DATE: August 18, 2011

TO: All Prospective Bidders

ADDENDUM NUMBER 2

CONTRACT NO. 60-11

PRIMARY SEDIMENTATION AND SLUDGE DIGESTION FACILITIES AND NEW LABORATORY, OPERATIONS BUILDING AND ADMINISTRATION BUILDING RENOVATION

Make all revisions to the specification and contract documents stated herein. Insofar as original specifications and other documents are at variance with this Addendum, the Addendum shall govern. Attach this Addendum to the specification and acknowledge receipt of Addendum on Page 00300-1 of the Bid Forms.

This Addendum consists of Attachment 1: Bidder's Questions & Answers

TECHNICAL SPECIFICATION CHANGES to VOLUME 1:

Section 00300 – BID FORMS

Subsection - MAJOR EQUIPMENT MANUFACTURERS, on page 00300-8 **ADD** Varec to Digester Gas Scrubbing Units Manufacturer list.

TECHNICAL SPECIFICATION CHANGES to VOLUME 2:

On Page 02200-10 of the Technical Specifications:

In subsection 02200-2.2.B.1.a **DELETE** "2.1.J.2" and **REPLACE** with "2.1.I.3"

On Page 02200-21 of the Technical Specifications:

In subsection 02200-3.14.E **DELETE** "2.1.K" and **REPLACE** with "2.1.J"

On Page 08710-8 of the Technical Specifications:

DELETE subsection 08710-3.3 in its entirety and **REPLACE** with "NOT USED"

On Page 11234-3 of the Technical Specifications:

In subsection 11234-2.3.A.3 **DELETE** "3100" and **REPLACE** with "2600"

On Page 11234-4 of the Technical Specifications:

1. In subsection 11234-2.4.A.4 DELETE “55%” and REPLACE with “50%”.

2. In subsection 11234-2.5.A.1 **ADD** “or UHMW-Polyethelene” at the end of the sentence.

On Page 11234-5 of the Technical Specifications:

In subsection 11234-2.7.A **ADD** “or cast iron base and solid 1018 cold finished steel shaft.” At the end of the sentence.

On Page 11234-6 of the Technical Specifications:

1. In subsection 11234-2.8.A **ADD** “or solid 1018 cold finished steel shaft.” At the end of the sentence.

2. In subsection 11234-2.9.A **ADD** “; as an alternate, wall bearings consisting of cast iron housing and water lubricated self-aligning polyurethane ball hub shall be allowed.” To the end of the sentence.

3. In subsection 11234-2.10.B **ADD** “3. As an alternate, wall bracket consisting of polypropylene and CPVC shall be allowed.”

On Page 11234-7 of the Technical Specifications:

1. In subsection 11234-2.13.A **ADD** “or polyurethane” to the end of the first sentence.

2. In 11234-2.13.B **ADD** “or cast iron” to the end of the sentence.

3. In 11234-2.13.D.1 **ADD** “or polyurethane” to the end of the sentence.

On Page 11341-5 of the Technical Specifications:

DELETE subsection 11341-2.8.A – Macerators in its entirety and replace with “11341-2.8A Each macerator shall be supplied with a control panel to provide automatic, unattended operation of the grinder in conjunction with its respective pump. The control panel shall be located outside of classified area and shall include a NEMA 4X stainless steel enclosure with the following components (minimum) to insure a fully operational system: three phase circuit breaker, motor starter with properly sized overloads, automatic reversing controller to reverse cutter rotation during jam conditions and at selectable time intervals and provide continuous sharpening of the knives, elapsed time meter, HOA switch, indicator lights, terminal strips, and all associated wiring. The control panel shall accept a dry contact input to start the grinder in during operation of the pump. The control panel shall provide dry contact outputs for jam condition and other functions as shown on the drawings.”

On page 11407-3 of the Technical Specifications:

DELETE 11407-2.1.A.1.d and **REPLACE** with “2.1.A.1.d Inlet pressure: Typical inlet pressures will vary between 3 and 6 inches of WC, but the inlet pressure could be as low as 1-inch of WC. Below 1-inch WC at PE783 or below 1-inch WC at the inlet pressure switch on the skid, and the compressor shall automatically shut off”

On page 11407-6 of the Technical Specifications:

In subsection 11407-2.7.C **ADD** “4. Provide inline flow meter for indication of cooling (plant) water use. Insite model PX or approved equal. All materials shall be corrosion resistant to plant water with residual chlorine”

On page 11407-8 of the Technical Specifications:

In subsection 11407-2.9.D.3.b(1), **DELETE** "1-inch" and **REPLACE** with "3-inches"

On page 11407-8 of the Technical Specifications:

In subsection 11407-2.9.D.3.b(3), between the words "pressure" and "drops" **ADD** "as measured at PE783"

On page 11407-9 of the Technical Specifications:

1. In subsection 11407-2.9.D.3.b(7), between the words "switch" and "shall" **ADD** "on the skid"

2. In subsection 11407-2.10 **ADD** the following section "I. The manufacturer shall provide on the skid a particular filter separator to purify digester gas before compression. Separator shall be Dollinger model GP-146 or approved equal. Filter shall be constructed of Type 316 stainless steel."

3. In subsection 11407-2.10 **ADD** the following section "J. The manufacturer shall provide on the skid a moisture separator to remove residual moisture from the compressed gas. Separator shall be Burgess-Manning inline vane type separator or approved equal. Shell, heads, flanges, piping, vanes and external attachments shall be type 316 or type 316L stainless steel. Separator shall be designed to ASME Code Section 8, Div. 1 at a rated pressure of at least 50 psig. Hydrostatic and ultrasonic testing shall be per ASME code. Post weld treatment shall be per ASME code."

On Page 11408-3 of the Technical Specifications:

DELETE subsection 11408-2.3—Sampling and Gauging Hatch Cover in its entirety and **REPLACE** with "11408-2.3.A NOT USED"

On Page 11408-4 of the Technical Specifications:

In subsection 11408-2.4.A-1.a **DELETE** "6" and **REPLACE** with "5" for the number of digester cover inspection viewports.

On Page 11620-2 of the Technical Specifications:

In subsection 11620-2.1.A.1 **DELETE** "T784" and **REPLACE** with "T813" for the number of digester cover inspection viewports.

On Page 13260-5 of the Technical Specifications:

In subsection 13260-2.8.A **ADD** "3. Varec"

On Page 11620-4 of the Technical Specifications:

1. In subsection 11620-2.4.A.1 **DELETE** "V781" and **REPLACE** with "V820"

2. In subsection 11620-2.4.A.1.b.1 and 11620-2.4.A.1.b.2 **DELETE** "6" and replace with "4" in 2 places for the suction and discharge flange sizes.

On Page 11620-2 of the Technical Specifications:

In subsection 11620-2.5.A.1 **DELETE** "MME782" and **REPLACE** with "MME819"

On Page 13250-3 of the Technical Specifications:

1. In subsection 13250-2.1.A.2 **DELETE** "43" and **REPLACE** with "37"

2. In subsection 13250-2.1.A.4 **DELETE** "4" and **REPLACE** with "4.5"

On Page 13250-9 of the Technical Specifications:

In subsection 13250-3.2.C.1 **DELETE** "3" and **REPLACE** with "4.5" for 'Soil Filter Media"

On Page 13300-10 of the Technical Specifications:

In subsection 13300-3.3.F **DELETE** first sentence and **REPLACE** with "A leveling base material consisting of compacted ¾" crushed rock shall be placed beneath the entire tank foundation as shown on drawings."

On Page 13300-6 of the Technical Specifications:

In subsection 13300-2.1.A.6.c **ADD** following sentence "The seismic design is based on CBC / IBC 2006.

On Page 15050-22 of the Technical Specifications:

System 12, 28" and larger Valves, **ADD** "or butterfly valve"

On Page 15050-8 of the Technical Specifications:

In Table A – Piping Services **ADD** following entry to table:

CW	City Water	11	Water

On Page 15050-19 of the Technical Specifications:

In System 11, Piping Symbol/Service: **ADD** CW – City Water

On Page 15050-32 of the Technical Specifications:

In System 24, Buried and Encased Pipe and Valves Beyond Five Feet Outside Building **ADD** 3" and smaller Pipe: Polypropylene Pipe (PP) per Spec Section 15064-2.3.B

On Page 15050-15 of the Technical Specifications:

In System 5, Buried and Encased Pipe and Valves: (2" and smaller) Pipe: **DELETE** Ref. spec Section 15064 **REPLACE** with Medium Density Polyethylene (MDPE)

On Page 15050-16 of the Technical Specifications:

In System 5, Buried and Encased Pipe and Valves: (2 1/2" thru 8") Pipe: **DELETE** Ref. spec Section 15064 **REPLACE** with Medium Density Polyethylene (MDPE)

On Page 15062-3 of the Technical Specifications:

In subsection 15062-2.2.B **DELETE** "24" with push-on joints 53"

On Page 15117-1 of the Technical Specifications:

In subsection 15117-2.1.A **DELETE** "2-inch riser" in second sentence and **REPLACE** with "4-inch riser".

On Page 03290-9 of the Technical Specifications:

In subsection 03290-3.5.B **DELETE** paragraph and **REPLACE** with

"Joint Location: Construction joints, and other types of joints, shall be provided where shown. When not shown, construction joints shall be provided at [30-foot] maximum spacing for all concrete construction, unless noted otherwise. Where joints are shown spaced greater than 30 feet apart, additional joints shall be provided to maintain the [30-foot] maximum spacing. The location of all joints, of any type, shall be submitted for acceptance by the Engineer."

