Pump
Wd = Weight of Drop Pipe
Ww = Weight of Water Column in Drop Pipe (L = Projected dynamic level + 10%)

13) The tag line shall be secured to the pump/motor assembly by shackling the eye to the lifting eye on the assembly. Where a lifting eye is not provided, the tag line shall be attached by forming an eye tightly around the adapter spool such that the eye cannot ride past the first drop pipe coupling under load;
14) The tag line shall be secured to the well seal or discharge plate by shackling the tag line to the pad eye on the seal or plate;
15) Eyes in the tag line shall be formed using swage or wire rope clips in accordance with Standard Plan 4-05, Miscellaneous Wire Rope Details. Alternatively, an eye may be formed by laying up a Flemish Eye splice around the adapter spool with wire rope clips securing the bitter end to the standing part;
16) Care shall be taken such that no part of a wire rope clip, swage or the bitter end of the wire rope contacts the casing and screens during installation and removal of the pump/motor assembly and drop pipe.

WELLHEAD DETAILS - SUBMERSIBLE PUMP ~ Well Construction General Notes	Standard Plan No. 3-19.01
DESIGN: DRA DATE: 8/17	Wy'east Engineering
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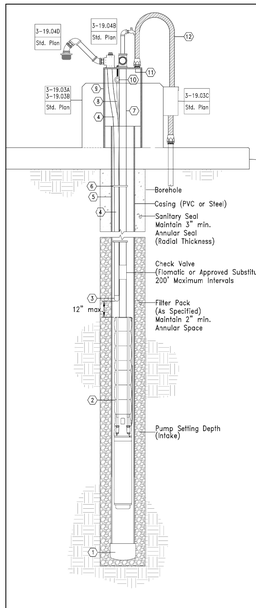

DOWNHOLE MECHANICAL SCHEDULE	
ID	Description
1	Casing Cap
2	Submersible Pump and Motor Assembly
3	Sounding Tube Cap (1"ø min. Sch. 10 or Sch. 40 PVC)
4	PVC Sounding Tube (1"ø min. Sch. 10 or Sch. 40)
	Bore 1/4"ø Holes at 10' min. Intervals and terminate at surface within tee per Standard Plan 3-19.04C
5	Well Casing and Screens
6	Cable Tie or Stainless Steel Strap (10' max. Spacing)
7	Drop Pipe (Certa-Lok, Sch. 120 PVC or approved substitute)
8	Stainless Steel Tag Line (Size as shown on the Project Plans)
9	10"ø Steel Transition Casing per Std. Plan 3-19.03
10	Pad Eye for Tag Line
11	10"ø Expansion Casing Seal
12	Liquid Tight NMC Conduit (CarFlex or approved substitute)
13	~

WELL DETAILS - SUBMERSIBLE PUMP ~ Downhole Details	Standard Plan No. 3-19.02
DESIGN: DRA DATE: 8/17	Wy'east Engineering
CAD: DRA DATE: 8/17	1245 Kari Lane ~ Nipomo, California 93444
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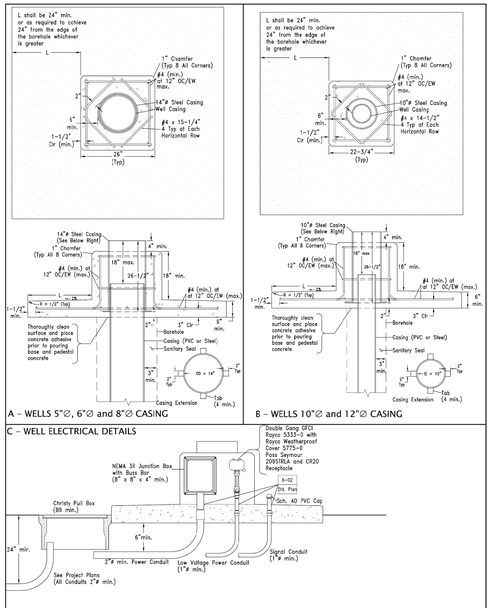
APPROVED: DRA DATE: 8/17	Revisions



WELL DETAILS - SUBMERSIBLE PUMP Well Pedestal Construction and Incoming Electrical Details	Standard Plan No. 3-19.03
DESIGN: DRA DATE: 8/17	Wy'east Engineering
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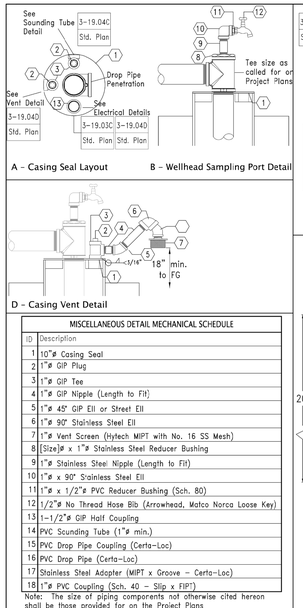
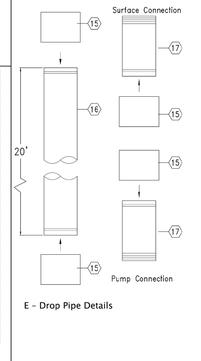
APPROVED: DRA DATE: 8/17	Revisions



MISCELLANEOUS DETAIL MECHANICAL SCHEDULE	
ID	Description
1	10"ø Casing Seal
2	1"ø GIP Plug
3	1"ø GIP Tee
4	1"ø GIP Nipple (Length to Fit)
5	1"ø 45° GIP Ell or Street Ell
6	1"ø 90° Stainless Steel Ell
7	1"ø Vent Screen (Hytech MIPT with No. 16 SS Mesh)
8	[Size]ø x 1"ø Stainless Steel Reducer Bushing
9	1"ø Stainless Steel Nipple (Length to Fit)
10	1"ø x 90° Stainless Steel Ell
11	1"ø x 1/2"ø PVC Reducer Bushing (Sch. 80)
12	1/2"ø No Thread Hose Bib (Arrowhead, Matco Norca Loose Key)
13	1-1/2"ø GIP Half Coupling
14	PVC Sounding Tube (1"ø min.)
15	PVC Drop Pipe Coupling (Certa-Loc)
16	PVC Drop Pipe (Certa-Loc)
17	Stainless Steel Adapter (MIPT x Groove - Certa-Loc)
18	1"ø PVC Coupling (Sch. 40 - Slip x FIPT)