On Page 17400-9 of the Technical Specifications:

In subsection 17400-2.4.E **DELETE** second line "**Ignition by Inductive Automation SCADA Software"** and **REPLACE** with "**Ignition "Mission Critical" by Inductive Automation SCADA Software with licenses for Server and Historian Server".**

DRAWING CHANGES to VOLUME 3:

On Drawing G13, Sheet 13 of 230 of the Contract Volume 3 Drawings:

1. At sheet coordinates K-7, **DELETE** "36 x 43" and **REPLACE** with "34 x 37" for 'BIOFILTER BED SIZE'

2. At sheet coordinates K-7, **DELETE** "4" and **REPLACE** with "4.5" for 'MEDIA DEPTH.

3. At sheet coordinates K-7, **DELETE** "2.25" and **REPLACE** with "2.62" for 'BIOFILTER LOADING'

On Drawing M11, Sheet 120 of 230 of the Contract Volume 3 Drawings:

1. At sheet coordinates D-5, **DELETE** "30"ø" and **REPLACE** with "36"ø"

2. **DELETE** Detail 2 in its entirety and **REPLACE** with "NOT USED"

On Drawing M12, Sheet 121 of 230 of the Contract Volume 3 Drawings:

ADD the following text: "Note 1: Viewports shall be cast-in-place or installed in existing concrete with dry pack grout"

On Drawing M781, Sheet 153 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates E-3, **DELETE** "T781" and **REPLACE** with "T813"

On Drawing S230, Sheet 66 of 230 of the Contract Volume 3 Drawings:

1. At sheet coordinates K-4, **DELETE** the Lean Concrete portion from Section E

2. At sheet coordinates J-8, **ADD** the following note "3. Existing concrete shall be sandblasted to a ¼" thick roughness and epoxy bonding agent shall be applied before placement of new concrete"

3. At sheet coordinates D-5, **ADD** a 12" dimension callout for the elevated slab.

4. At sheet coordinates J-8 **ADD** the following note "4. Provide ¼" thick neoprene pad between pier and elevated slab"

5. At sheet coordinates B-5 **ADD** a note callout where the existing concrete and new concrete meet and call out "NOTE 3"

6. At sheet coordinates H-3, **ADD** a note callout where the pier and elevated slab meet and call out "NOTE 4"

On Drawing S741, Sheet 96 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates K-7, **DELETE** "8"" and **REPLACE** with "9""

On Drawing S750, Sheet 99 of 230 of the Contract Volume 3 Drawings:

1. At sheet coordinates K-2 **ADD** Note "5. CURB OPENINGS SHALL BE PROVIDED FOR DRAINAGE ON TOP DIGESTER."

2. At sheet coordinates A-5 **DELETE** "(BY OTHERS)"

3. At sheet coordinates K-2 **ADD** Note "6. ALL SUPPORT MATERIALS AND PIPE SHALL BE FABRICATED FROM 316 STAINLESS STEEL."

On Drawing S755, Sheet 104 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates J-8, **ADD** Note "2. ALL BOX MATERIALS AND PIPE SHALL BE FABRICATED FROM 316 STAINLESS STEEL"

On Drawing S740, Sheet 95 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates H-3, **DELETE** "1/2"" and **REPLACE** with "1""

On Drawing S742, Sheet 97 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates C-1, **DELETE** "1/2"" and **REPLACE** with "1"" and coordinates I-2, **DELETE** "1/2"" and **REPLACE** with "1""

On Drawing S743, Sheet 98 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates A-1, **DELETE** "1/2"" and **REPLACE** with "1"" coordinates A-3, **DELETE** "1/2"" and **REPLACE** with "1"" and coordinates B-7, **DELETE** "1/2"" and **REPLACE** with "1""

On Drawing G7, Sheet 7 of 230 of the Contract Volume 3 Drawings:

DELETE sheet in its entirety and **REPLACE** with attached Drawing G7 Revision 1.

On Drawing C13, Sheet 27 of 230 of the Contract Volume 3 Drawings:

DELETE sheet in its entirety and **REPLACE** with attached Drawing C13 Revision 1.

On Drawing C10, Sheet 24 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates L-5 **ADD** Note below 6" – DS "SEE DRAWING M730 FOR CONTINUATION"

On Drawing I250, Sheet 219 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates G-5, **DELETE** plug valve symbol and **REPLACE** with butterfly symbol

On Drawing C111, Sheet 41 of 230 of the Contract Volume 3 Drawings:

DELETE sheet in its entirety and **REPLACE** with attached Drawing C111 Revision 1.

On Drawing C113, Sheet 43 of 230 of the Contract Volume 3 Drawings:

DELETE sheet in its entirety and **REPLACE** with attached Drawing C113 Revision 1.

On Drawing C116, Sheet 45 of 230 of the Contract Volume 3 Drawings:

DELETE sheet in its entirety and **REPLACE** with attached Drawing C116 Revision 1.

On Drawing C118, Sheet 47 of 230 of the Contract Volume 3 Drawings:

DELETE sheet in its entirety and **REPLACE** with attached Drawing C118 Revision 1.

On Drawing C121, Sheet 50 of 230 of the Contract Volume 3 Drawings:

DELETE sheet in its entirety and **REPLACE** with attached Drawing C121 Revision 1.

On Drawing C122, Sheet 51 of 230 of the Contract Volume 3 Drawings:

DELETE sheet in its entirety and **REPLACE** with attached Drawing C122 Revision 1.

On Drawing M330, Sheet 130 of 230 of the Contract Volume 3 Drawings:

DELETE sheet in its entirety and **REPLACE** with attached Drawing M330 Revision 1.

On Drawing M781, Sheet 153 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates K-8, **DELETE** “INV EL 463.10” and **REPLACE** with “INV EL 462.58”

On Drawing C18, Sheet 32 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates E-2, **DELETE** “10” – LSG INV 461.00” and **REPLACE** with “10” – LSG INV 460.35”

On Drawing C110, Sheet 40 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates H-5, **DELETE** “TCP(P) and **REPLACE** with “TCO(P)” and at coordinates H-7, **DELETE** “TCP(P) and **REPLACE** with *TCO(P)”

On Drawing G4, Sheet 4 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates F-6, **ADD** “TCP TRAFFIC AREA CLEAN OUT”

On Drawing G5, Sheet 5 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates H-6, **ADD** “(CLEAN OUTS SHALL BE TRAFFIC RATED PER DETAIL 9 on M9 UNLESS OTHERWISE INDICATED”

On Drawing M331, Sheet 131 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates E-4, **DELETE** "TYPE FD6" and **REPLACE** with "TYPE FD5"

On Drawing C100, Sheet 38 of 230 of the Contract Volume 3 Drawings:

1. At sheet coordinates A-5, **DELETE** "STA 10+28.61, HPI/VPI, N2204496.08, E6577676.81"
2. At sheet coordinates A-5, **DELETE** "STA 10+19.60" and **REPLACE** with "STA 10+20.18"
3. At sheet coordinates A-5, **DELETE** "N2204505.08" and **REPLACE** with "N2204504.68"
4. At sheet coordinates A-6, **DELETE** "E6577662.80" and **REPLACE** with "E6577662.40"
5. At sheet coordinates D-7, **DELETE** "STA 11+09.44" and **REPLACE** with "STA 11+01.11"
6. At sheet coordinates E-2, **DELETE** "STA 11+09.44" and **REPLACE** with "STA 11+01.11"

On Drawing C25, Sheet 33 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates A-6, **ADD** "NOTE 1. WHERE A GRATED MANHOLE CALLED OUT ON STORM DRAIN SYSTEM, THE MANHOLE COVER SHALL BE REPLACED WITH TRAFFIC RATED GRATING AND PVC LINER IS NOT REQUIRED."

On Drawing M780, Sheet 152 of 230 of the Contract Volume 3 Drawings:

At sheet coordinates K-8, **ADD** "AND OTHER EQUIPMENT" after boiler in NOTE 5.

On Drawing I002, Sheet 218 of 230 of the Contract Volume 3 Drawings:

1. At sheet coordinates E-5, **DELETE** "WORK-STATION SERVER" and **REPLACE** with "WORK-STATION, SERVER, AND HISTORIAN SERVER".
2. At sheet coordinates K-2, **DELETE** "1" and **REPLACE** with "NA".
3. At sheet coordinates K-8, **ADD** "5. THE EXISTING SERIES 500 CONTROLLER AT THE HEADWORKS PLC SHALL BE REPLACED WITH A SERIES 505 CONTROLLER."

DRAWING CHANGES to VOLUME 5:

On Drawing C-100r of the Contract Volume 5 Drawings:

1. **ADD** attached Maxwell Plus Drawing Detail

The Bidder is hereby notified; Addendum Number 2 must be acknowledged and <u>submitted as part of the Bid Failure</u> to do so shall result in the District designating said Bid as "Non-Responsive".

APPROVED:

_____
Joseph Glowitz, PE, PMP
General Manager, Valley Sanitary District

PROPOSER ACKNOWLEDGMENT:

_____
Signature acknowledging receipt of Addendum No. 2

_____ _____
Printed Name & Date Company

END OF ADDENDUM NUMBER 2

This Addendum Number 2 shall be signed by the Bidder and returned together with the Bidder's sealed Proposal.