Note: The size of piping components not otherwise cited hereon shall be those provided for on the Project Plans



WELLHEAD DETAILS - SUBMERSIBLE PUMP Wellhead Piping Miscellaneous Details	Standard Plan No. 3-19.04
DESIGN: DRA DATE: 8/17	Wy'east Engineering
CAD: DRA DATE: 8/17	1245 Kari Lane ~ Nipomo, California 93444
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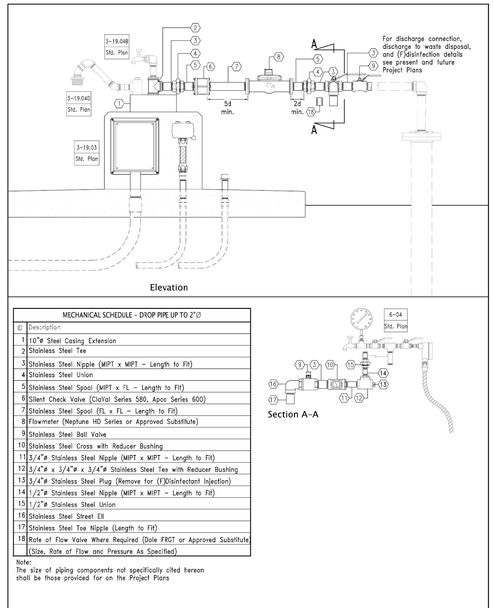
APPROVED: DRA DATE: 8/17	Revisions



MECHANICAL SCHEDULE - DROP PIPE UP TO 2"∅	
ID	Description
1	10"ø Steel Casing Extension
2	Stainless Steel Tee
3	Stainless Steel Nipple (MIPT x MIPT - Length to Fit)
4	Stainless Steel Union
5	Stainless Steel Spool (MIPT x FL - Length to Fit)
6	Silent Check Valve (Ciatal Series 580, Apco Series 600)
7	Stainless Steel Spool (FL x FL - Length to Fit)
8	Flowmeter (Neptune HD Series or Approved Substitute)
9	Stainless Steel Ball Valve
10	Stainless Steel Cross with Reducer Bushing
11	3/4"ø Stainless Steel Nipple (MIPT x MIPT - Length to Fit)
12	3/4"ø x 3/4"ø x 3/4"ø Stainless Steel Tee with Reducer Bushing
13	3/4"ø Stainless Steel Plug (Remove for (F)Disinfectant Injection)
14	1/2"ø Stainless Steel Nipple (MIPT x MIPT - Length to Fit)
15	1/2"ø Stainless Steel Union
16	Stainless Steel Street Ell
17	Stainless Steel Tee Nipple (Length to Fit)
18	Rate of Flow Valve Where Required (Dole FRGT or Approved Substitute (Size, Rate of Flow and Pressure As Specified)

Note:
The size of piping components not specifically cited hereon shall be those provided for on the Project Plans

WELLHEAD DETAILS Wellhead Piping Details Details For Up To 2"ø Drop Pipe	Standard Plan No. 3-19.05
DESIGN: DRA DATE: 8/17	Wy'east Engineering
CAD: DRA DATE: 8/17	1245 Kari Lane ~ Nipomo, California 93444
CHECKED: DRA DATE: 8/17	(831)443-5514 ~ (Mobile)594-2660
APPROVED: DRA DATE: 8/17	Revisions

Revision	Date:

Chemeketa Park Mutual Water Company
Tank Replacement Project
Standard Plans Sheet 5

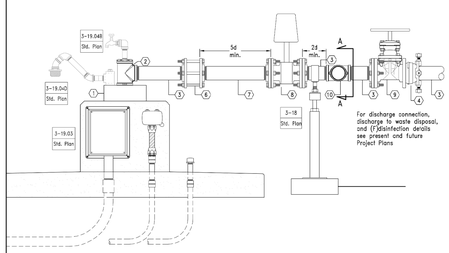
PROFESSIONAL ENGINEER ROBERT D. ELLIS No. 67017 Exp. 9/30/24 CIVIL STATE OF CALIFORNIA

Wy'east Engineering
1245 Kari Lane
Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588 95044
Los Gatos, California
(650)859-1833

Date: 8/23
Scale: None
Drawn: DRA
Job: 22-002
Sheet SP-5 of 27

C:\Chemeketa Park\Sheet SP-5(PR).dwg\Standard Plan Sheet 5



MECHANICAL SCHEDULE - DROP PIPE 3"Ø and 4"Ø	
ID	Description
1	10"ø Casing Seal
2	Stainless Steel Tee
3	Stainless Steel Nipple (MPT x MPT - Length to Fit)
4	Flange Coupling Adapter (EBAA Iron MegaFlange Series 2100))
5	Stainless Steel Spool (MPT x FL - Length to Fit)
6	Silent Check Valve (GA/Val Series 580, Apco Series 600)
7	Stainless Steel Spool (FL x FL - Length to Fit)
8	Flowmeter (Siemens MAG5100 with MAG5000 Transmitter)
9	Gate Valve (FL x FL - NRS with Handwheel)
10	Stainless Steel Cross with Reducer Bushing
11	1"ø Stainless Steel Nipple (MPT x MPT - Length to Fit)
12	1"ø x 1"ø x 1"ø Stainless Steel Tee with Reducer Bushing
13	1"ø Stainless Steel Plug (Remove for (F)Disinfectant Injection)
14	1/2"ø Stainless Steel Nipple (MPT x MPT - Length to Fit)
15	1/2"ø Stainless Steel Union
16	Ductile Iron Ell (FL x FL)
17	Duckbill Check Valve (Tideflex Series 35)