BASIS OF SURVEY

ELEVATIONS ARE BASED ON CITY OF INDIO BM # 118. CHISELED SQUARE ON THE WESTERLY END OF CURB RETURN AT THE SW CORNER OF HWY 111 & JACKSON ST. ELEV. = 481.69'.

BASIS OF BEARINGS: THE NAD 83, EPOCH 2000.35, GRID BEARING BETWEEN THE CALIFORNIA CORS STATIONS COTD COLLEGE OF THE DESERT AND WIDC WIDE CANYON CORS GRM PER PUBLISHED
NATIONAL GEODETIC SURVEY COORDINATE VALUES.

I.E. N 1°04'48" E

PUBLISHED NATIONAL GEODETIC SURVEY COORDINATE VALUES:

COTD	N: 2210179.63	WIDC N: 2283789.05
	E: 6520051.41	E: 6518663.79

LEGEND

REPAVE EXISTING ROADS.

GRADE ROAD TO INDICATED ELEVATION. APPLY ASPHALT CEMENT AND AGGREGATE BASE PER DETAIL 1/C20.

COORDINATE TABLE

	NORTHING	EASTING
1	N 2204002.79	E 6578183.66
2	N 2204002.79	E 6578140.66
3	N 2204282.79	E 6578026.09
4	N 2204240.52	E 6577975.56
5	N 2204382.33	E 6578028.00
6	N 2204173.52	E 6577971.43
7	N 2204173.52	E 6577945.18
8	N 2204277.04	E 6577946.34
9	N 2204252.54	E 6577929.84
10	N 2204160.95	E 6577920.06
11	N 2204197.79	E 6577849.56
12	N 2204386.86	E 6577756.90
13	N 2204370.36	E 6577732.40
14	N 2204312.37	E 6577755.75
15	N 2204111.88	E 6577712.01
16	N 2204251.77	E 6578044.08
17	N 2204229.94	E 6578245.49

OUTFALL
OUTFALL SAMPLING BOX
DECHLORINATION BLDG
JUNCTION BOX
NEW LOCATION FOR SODIUM BISULFITE TANK
SODIUM HYPOCHLORITE BLDG
CHLORINE CONTACT TANK 3
CCT2 CHLORINE FEED VAULT
SLUDGE DRYING BED
AVE F
51ST STREET
RAS PUMP STATION NO 2
SECONDARY CLARIFIER 3
FUTURE COGEN FLARE
BELT PRESS BLDG
POLYMER BLDG
DRAIN PUMP STATION 2
SECONDARY CLARIFIER 2
MIXED LIQUOR CHANNEL
DIGESTER 2
GAS SCR AND BOILER FACILITY
FUTURE GBT
ELEC BLDG. A
POND/WETLANDS CHLORINE CONTACT TANK 2
FUTURE DIGESTER 1
ELECTRICAL BLDG. C
FUTURE SLUDGE TANK
BIOFILTER BLDG
RAS PUMP STATION NO 1
SECONDARY CLARIFIER 1
AC PAVEMENT OR OVERLAY
AERATION POND MCC BLDG
RELOCATE EXISTING SODIUM BISULFITE TANK
AVE C
PRIMARY SEDIMENTATION TANKS
STORAGE
GENERATOR
ELECTRICAL BLDG. B
SELECTOR TANKS INFLUENT BOX
FUTURE PRIMARY SEDIMENTATION TANKS
NORTH ML BOX
SOUTH ML BOX
AVE B
GRIT TANK BIOFILTER
AERATED GRIT TANK
SELECTOR TANKS
AERATION BASINS
BLOWER BLDG
FERRIC CHLORIDE
RAS PUMP ROOM
INFLUENT PUMP STATION
INFLUENT BAR SCREENS
1ST STREET
AVE A
DRAIN PUMP STATION 1 SEE SHEET M150
IPS BIOFILTER
CIRCULAR PRIMARY CLARIFIER 2
TRICKLING FILTER
CIRCULAR PRIMARY CLARIFIER
POND 2
POND 3
6TH STREET
NORTH CELL
SOUTH CELL

60' 0' 60' 120'
SCALE: 1" = 60'

REGISTERED PROFESSIONAL ENGINEER LEE BADERTSCHER No.C43789 (Exp. 06/30/13) CIVIL STATE OF CALIFORNIA

NO.	REVISIONS	APPROVED	DATE
1	ADDENDUM 2	LRB	8/18/11

DESIGNED BY: L BADERTSCHER
DRAWN BY: H ROBLEDO
CHECKED BY: C RO

THIS LINE IS 2" AT FULL SIZE
(IF NOT 2" SCALE ACCORDINGLY)

LEE&RO, Inc.
City of Industry, California

VALLEY SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
PRIMARY SEDIMENTATION AND
SLUDGE DIGESTION FACILITIES

SITE LAYOUT AND LOCATION PLAN

G7

SHEET 7 OF 230

DWG: N:\PROJ\429\Design\FDP 3R1\Composite\Gen\42905g007.dwg
DATE: Aug 19, 2011 12:13pm

FOR CONTINUATION, SEE DWG C15

LEGEND

GRADE ROAD TO INDICATED ELEVATION. APPLY ASPHALT CEMENT AND AGGREGATE BASE PER (2/C25).

2" SHOTCRETE WITH 6"x6" #10/10 WIRE MESH

CONCRETE SURFACING

NOTE:
1. EXISTING CONCRETE POND LINER SHALL BE REMOVED IN ALL AREAS WITH NEW GRADING.
2. PROVIDE 24'x42' WASH DOWN PAD SLOPED TOWARDS EXISTING CATCH BASIN AT 1/4" PER FOOT.
3. PROVIDE EDGING FOR ALL NEW PAVEMENT. SEE (5/C27).

SODIUM HYPOCHLORITE BUILDING
CHLORINE CONTACT TANK 3
RAS PUMP STATION NO 2
27'x43' CONCRETE WASH DOWN PAD 466.67 FG NOTE 2
DRAIN PUMP STATION 2
R=10' (TYP)
POLYMER BLDG (FG 467.00)
BELT PRESS BUILDING (FG 467.00)
FUTURE CONGENERATION FACILITY
FG 467.10
EG 455.5±
FLARE
R=15'
DIGESTER 2
BOILER AND GAS SCRUBBER FACILITY (FG 467.60)
ELEC BLDG A (FG 467.00)
GENERATOR
FUTURE GRAVITY BELT THICKNER BUILDING
RAS PUMP STATION NO 1
14'x26' CONCRETE PAD
BELT PRESS BUILDING ODOR BED
FUTURE DIGESTER 1
FUTURE SLUDGE TANK
ELEC BLDG C (FG 467.60)
SEE NOTE 1
FG 467.00

N 2204450.70 E 6578106.57 FG 470.00
N 2204228.51 E 6578106.57 FG 466.92
N 2204221.94 E 6578117.07 466.85 FG BEGIN CURB & GUTTER
N 2204071.87 E 6578089.66 FG 466.50 FL
N 2204211.59 E 6578089.66 FG 467.00
N 2204256.77 E 6578068.57
N 2204071.87 E 6577990.57 FG 466.73
N 2204428.50 E 6577940.17 FG 467.00
N 2204325.79 E 6577915.21 FG 455.50
N 2204303.79 E 6577940.21 FG 467.00
N 2204218.77 E 6577914.60 FG 467.00
N 2204218.77 E 6577842.98 FG 470.13

CATCH BASIN (8/C26) FL 466.50 INV 452.00
CATCH BASIN (8/C26) FL 466.80 INV 454.42
CATCH BASIN (8/C26) FL 467.00 INV 461.60
CATCH BASIN (8/C26) FL 466.80 INV 454.36
CATCH BASIN (8/C26) INV 451.50
CATCH BASIN (8/C26) INV 455.15
CATCH BASIN (6/C26) 467.00 FL INV 464.51
GRATED MANHOLE (7/C25) FL 466.60
GRATED MANHOLE (7/C25) FL 466.35 INV 461.00
INV 454.85
INV 454.64

467.35 TOC
467.80 FG
467.10 FG
467.03 FG
467.12 FG
467.00 FG
466.81 FG
466.50 FG
467.06 FG
466.95 FG HP
466.90 FG HP

FOR CONTINUATION, SEE DWG C14 & C12

20' 0' 20' 40'
SCALE: 1" = 20'

C13

NO.	REVISIONS	APPROVED	DATE
1	ADDENDUM 2	LRB	8/18/11

DESIGNED BY: L BADERTSCHER
DRAWN BY: H ROBLEDO
CHECKED BY: C RO

THIS LINE IS 2" AT FULL SIZE
(IF NOT 2" SCALE ACCORDINGLY)