Notes

1. The size of piping compcnents not specifically cited hereon shall be those provided for on the Project Plans
2. Epoxy coated welded steel specials may be substituted for stainless steel and DIP specials and fittings

WELLHEAD DETAILS - SUBMERSIBLE PUMP
Wellhead Piping
Details for 3"ø and 4"ø Drop Pipe Installation

Standard Plan No. 3-19.06

DESIGN:	DRA	BKC	8/17
CAD:	DRA	BKC	8/17
CHECKED:	DRA	BKC	8/17
APPROVED:	DRA	BKC	8/17

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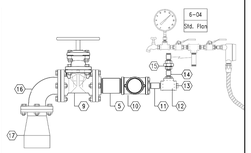
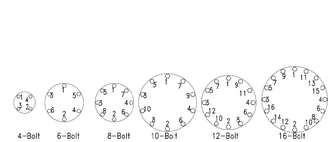
Revisions





AWWA C600 Mechanical Joint T-Bolts			
Pipe Size	Bolt ø	Number	Torque (ft-lb)
3"ø	5/8"ø	4	45-60
4"ø	3/4"ø	4	75-90
6"ø	3/4"ø	6	85-100
8"ø	3/4"ø	6	45-60
10"ø	3/4"ø	8	45-60
12"ø	3/4"ø	8	45-60
14"ø	3/4"ø	10	75-90
16"ø	3/4"ø	10	85-100

Flange Bolt Torque (Pmax = 350-psi)			
Pipe Size	Bolt ø	Number	Torque (ft-lb)
2-3"ø	5/8"ø	4	100
4-8"ø	3/4"ø	8	150
10-14"ø	7/8"ø	12	200
16"ø	7/8"ø	16	250

NOTES

1. Fitting bolts shall be tightened in opposing succession following the pattern shown above;
2. Fitting bolts shall be tightened sequentially in increments not to exceed 20-ft-lb until the desired torque is achieved;
3. Fitting bolts shall not be brought to full torque in one operation;
4. Flange bolt kits shall be Type 304 or Type 316 Stainless Steel unless otherwise noted;
5. Where flanges are of dissimilar metals a flange insulation kit shall be provided;
6. Mechanical joint bolts shall be manufactured manufactured in accordance with AWWA C111;
7. All buried bolts and nuts and those otherwise specified shall be coated with a rubberized bitumastic compound prior to backfilling;
8. Rubberized bitumastic compounds may be Permatex 81833, 3M 3584 T. Christy H50or approved substitute;
9. Bitumastic compounds shall be allowed to cure to tack free before initiating backfilling operations;
10. All bolts threads shall be liberally coated with an anti-sieze compound (Jet-Lube V-2 Multi-Purpose Thread Sealant. Permatex High Performance or approved substitute).

BOLTING OPERATIONS

Standard Plan No. 3-20

DESIGN:	DRA	BKC	8/17
CAD:	DRA	BKC	8/17
CHECKED:	DRA	BKC	8/17
APPROVED:	DRA	BKC	8/17

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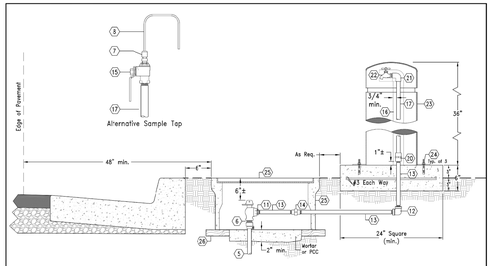

Sampling Station Notes

1. The tap shall be oriented vertically;
2. The depth of the carrier pipe shall be as required to maintain a positive gradient to the sampling station;
3. The sampling station shall be located so as to provide the minimum run from the carrier pipe to the station;
4. The sampling station shall be located 18" behind the curb or not less than 48" from the edge of pavement;
5. The sampling station assembly shall be field located adjacent to the meter box in a location to reduce the risk of vehicular impact;
6. The interior riser shall be wrapped in a 3/4" (min.) closed cell elastomeric foam insulation including 90° fitting (K-Flex InsulTube, K-Fit or approved substitute).

MECHANICAL SCHEDULE	
⑥	DESCRIPTION
1	Carrier Pipe
2	3/4"ø Service Saddle per Std. Plan 3-01
3	3/4"ø Corporation Stop per Std. Plan 3-01
4	3/4"ø x 90° Coupling (PJ x MPT - FORD Meter Box LB4-33)
5	3/4"ø PET (SDR9)
6	3/4"ø Angle Ball Service Valve (FORD Meter Box BA41-33W-NL PJ x FIPT)
7	1/4"ø Stainless Steel Compression Coupling (Comp x MIPT)
8	1/4"ø Stainless Steel Tubing (Length to Fit)
9	~
10	~
11	3/4"ø x 1/2"ø PVC Reducer Bushing (Sch. 80 - MIPT x FIPT)
12	1/2"ø x 90° Brass Ell
13	1/2"ø Brass Nipple (Length to Fit)

MECHANICAL SCHEDULE	
⑥	DESCRIPTION
14	1/2"ø Brass Union
15	1/2"ø Stainless Steel Ball Valve w/1/4"ø Reducer Bushing
16	Elastomeric Foam Insulation (K-flex or approved substitute)
17	1/2"ø PVC Nipple (Sch. 80 (min.) - Length to Fit)
18	1/2"ø x 90° PVC Ell (Sch. 80 (min.) - Slip x FIPT)
19	~
20	1/2"ø PVC Coupling (Sch. 80 (min.) - Slip x FIPT)
21	1/2"ø x 90° PVC Ell (Sch. 80 (min.) - Slip x FIPT)
22	1/2"ø No Thread Hose Bibb (Arrowhead or Mateo Norco)
23	12"ø Sampling Station Enclosure (Armorcast FS000201-Hinged)
24	5/8"ø x 3-1/2" Stainless Steel Anchor Bolt (Strong-Tie SSB 5782-37312655)
25	Meter Box (Christy B16)
26	2" x 4" Redwood Block (Continuous)