LEE&RO. Inc.
City of Industry, California

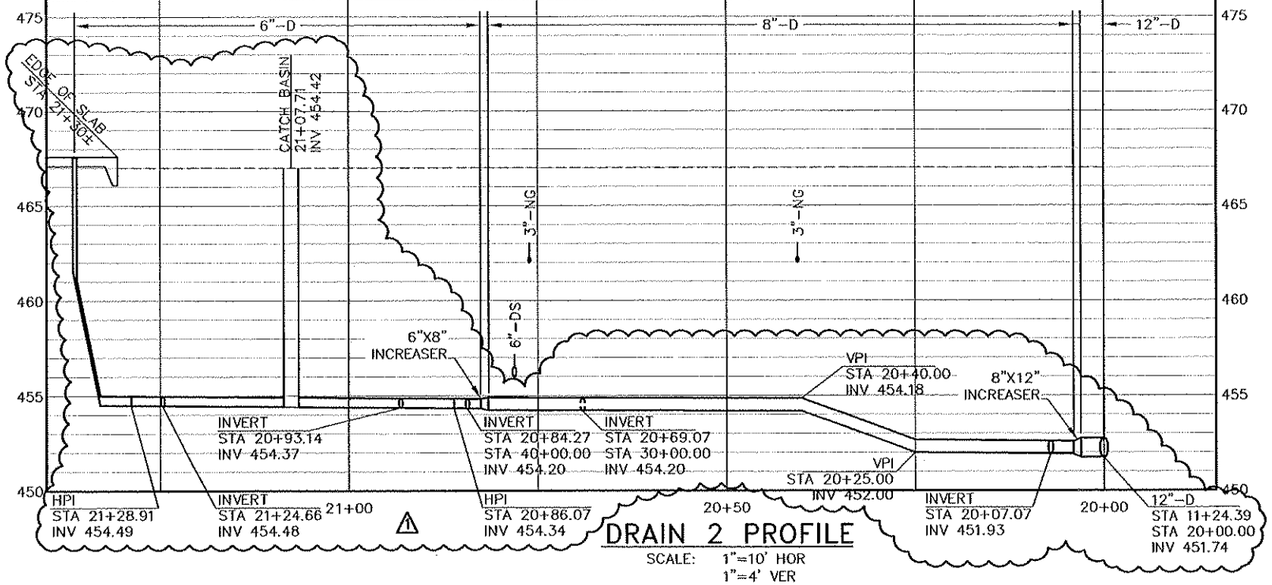
VALLEY SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
PRIMARY SEDIMENTATION AND
SLUDGE DIGESTION FACILITIES

SITE
PAVING AND GRADING PLAN 2

SHEET 27 OF 230

REGISTERED PROFESSIONAL ENGINEER LEE BADERTSCHER No.C43789 Exp. 06/30/11 CIVIL STATE OF CALIFORNIA

DWG: N:\PROJ\429\Design\FDP 3R1\Composite\Civil\429905c013.dwg
DATE: Aug 19, 2011 11:59am



DRAIN 2 PROFILE

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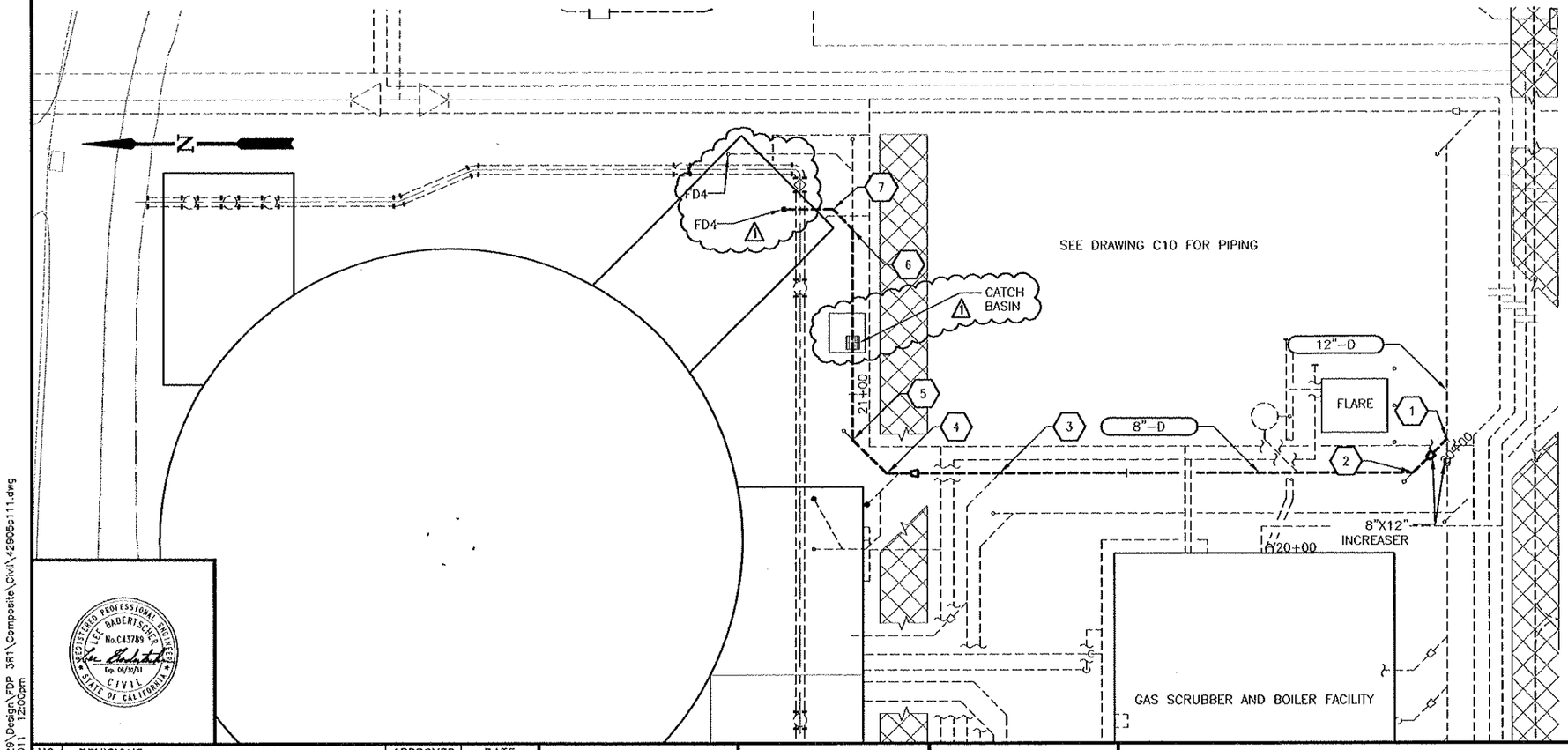
1"=4' VER



YARD PIPING COORDINATE TABLE

	NORTHING	EASTING	STATION
1	N 2204233.00	E 6578043.05	20+00.00
2	N 2204238.00	E 6578038.05	20+07.07
3	N 2204300.00	E 6578038.05	20+69.07
4	N 2204317.00	E 6578038.05	20+86.07
5	N 2204322.00	E 6578043.05	20+93.14
6	N 2204322.00	E 6578074.57	21+24.66
7	N 2204325.00	E 6578077.57	21+28.91

REGISTERED PROFESSIONAL ENGINEER LEE BADERTSCHER No.C43789 Exp. 06/30/11 CIVIL STATE OF CALIFORNIA

NO.	REVISIONS	APPROVED	DATE
1	ADDENDUM 2	LRB	8/18/11

DESIGNED BY: L BADERSTCHER
DRAWN BY: H ROBLEDO
CHECKED BY: C RO

THIS LINE IS 2" AT FULL SIZE
(IF NOT 2" SCALE ACCORDINGLY)

LEE&RO, Inc.
City of Industry, California

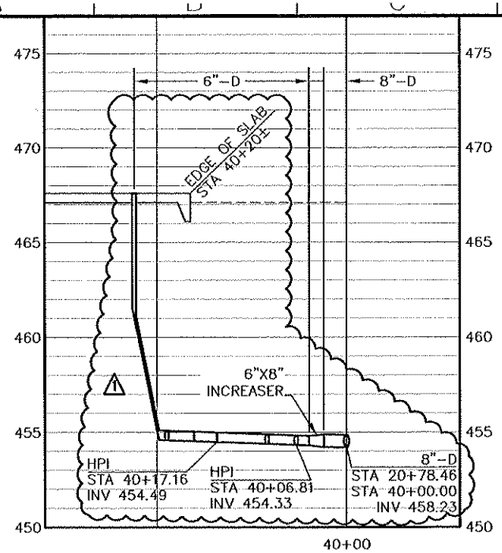
VALLEY SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
PRIMARY SEDIMENTATION AND
SLUDGE DIGESTION FACILITIES

SITE
YARD PIPING PLAN & PROFILE
DRAIN 2

C111

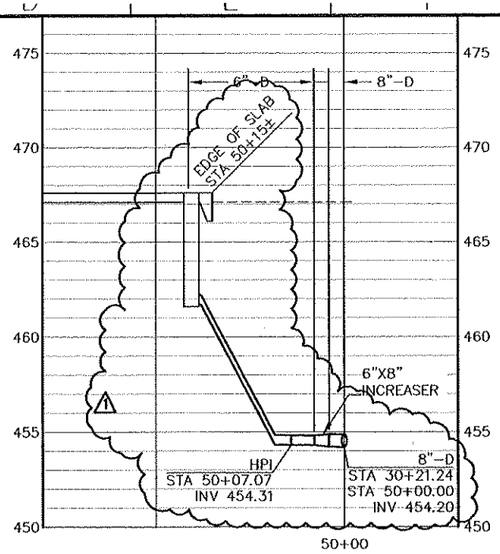
SHEET 41 OF 230

DWG: N:\PROJ\429\Design\FDP 3R1\Composite\Civil\42905c111.dwg
DATE: Aug 19, 2011 12:00pm