SAMPLING STATION

Standard Plan No. 3-21

DESIGN:	DRA	BKC	8/17
CAD:	DRA	BKC	8/17
CHECKED:	DRA	BKC	8/17
APPROVED:	DRA	BKC	8/17

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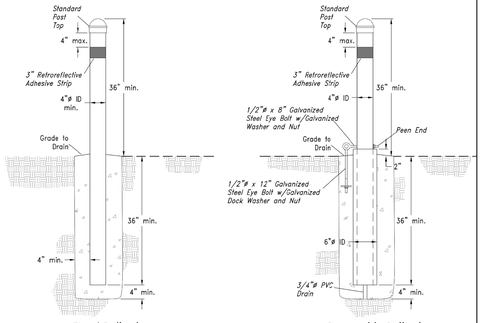
NOTES

1. Bollard shall be fabricated from galvanized iron pipe (GIP), Sch. 40 steel pipe or ductile iron pipe;
2. Bollard shall be a minimum of 4"ø inside diameter
3. Bollards shall be provided with a standard, malleable iron post top;
4. Bollard shall be set a minimum of 36" into concrete post footing;
5. Bollard shall be filled with concrete prior to installing post cap. Removable bollards shall not be concrete filled;
6. Concrete shall be classed as Minor Concrete in accordance with Section 90-1.01, "Description" of the Caltrans Standard Specifications.
7. Bollard shall be painted OSHA Safety Yellow in accordance with Wy'east Engineering Standard Plan 2-01, "Utility Marking Systems";
8. Where provided for in the Contract Documents, the bollard shall be coated with a reflective coating otherwise conforming with said Standard Plan 2-01;
9. Alternatively, where provided for in the Contract Documents, a retroreflective stripe shall be placed around the top of the bollard within 4-inches of the cap and of the color provided for;
10. Where a removable bollard is called for, the Owner will provide a padlock to secure the bollard to the anchor eye bolt.



STANDARD TRAFFIC BOLLARD

Standard Plan No. 4-03

DESIGN:	DRA	BKC	8/17
CAD:	DRA	BKC	8/17
CHECKED:	DRA	BKC	8/17
APPROVED:	DRA	BKC	8/17

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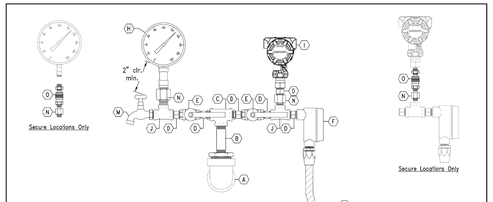
Revisions



MECHANICAL SCHEDULE	
⑫	DESCRIPTION
A	Process Connection w/Stainless Steel Bushings As Required
B	3/4"ø Stainless Steel Nipple (Hex Nipple or Length to Fit)
C	3/4" Stainless Steel Tee w/Stainless Steel Bushings As Required
D	1/2"ø Stainless Steel Nipple (Hex Nipple or Length to Fit)
E	1/2"ø Stainless Steel Ball Valve w/1/4"ø Bushing
F	1/2"ø Aluminum Conduit Body (FIPT x FIPT)
G	1/2"ø Liquid-Tight Flexible Conduit
H	Liquid-Filled Pressure Gauge per Schedule
I	Pressure Transducer per Schedule
J	1/2"ø Stainless Steel Tee w/Bushings as Required
K	~
L	~
M	1/2"ø No Thread Hose Bib (Exterior Locations - Loose Key Model) (Arrowhead 301NTLK, Mateo-Norco FY-691)
N	1/2" Stainless Steel Pulsation dampener for pump installations (Ashcroft 25-1106S, WIKA 4201663 or approved substitute)
O	1/2" Stainless Steel Quick Disconnect (ISO 8150 C Profile) (Parker Series 303 - SST-4W/SST-4AM No Substitute)
P	~

Notes

1. The configuration shown hereon may be adapted to fit field conditions;
2. All materials in contact with potable water shall be lead free and NSF 61, Annex G or NSF 372 certified;
3. Sampling hose bib or tubing shall not have threads on the outlet;
4. Gauges for monitoring gravity tank levels shall be equipped with a dual reading dial marked in gpig and feet of water;
5. Gauge as provided for in Project Plans;
6. Gauge for use in tank shall be WIKA model 233.34, Ashcroft 127845 or approved substitute;
7. Gauges for use in monitoring system pressure shall be WIKA model 213.53, Ashcroft 1010 or approved substitute;
8. Pressure transducers shall be provided with a 1/2"ø MPT electrical end and 3' pigtail for connection to a conduit body and signal conductors;
9. Pressure transducers shall be provided with a 1/4"ø MPT process connection;
9. Connection to process equipment including tanks shall include such bushings, adapters and fittings as may be required. The cost of pressure transducer assemblies and such bushings, adapters and fittings shall be considered as included in and incidental to the contract price for other items of work and no additional compensation will be allowed therefore unless otherwise specified.

TRANSDUCER AND GAUGE SCHEDULE

APPLICATION	Ashcroft		WIKA		Rosemount
	Gauge	Transducer	Gauge	Transducer	Transducer
a Gravity Tank H = 0-15'	127845	A2-S-4-MG4-E2-10ø-C-XK8	233.34	S-10-A-P-CF-ND-ZG2XYA2-ZZZ	100-10-2-1-6
b Gravity Tank H = 0-23'	127845	A2-S-4-MG4-E2-15ø-C-XK8	233.34	S-10-A-P-BC-ND-ZG2XYA2-ZZZ	100-15-2-1-6
c Gravity Tank H = 0-35'	127845	A2-S-4-MG4-E2-15ø-C-XK8	233.34	S-10-A-P-BC-ND-ZG2XYA2-ZZZ	100-15-2-1-6
d Gravity Tank H = >35'	127845	Range As Specified	233.34	Range As Specified	Range As Specified
e System Pressure P = 0-50 psig	1010	A2-S-4-MG4-E2-100ø-C-XK8	213.53	S-10-A-P-BF-ND-ZG2XYA2-ZZZ	100-100-2-1-6
f System Pressure P = 0-100 psig	1010	A2-S-4-MG4-E2-200ø-C-XK8	213.53	S-10-A-P-BH-ND-ZG2XYA2-ZZZ	100-200-2-1-6
g System Pressure P = 0-150 psig	1010	A2-S-4-MG4-E2-300ø-C-XK8	213.53	S-10-A-P-BJ-ND-ZG2XYA2-ZZZ	100-300-2-1-6
h System Pressure P = 0-200 psig	1010	A2-S-4-MG4-E2-500ø-C-XK8	213.53	S-10-A-P-DJ-ND-ZG2XYA2-ZZZ	100-500-2-1-6
i System Pressure P = 0-300 psig	1010	A2-S-4-MG4-E2-500ø-C-XK8	213.53	S-10-A-P-DJ-ND-ZG2XYA2-ZZZ	100-500-2-1-6

PRESSURE TRANSDUCER ASSEMBLIES

Standard Plan No. 6-04

DESIGN:	DRA	BKC	8/17
CAD:	DRA	BKC	8/17
CHECKED:	DRA	BKC	8/17
APPROVED:	DRA	BKC	8/17

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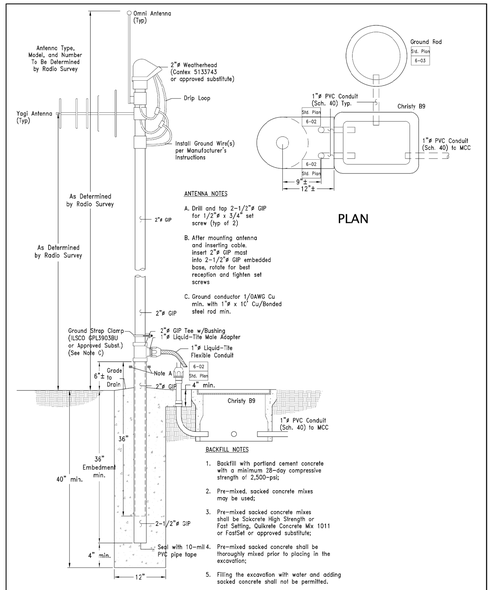
Revisions
4/18 Revise transducer and gauge schedule



ANTENNA NOTES

A. Drill and tap 2-1/2"ø GIP for 1/2"ø x 3/4" set screw (Typ of 2)

B. After mounting antenna and inserting cable, insert 2"ø GIP mast into 2-1/2"ø GIP embedded base, rotate for best reception and tighten set screws

C. Ground conductor 1/0AWG Cu min. with 1'ø x 10' Cu/Bonded steel rod min.

PLAN

BACKFILL NOTES

1. Backfill with portland cement concrete with a minimum 28-day compressive strength of 2,500-psi;
2. Pre-mixed, sacked concrete mixes may be used;
3. Pre-mixed sacked concrete mixes shall be Sakcrete High Strength or Fast Setting, Quikrete Concrete Mix 1011 or FastSet or approved substitute;
4. Pre-mixed sacked concrete shall be thoroughly mixed prior to placing in the excavation;
5. Filling the excavation with water and adding sacked concrete shall not be permitted.

ELEVATION

ANTENNA DETAILS

Standard Plan No. 6-05

DESIGN:	DRA	BKC	8/17
CAD:	DRA	BKC	8/17
CHECKED:	DRA	BKC	8/17
APPROVED:	DRA	BKC	8/17

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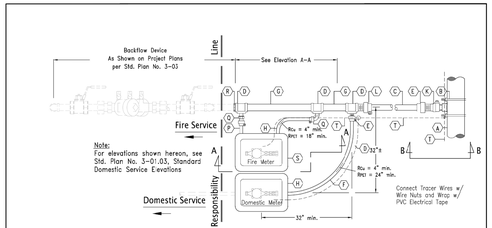
Revisions



MECHANICAL SCHEDULE	
⑫	DESCRIPTION
A	Water Main
B	2"ø Bronze Service Saddle (Ford Series 202B or 202BSS - 2"ø FIPT Outlet)
C	2"ø Service Tubing (PET or Cu Type K)
D	2"ø x 2"ø x 2"ø Brass Tee w/Bushings as required or 2"ø x 2"ø x Size Brass Tee
E	Coupling (Ford CB4-44-NL (1"ø PJ x 1" MIPT))
F	1"ø Service Tubing (PET or Cu Type K)
G	2"ø Brass Nipple (Length cs Required - 4" min.)
H	5/8"ø x 3/4"ø Domestic Meter Installation per Standard Plan No. 3-02
J	2"ø Brass Ball Valve or Ball Valve Curb Stop (Ford B11-777 (FIPT x FIPT))
K	2"ø Ball Type Corporation Stop (Ford FB1100-7-NL (MIPT inlet x FIPT Outlet))
L	Coupling (Ford CB4-44-NL (2"ø PJ x 2" MIPT))
M	3/4"ø Angle Valve Curb Stop (Ford BA43-332W (PJ x 5/8"/3/4" Meter))
N	3/4"ø Angle Cartridge Dual Check Valve (Meter Swivel x PJ - Ford HHCA34-323)
O	~
P	3/4"ø Service Tubing (PET or Cu Type K)
Q	Coupling ((3/4"ø PJ x 3/4" MPT) Ford CB4-3-NL or LB4-34-NL)
R	2"ø PVC Pipe Plug Hand Tight Until Service Is Extended
S	Meter Box (Christy B9) w/5/8" x 3/4" Meter; Location per Standard Plan No. 3-02
T	#14AWG Cu Tracer Wire (THHN or THWN)
U	5/8"ø x 3/4"ø Meter (Supplied and Installed by Water Agency)
Y	~

NOTES

1. Field verify pipe size and type;
2. All buried fittings shall be liberally coated with a bitumastic compound (Permatex 81833, 3M 3584, T. Christy H050 or approved subsitute);
3. Overall length to fit;
4. All work left of the Responsibility Line shall be the responsibility of the Customer to install and maintain in accordance with Agency Standards.