DRAIN 4 PROFILE

SCALE: 1"=10' HOR
1"=4' VER



DRAIN 5 PROFILE

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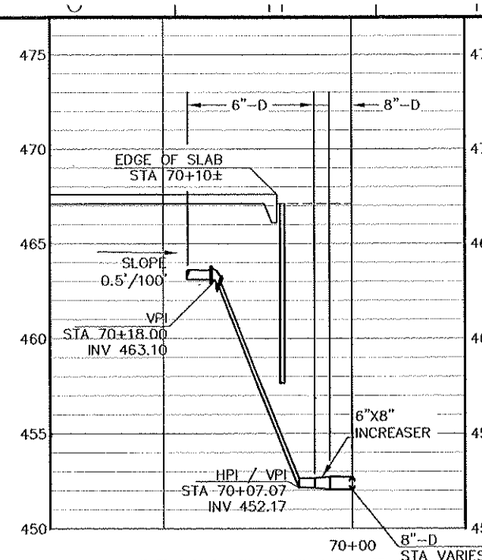

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SCALE: 1"=10' HOR
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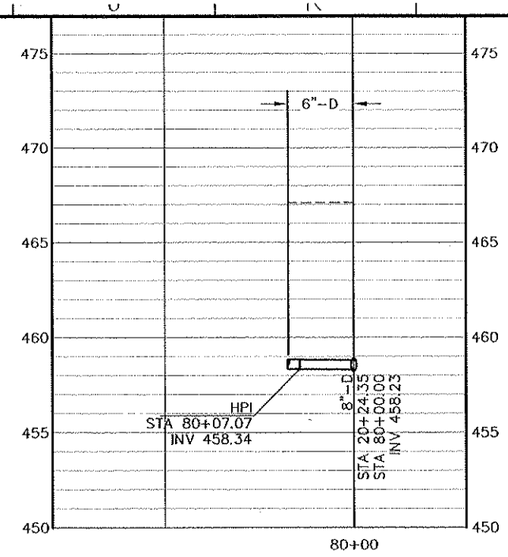
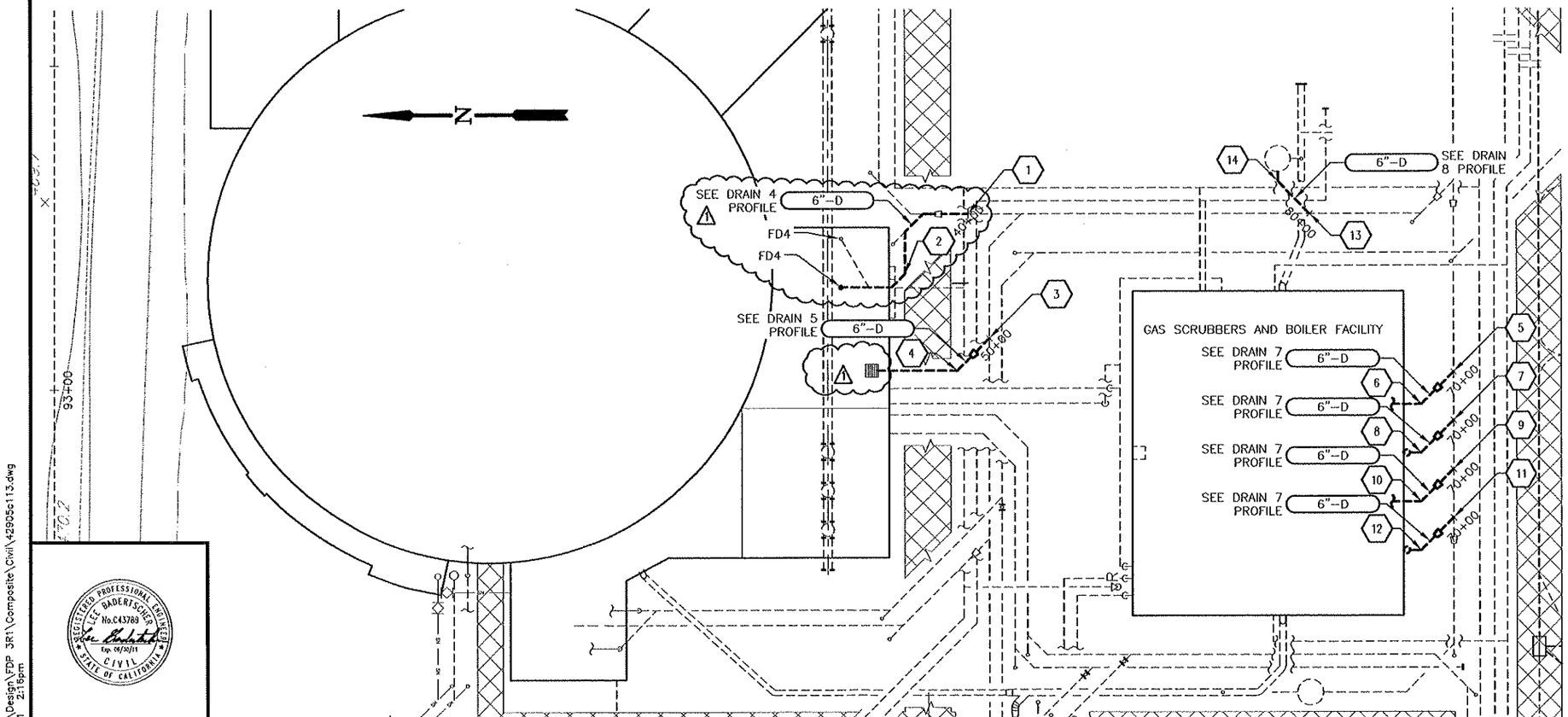


DRAIN 8 PROFILE

SCALE: 1"=10' HOR
1"=4' VER



YARD PIPING COORDINATE TABLE

	NORTHING	EASTING	STATION
1	N 2204308.39	E 6578038.05	20+78.46 40+00.00
2	N 2204317.94	E 6578028.83	40+17.16 ⚠1
3	N 2204305.00	E 6578018.87	30+21.24 50+00.00
4	N 2204310.00	E 6578013.87	50+07.07
5	N 2204233.00	E 6578013.59	11+53.85 70+00.00
6	N 2204238.00	E 6578008.59	70+07.07
7	N 2204233.00	E 6578006.09	11+61.35 70+00.00
8	N 2204238.00	E 6578001.09	70+07.07
9	N 2204233.00	E 6577998.59	11+68.85 70+00.00
10	N 2204238.00	E 6577993.59	70+07.07
11	N 2204233.00	E 6577991.09	11+76.35 70+00.00
12	N 2204238.00	E 6577986.09	70+07.07
13	N 2204255.28	E 6578038.05	20+24.35 80+00.00
14	N 2204260.28	E 6578043.05	80+07.07

INV 452.04
INV 452.08
INV 452.11
INV 452.15 ⚠1

REGISTERED PROFESSIONAL ENGINEER
LEE BADERSTCHER
No.C43788
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

NO.	REVISIONS	APPROVED	DATE
⚠1	ADDENDUM 2	LRB	8/18/11

DESIGNED BY: L BADERSTCHER
DRAWN BY: H ROBLEDO
CHECKED BY: C RO

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LEE&RO, Inc.
City of Industry, California

VALLEY SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
PRIMARY SEDIMENTATION AND
SLUDGE DIGESTION FACILITIES

SITE
YARD PIPING PLAN & PROFILE
DRAINS 4, 5, 7, AND 8

C113

SHEET 43 OF 230

DWG: N:\PRO\1429\Design\FDP 3R1\Composite\Civil\42905c113.dwg
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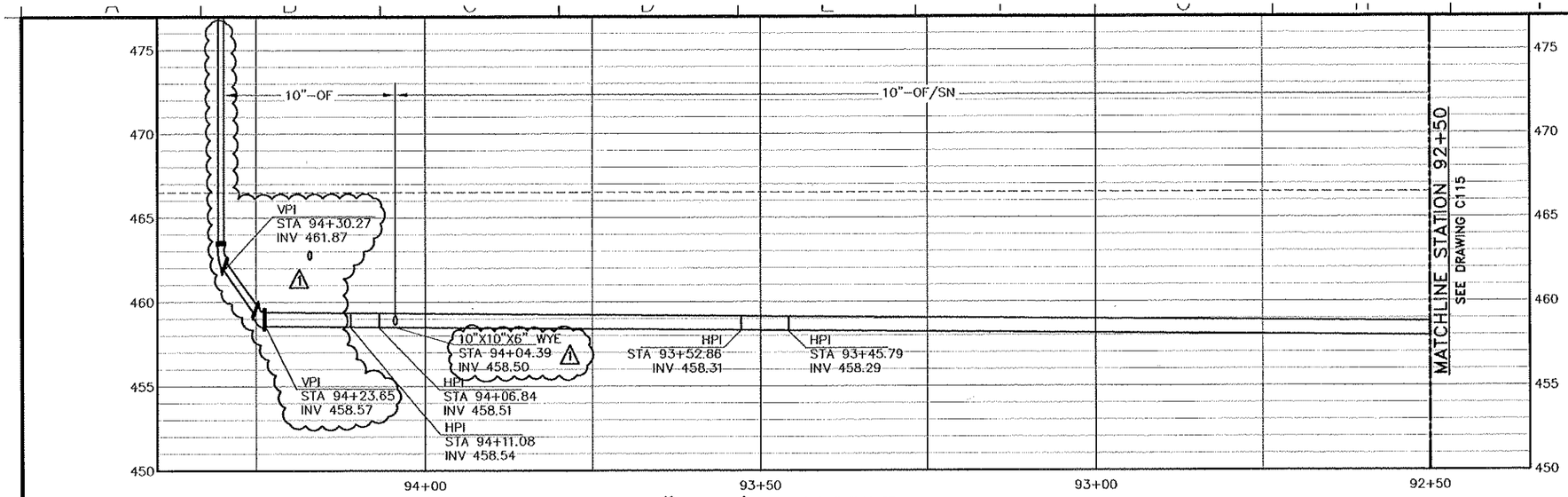
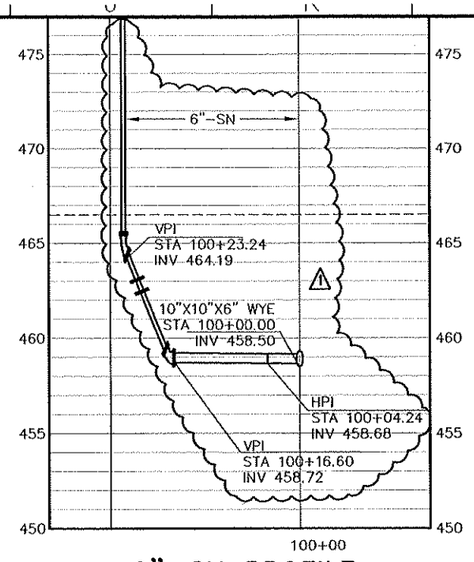