STANDARD DOMESTIC COMBINATION SERVICE
2-inch Fire or Irrigation and Domestic Combined Installation
Above Grade Backflow Device Installation

Standard Plan No. 3-01.02

DESIGN:	DRA	BKC	8/17
CAD:	DRA	BKC	8/17
CHECKED:	DRA	BKC	8/17
APPROVED:	DRA	BKC	8/17

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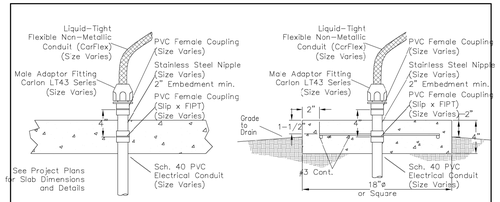

CONDUIT RISER NOTES

1. All work shall be done in accordance with the California Electrical Code, the California Building Code, the Wy'east Engineering Standard Specifications and Standard Plans and these details;
2. Liquid Tight Flexible Metallic Conduit (Type LFMC) with appropriate fittings shall be substituted for Liquid Tight Non-metallic Conduit (Type LFNC) in installations where the conduit is exposed to an increased risk of damage;
3. Stainless steel nipples shall be a minimum of Type 304;
4. These conduit riser details shal be used for both electrical power and signal conductor installations connecting equipment and instrumentation as provided for on the Project Plans.
5. Conduit riser construction shall be considered as incidental to other unit or lump sum items of work unless otherwise specified. The cost of fittings, adapters, nipples, pad construction, conduit and conductors shall be considered as included in and incidental to the contract unit or lump sum price for other items of work and no additional compensation will be allowec therefore unless otherwise specified.

CONDUIT RISER DETAILS
~
~

Standard Plan No. 6-02

DESIGN:	DRA	BKC	8/17
CAD:	DRA	BKC	8/17
CHECKED:	DRA	BKC	8/17
APPROVED:	DRA	BKC	8/17

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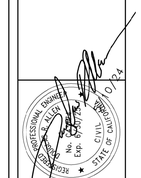
Revisions

Chemeketa Park Mutual Water Company
Tank Replacement Project
Standard Plans Sheet 6

Revision | Date:



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1245 Kari Lane
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(831)443-5514 ~ (Mobile)594-2660

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 8/23
Scale: None
Drawn: DRA
Job: 22-002
Sheet SP-6 of 27

C:\Chemeketa Park\Sheet SP1.SP6.dwg\Standard Plan Sheet 6

A – ALL CONSTRUCTION SITES

1. Delineate clearing limits, sensitive or critical areas, trees, drainage courses and buffer zones to prevent excessive or unnecessary disturbance and exposure of soils;
2. Identify all storm drains, drainage swales and creeks located near the construction site and make sure all subcontractors are aware of their locations to prevent pollutants from entering them;
3. Preserve existing vegetation, where required and when feasible to the maximum extent practicable;
4. Phase grading operations, to the extent possible, to limit areas of disturbance and time of exposure;
5. Avoid and/or minimize impacts of excavation and grading during wet weather and immediately preceding expected wet weather;
6. Minimize cuts and fills;
7. Implement measures to minimize erosion, manage storm water runoff and prevent pollutants generated by construction activities from entering storm drains;
8. Align temporary and permanent roads and driveways along slope contours;
9. Wash vehicles at an appropriate off-site facility. If equipment must be washed on site, use wash down areas developed for specific site requirements and approved by the Agency of Jurisdiction. Do not use soaps, solvents, degreasers or steam cleaning equipment and prevent wash water from entering storm drains.

B – MINIMIZE SOILS MOVEMENT

1. Stockpiled soil and materials shall be covered and stabilized with tarps, geotextile fabric, hydroseeding and/or erosion control blankets;
2. Create a berm and/or install silt fencing around stockpiled materials to prevent storm water runoff from transporting sediment offsite;
3. As appropriate, use the applicable standards of the Agency of Jurisdiction for erosion control seeding, planting, mulching, geotextile fabric and/or erosion control blankets to stabilize disturbed soil and reduce the potential for erosion;
4. Use other soil stabilizers as approved by the Agency of Jurisdiction.

C – STRUCTURES TO CONTROL AND CONVEY RUNOFF

1. Convey runoff by the use of earthen dikes, drainage swales and/or ditching where feasible;
2. Use slope drains to collect and convey water for discharge below slopes where feasible;
3. Use velocity dissipation devices, flared culvert end section and/or check dams to reduce runoff velocity and mitigate erosion where feasible.

D – CAPTURE SEDIMENT

1. Use terracing, riprap, sand bags, rocks, approved temporary vegetation and/or other approved BMPs on slopes to reduce runoff velocity and trap sediments. Asphalt rubble or other demolition debris shall not be used for this purpose;
2. Protect storm drain inlets from sediment-laden runoff. Storm drain inlet protection devices shall include but not be limited to, gravel filled san bags, filter fences and block and gravel filters.

E – OTHER RUNOFF CONTROLS

1. Other approvable runoff controls shall include but not be limited to:

   Temporary sediment basins;
   Sediment trap;
   Brush or rock filters;
   Silt fencing;
   Sand or gravel bag barriers.

EROSION CONTROL – BEST MANAGEMENT PRACTICES
General Notes ~ Minimize Soil Movement
Structures to Control and Convey Runoff ~ Sediment Capture

Standard Plan No. 2-04.01A

DESIGN:	DRA	MKE 4/21
DAD:	DRA	MKE 4/21
CHECKED:	DRA	MKE 4/21
APPROVED:	DRA	MKE 4/21

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Revisions

F – TRACKING CONTROL

1. Implement measures as necessary to minimize tracking of soil offsite;
2. Use dry sweeping methods when cleaning sediments from streets, driveways and paved areas by hand;
3. When using mechanical sweepers, use a fine water spray to reduce dust and improve sediment removal while minimizing runoff.

G – PAINT WORK

1. Cleaning paint brushes and/or rinsing paint containers shall be done in such a manner as to prevent entry of pollutants into a street, gutter, storm drain or stream course;
2. For water-based paints, paint out brushes, rollers and other application equipment to the extent possible and rinse to a drain connected to a sanitary sewer;
3. For oil-based paints, paint out brushes, rollers and other application equipment to the extent possible, insofar as possible recover and reuse solvents and thinners and dispose of unusable thinners and thinners as a hazardous waste;
4. Non-hazardous paint chips and dust from dry stripping and sand blasting may be swept up, vacuumed or collected on plastic drop clothes and disposed of as trash;
5. Chemical pain stripping residue and chips and dust from marine paints and/or paints and coating containing lead or tributyl shall be disposed of as a hazardous material;
6. Tin shall be disposed of as a hazardous material;
7. When stripping or cleaning of building exteriors with high-pressure water, all storm drain inlets shall be covered or protected by berms to prevent runoff of pollutants into storm drains;
8. Collect all residual water from such cleaning operations by vacuuming, mopping or such other methods as may be feasible and dispose of appropriately for the materials in the residual water;
9. All unused water-based (latex) paints shall be returned to the supplier or recycled to projects requiring such materials;
10. Dried water-based (latex) paint may be disposed of as trash.

EROSION CONTROL – BEST MANAGEMENT PRACTICES
General Notes
Trocking Control ~ Paint Work

Standard Plan No. 2-04.01B

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Wy'east Engineering
1245 Kari Lane ~ Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

Revisions

H – CEMENT AND CONCRETE WORK

1. Avoid mixing excessive amounts of fresh concrete, mortar or other cementious materials
2. Store dry and wet concrete, mortar, and other cementious materials under cover and protected from raintall and runoff;
3. Wash out concrete transit mix trucks, buggies, wheelbarrows and other concrete or mortar covered materials in a designated washout area;
4. Wherever possible, recycle washout by pumping back into mixers for reuse;
5. Washout shall not be allowed to enter streets, storm drains, drainage ditches or stream courses;
6. Designated washout areas shall be maintained to prevent overflow;
7. Wherever possible, return surplus contents of transit mix trucks to the supplier for disposal;
8. Dispose of small amounts of excess concrete, mortar and cementious materials as non-hazardous trash.

I – ROADWORK AND PAVEMENT

1. Construct concrete and asphalt pavements and pavement seal coats during dry weather to prevent contaminants from washing into storm drains or stream courses;
2. All storm drain inlets and manholes shall be covered or otherwise protected to prevent paving or seal coat materials from entering storm drains and, ultimately, stream courses;
3. All vehicles and equipment shall be parked or stored in such a manner or location that any leaks from tanks, oil pans, hydraulic equipment and similar sources shall be fully contained and properly disposed of. Approved methods shall include but be limited to, drip pans, absorbent pads and enclosed areas with full control of drainage to prevent loss of such fluids to storm drains and stream courses;
4. The minimum amount of water shal be used during sawcutting and all runoff from sawcutting shall be prevented from entering storm drains or stream courses;
5. All residue from sawcutting shall be collected and removed from the site;
   Exposed aggregate surfaces shall be washed down in such a manner that all wash water routes to an unimproved dirt area; a bermed surface from which the wash water and sediment can be pumped and disposed of properly; or, other catchment from which the wash water, with sediment can be pumped and disposed of properly;
6. If allowed by the local Agency of Jurisdiction, wash water may be ponded to permit settlement of solids and then pumped to a sanitary sewer. Residual solids shall then be disposed of
7. Residual solids shall be collected and disposed of in an aggregate stockpile or disposed of as
8. All broken concrete and asphalt, including grindings, shall be recycled.

EROSION CONTROL – BEST MANAGEMENT PRACTICES
General Notes
Cement and Concrete Work ~ Roadwork and Pavement

Standard Plan No. 2-04.01C

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1245 Kari Lane ~ Nipomo, California 93444
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J. HAZARDOUS MATERIAL SPILL PREVENTION, SPILL REPORTING AND RESPONSE

1. All hazardous materials shall be so stored that they are protected from inclement weather, inadvertent loss or vandalism;
2. Motor vehicles shall not be fueled on-site;
3. Spill containment measures shal be implemented as appropriate when fueling equipment other than over-road vehicles;
4. Vehicle and equipment repairs other than emergency repairs snall not be performed on-site;
5. Spills greater than 1-quart shall be immediately reported to the Agency of Jurisdiction and diked or otherwise contained to prevent loss of hazardous materials to storm drains or stream
6. Spills of less than 5-gallons shall be absorbed using appropriate materials and disposed of as hazardous materials in an approved site;
7. Any contaminated soils shall be removed and disposed of as hazardous materials;
8. Contaminated soils shall be replaced with clean native materials as necessary;
9. All spill response shall be carried out by appropriately trained personnel using approved practices. Where spill exceed the capabilities of the contractor, a state licensed hazardous waste contractor shall be retained to conduct all spill response activities.