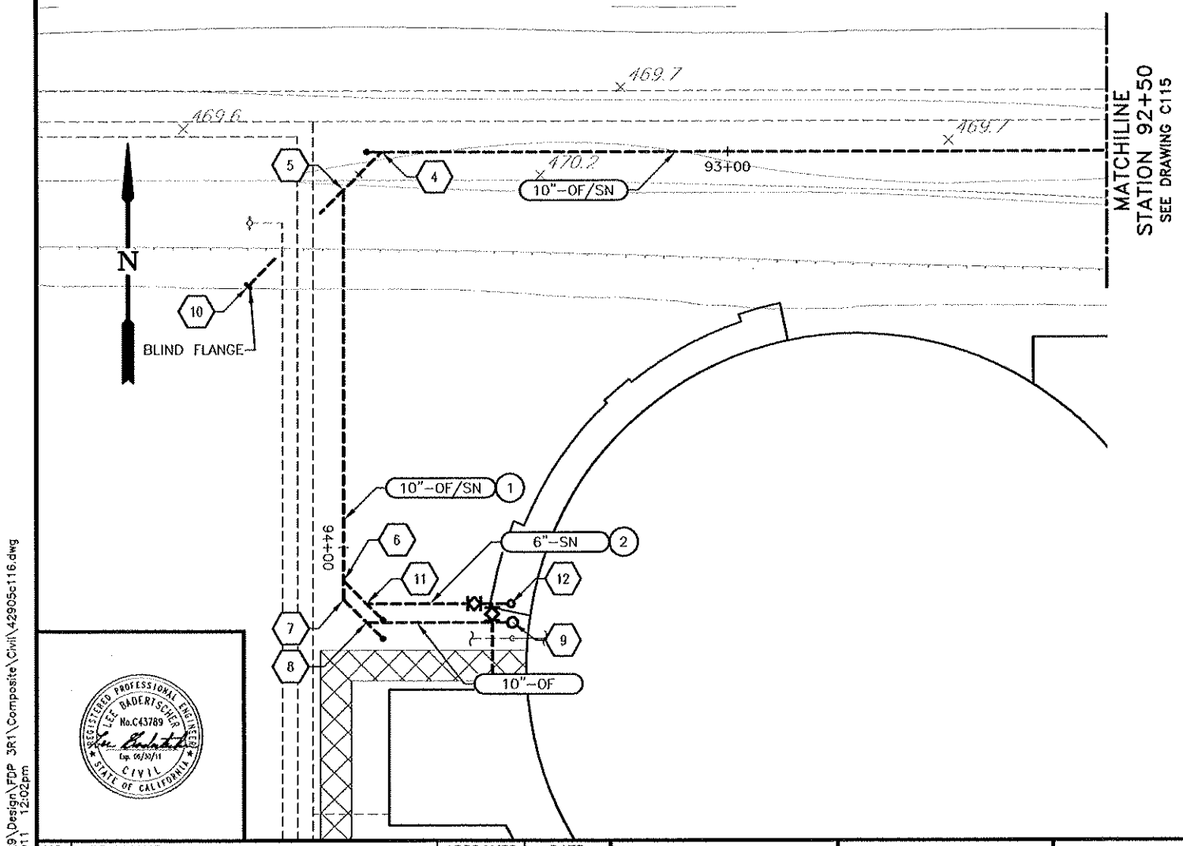
10"-OF/SN PROFILE

SCALE: 1"=10' HOR
1"=4' VER



6"-SN PROFILE

SCALE: 1"=10' HOR
1"=4' VER



NOTES:

1. 10"-OF / SN PROFILE. SEE PROFILE ABOVE
2. 6"-SN PROFILE. SEE PROFILE ABOVE

YARD PIPING COORDINATE TABLE

	NORTHING	EASTING	STATION
4	N 2204449.99	E 6577965.25	93+45.79
5	N 2204444.99	E 6577960.25	93+52.86
6	N 2204393.46	E 6577960.25	94+04.39
7	N 2204391.01	E 6577960.25	94+06.84
8	N 2204388.01	E 6577965.25	94+11.08
9	N 2204388.01	E 6577982.45	94+30.27 (1)
10	N 2204432.33	E 6577947.59	93+70.77
11	N 2204390.46	E 6577963.25	100+04.24
12	N 2204390.46	E 6577982.26	100+23.24

10' 0' 10' 20'
SCALE: 1" = 10'

C116

NO.	REVISIONS	APPROVED	DATE
1	ADDENDUM 2	LRB	8/18/11

DESIGNED BY: L BADERSTCHER
DRAWN BY: H ROBLEDO
CHECKED BY: C RO

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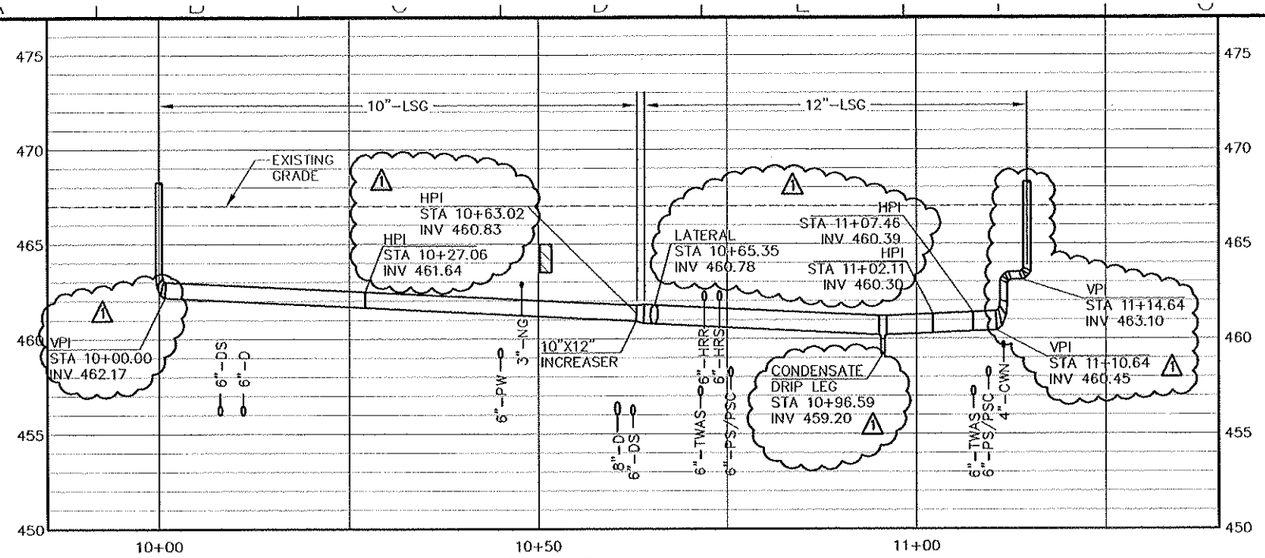
LEE&RO, Inc.
City of Industry, California

VALLEY SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
PRIMARY SEDIMENTATION AND
SLUDGE DIGESTION FACILITIES

SITE
YARD PIPING PLAN & PROFILE
10"-OF / SN & 6"-SN

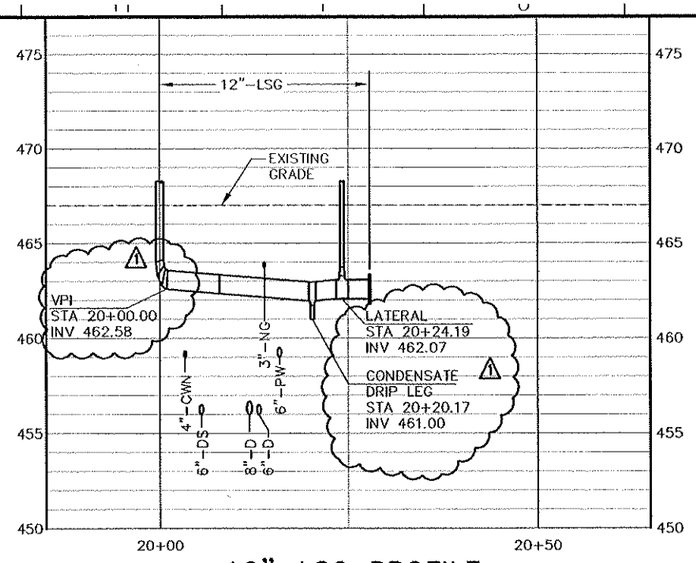
SHEET 45 OF 230

DWG: N:\PROJ\429\Design\FDP 3R1\Composite\Civil\42905c116.dwg
DATE: Aug 19, 2011 12:02pm