K. GOOD HOUSEKEEPING PRACTICES

1. Pavement or surfaces where silt has been deposited or other materials spilled shall be cleaned using dry methods;
2. Berms or other approved temporary measures shall be used to prevent contaminating clean runoff from areas adjacent to the work site;
3. As appropriate, clean runoff from adjacent sites shall be routed around the works site by the use of ditching, pipelines, pumping or other methods as approved by the Agency of Jurisdiction;
4. Cover all exposed stockpiles of soils, construction materials and waste materials with plastic sheeting or temporary covered structures prior to any anticipated precipitation event and maintain such cover throughout such events;
5. All surfaces shall be thoroughly swept and cleaned to prevent introduction of materials into storm drains or stream courses prior to an anticipated precipitation event;
6. Trash receptacles shall be strategically placed throughout the work site for disposal of non-hazardous materials;
7. Solid trash receptacles shall be emptied into non-hazardous disposal containers such as dumpsters periodically as necessary;
8. All materials that cannot be reused or recycled shall be transported to an appropriate landfill;
9. All hazardous materials shall be collected and disposed of as appropriate for the materials;
10. All trash containers, both non-hazardous and hazardous, shall be covered to prevent introduction of precipitation or distribution of materials by wind and maintained throughout the course of the work;
11. All employees shall be trained in these Best Management Practices and all subcontractors shall be informed of, and, as necessary, trained in, these Best Management Practices.

EROSION CONTROL – BEST MANAGEMENT PRACTICES
General Notes ~ Hazardous Material Spill Prevention, Spill Reporting and Response
Good Housekeeping Practices

Standard Plan No. 2-04.01D

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1245 Kari Lane ~ Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

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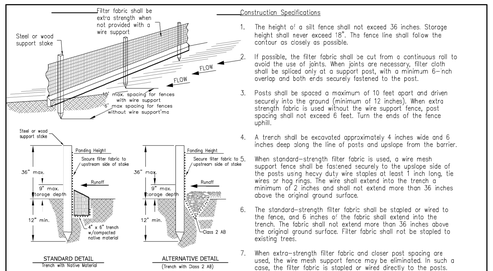

Construction Specifications

1. The height of a silt fence shall not exceed 36 inches. Storage height shall never exceed 18". The fence line shall follow the contour as closely as possible.
2. If possible, the filter fabric shall be cut from a continuous roll to avoid the use of joints. When joints are necessary, filter cloth shall be spliced only at a support post, with a minimum 6-inch overlap and both ends securely fastened to the post.
3. Posts shall be spaced a maximum of 10 feet apart and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet. Turn the ends of the fence uphill.
4. A trench shall be excavated approximately 4 inches wide and 6 inches deep along the line of posts and upslope from the barrier.
5. When standard-strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.
6. The standard-strength filter fabric shall be stapled or wired to the fence, and 6 inches of the fabric shall extend into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
7. When extra-strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts.
8. The trench shall be backfilled and the soil compacted over the toe of the filter fabric.
9. Silt fences placed at the toe of a slope shall be set at least 6 feet from the toe in order to increase ponding volums.
10. Silt fences shall be removed when they have served their ussful purpose, but not before the upslope area has been permanently stabilized, and any sediment stored behind the silt fence has been removed.

Inspection and Maintenance Notes

1. Inspect and repair fence weekly and after each storm event and and remove accumulated sediment as necessary to prevent damage to the fence;
2. Accumulated sediment shal be removed whenever it reaches a height of 1/3 the fence height or 9" whichever is the lesser, and method as may be appropriate;
3. Removed sediment shall be incorproated into non-structural eathwork on-site or such other location and method as may be appropriate;
4. The silt fence shall be placed on slope contours in such a manner as to maximize ponding efficiency.

EROSION CONTROL – SILT FENCING
Second Title
Third Title

Standard Plan No. 2-05

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(831)443-5514 ~ (Mobile)594-2660

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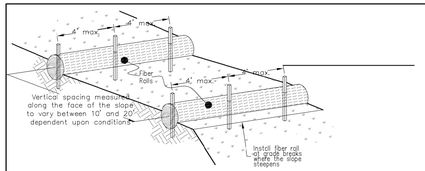

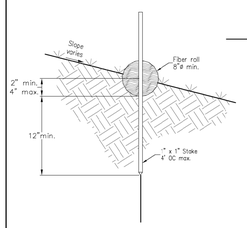

CONSTRUCTION SPECIFICATIONS

1. Locate fiber rolls on level contours spaced as follows:
   Slope inclination of 4:1 (H:V) or flatter:
   Fiber rols shall be placed at a maximum interval of 20 ft.;
   Slope inclination between 4:1 and 2:1 (H:V):
   Fiber rols shall be placed at a maximum interval of 17 ft.;
   Slope inclination of 2:1 (H:V) or greater:
   Fiber rols shall be placed at a maximum interval of 10 ft.
2. The ends of the fiber roll shall be turned up slope to prevent runoff from going around the end of the roll;
3. Fiber rolls shall be staked into a 2 to 4 in. deep trench with a width equal to the diameter of the fiber roll;
4. Fiber rolls shall be staked at the end of each fiber roll and spaced 4 ft maximum on center;
5. Wood stakes shall be a minimum nominal dimension of 1" x 1" and a minimum length of 24";
6. If more than one fiber roll is placed in a single row, the rolls should be overlapped, not abutted;
7. Promptly repair or replace split, torn, unraveling, slumping or otherwise damaged fiber rolls.
9. If the fiber roll is used as a sediment capture device or as an erosion control device to maintain sheet flows, accumulated sediment shall be removed periodically to maintain effectiveness;
10. Sediment shall be removed when sediment accumulation reaches one-half the design sediment storage depth typically one-half the distance between the top of the fiber roll and the adjacent ground surface;
11. Sediment removed during maintenance may be incorporated into non-structural earthwork on the site or disposed of earthwork on the site or disposed at an off-site disposal site in an appropriate location and manner.

EROSION CONTROL – FIBER ROLLS (WATTLES)
Second Title
Third Title

Standard Plan No. 2-06

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Wy'east Engineering
1245 Kari Lane ~ Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

Revisions

Revision	Date:

Chemeketa Park Mutual Water Company
Tank Replacement Project
Standard Plans Sheet 7

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Wy'east Engineering
1245 Kari Lane
Nipomo, California 93444
(831)443-5514 ~ (Mobile)594-2660

CHEMEKETA PARK MUTUAL WATER COMPANY
P.O. Box 588
Los Gatos, California 95044
(650)859-1833

Date: 8/23
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