10"/12"–LSG PROFILE

SCALE: 1"=10' HOR
1"=4' VER

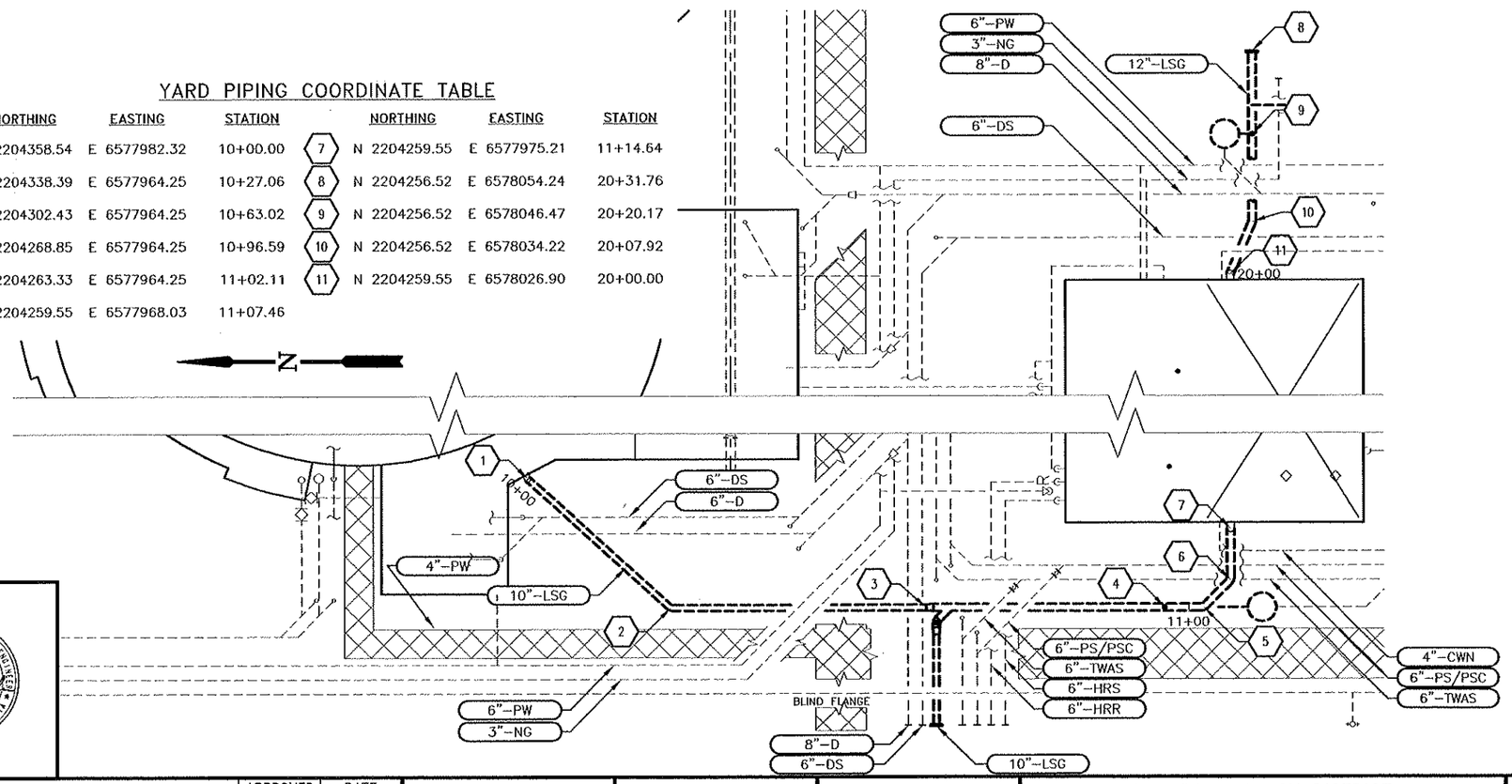


12"–LSG PROFILE

SCALE: 1"=10' HOR
1"=4' VER

YARD PIPING COORDINATE TABLE

	NORTHING	EASTING	STATION
1	N 2204358.54	E 6577982.32	10+00.00
2	N 2204338.39	E 6577964.25	10+27.06
3	N 2204302.43	E 6577964.25	10+63.02
4	N 2204268.85	E 6577964.25	10+96.59
5	N 2204263.33	E 6577964.25	11+02.11
6	N 2204259.55	E 6577968.03	11+07.46
7	N 2204259.55	E 6577975.21	11+14.64
8	N 2204256.52	E 6578054.24	20+31.76
9	N 2204256.52	E 6578046.47	20+20.17
10	N 2204256.52	E 6578034.22	20+07.92
11	N 2204259.55	E 6578026.90	20+00.00



REGISTERED PROFESSIONAL ENGINEER LEE BADERSTSCHER No.C43789 Exp. 04/30/14 CIVIL STATE OF CALIFORNIA

NO.	REVISIONS	APPROVED	DATE
1	ADDENDUM 2	LRB	8/18/11

DESIGNED BY: L BADERSTCHER
DRAWN BY: H ROBLEDO
CHECKED BY: C RO

THIS LINE IS 2" AT FULL SIZE
(IF NOT 2" SCALE ACCORDINGLY)

LEE&RO, Inc.
City of Industry, California

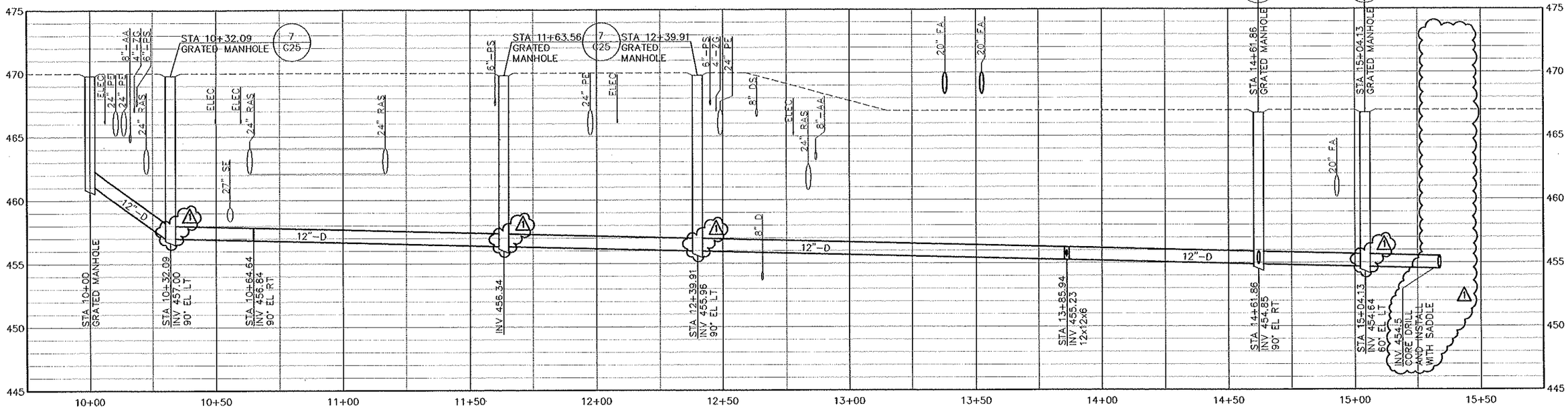
VALLEY SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
PRIMARY SEDIMENTATION AND
SLUDGE DIGESTION FACILITIES

SITE
YARD PIPING PLAN & PROFILE
10"/12"–LSG

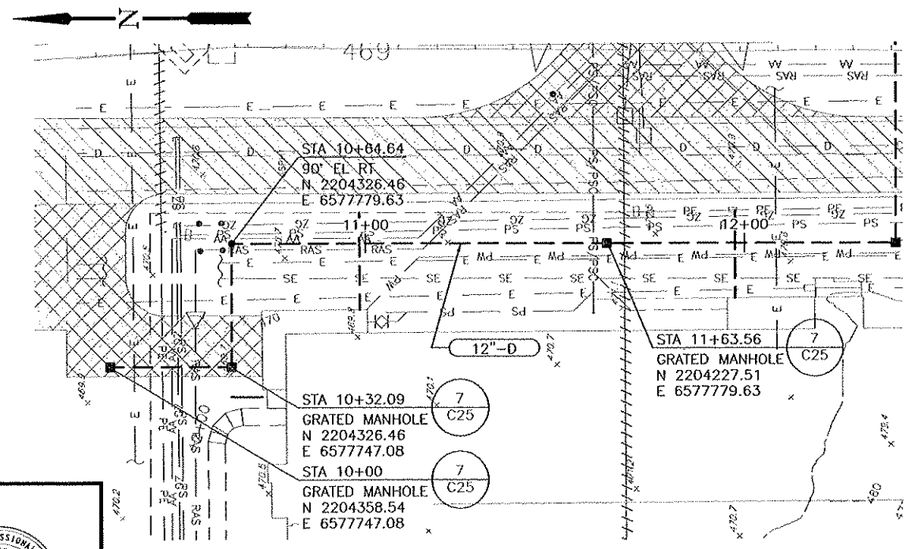
C118

SHEET 47 OF 230

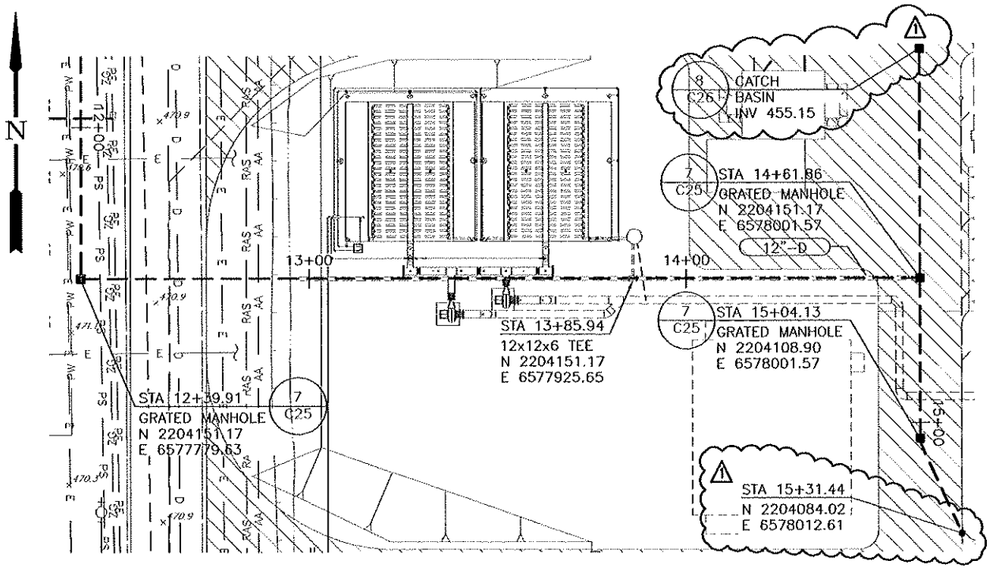
DWG: N:\PROJ\429\Design\FDP 3R1\Composite\Civil\42905c118.dwg
DATE: Aug 19, 2011 12:04pm



PROFILE
SCALE: 1"=20' HOR
1"=4' VER



PLAN
SCALE: 1"=20'



PLAN
SCALE: 1"=20'

20' 0' 20' 40'
SCALE: 1" = 20'

REGISTERED PROFESSIONAL ENGINEER
LEE BADERTSCHER
No.C43789
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

NO.	REVISIONS	APPROVED	DATE
1	ADDENDUM 2	LRB	8/18/11

DESIGNED BY: L BADERTSCHER
DRAWN BY: H ROBLEDO
CHECKED BY: C RO

THIS LINE IS 2" AT FULL SIZE
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LEE&RO. Inc.
City of Industry, California

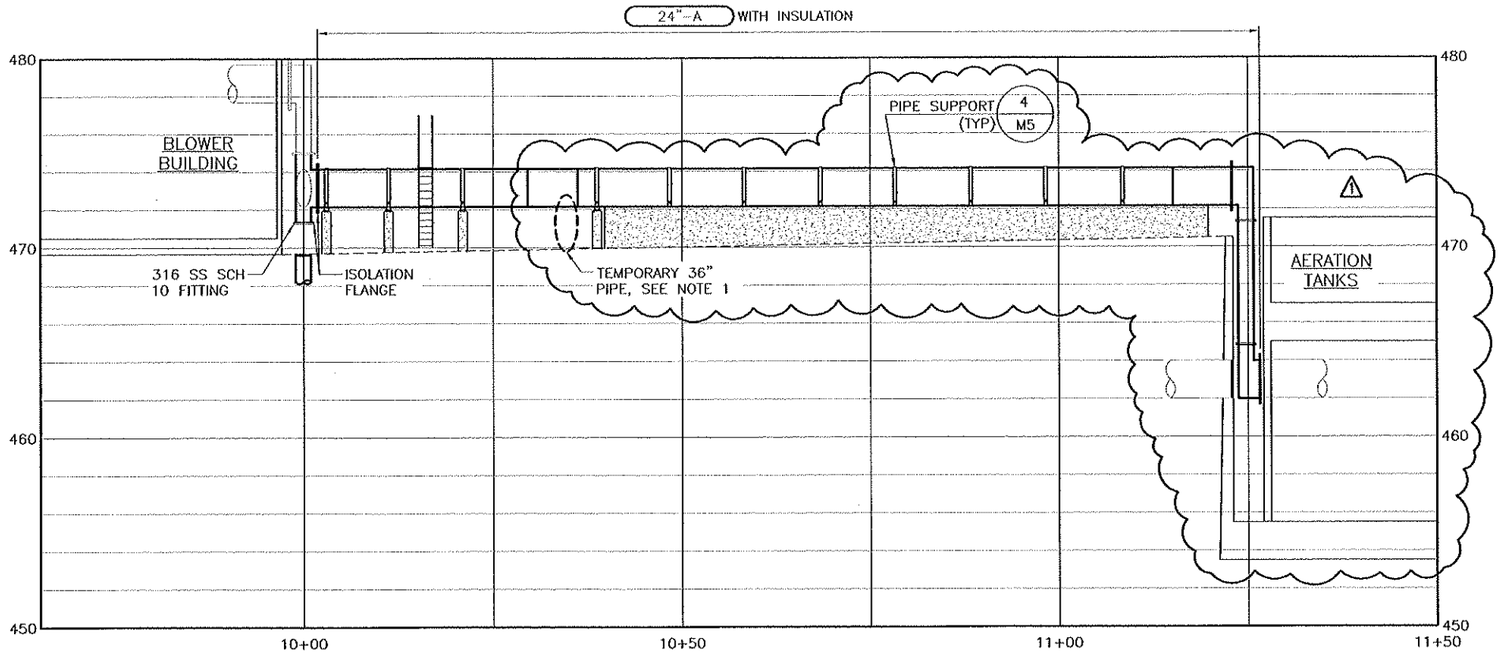
VALLEY SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
PRIMARY SEDIMENTATION AND
SLUDGE DIGESTION FACILITIES

SITE
YARD PIPING PLAN & PROFILE
DRAIN 9

C121

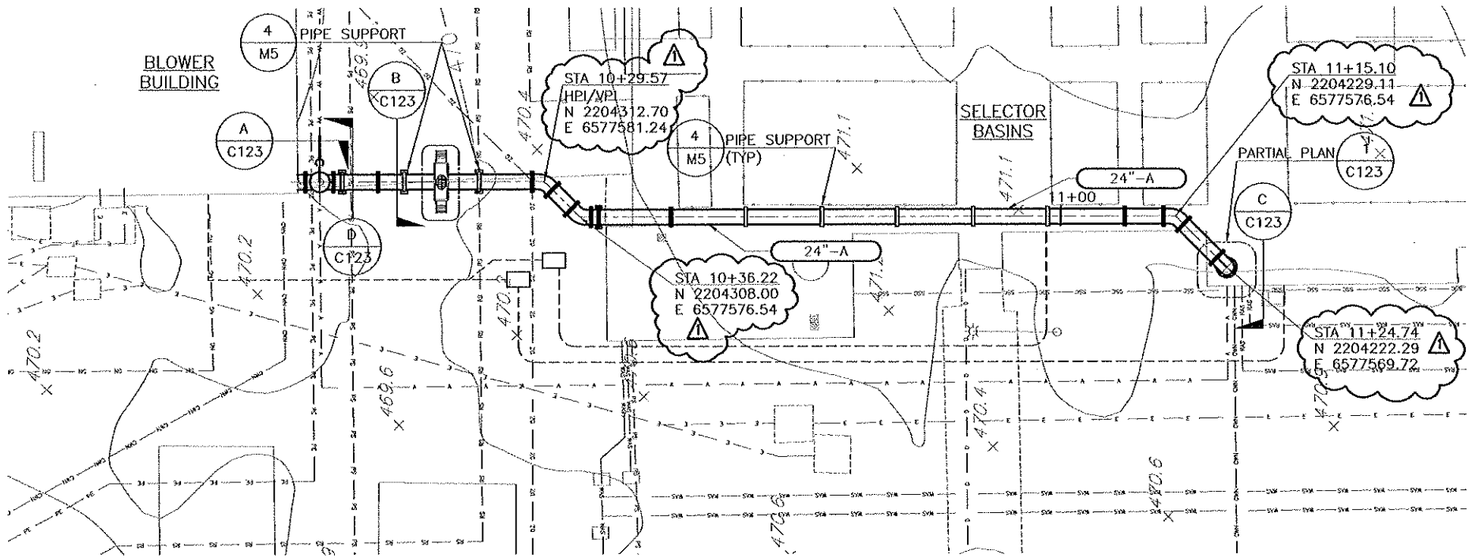
SHEET 50 OF 230

DWG: N:\PROJ\429\Design\FDP 3R1\Composite\Civil\42905c121.dwg
DATE: Aug 19, 2011 12:05pm



PROFILE

SCALE: 1"=10' HOR
1"=2' VER



PLAN

SCALE: 1"=10'

NOTE:

1. INSTALL 24" INCH AIR LINE AFTER THE TEMPORARY 36" INCH BYPASS LINE IS REMOVED.

10' 0' 10' 20'
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
LEE BADERTSCHER
No. C43789
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

NO.	REVISIONS	APPROVED	DATE
1	ADDENDUM 2	LRB	8/18/11

DESIGNED BY: L BADERTSCHER
DRAWN BY: H ROBLEDO
CHECKED BY: C RO

THIS LINE IS 2" AT FULL SIZE
(IF NOT 2" SCALE ACCORDINGLY)

LEE&RO. Inc.
City of Industry, California

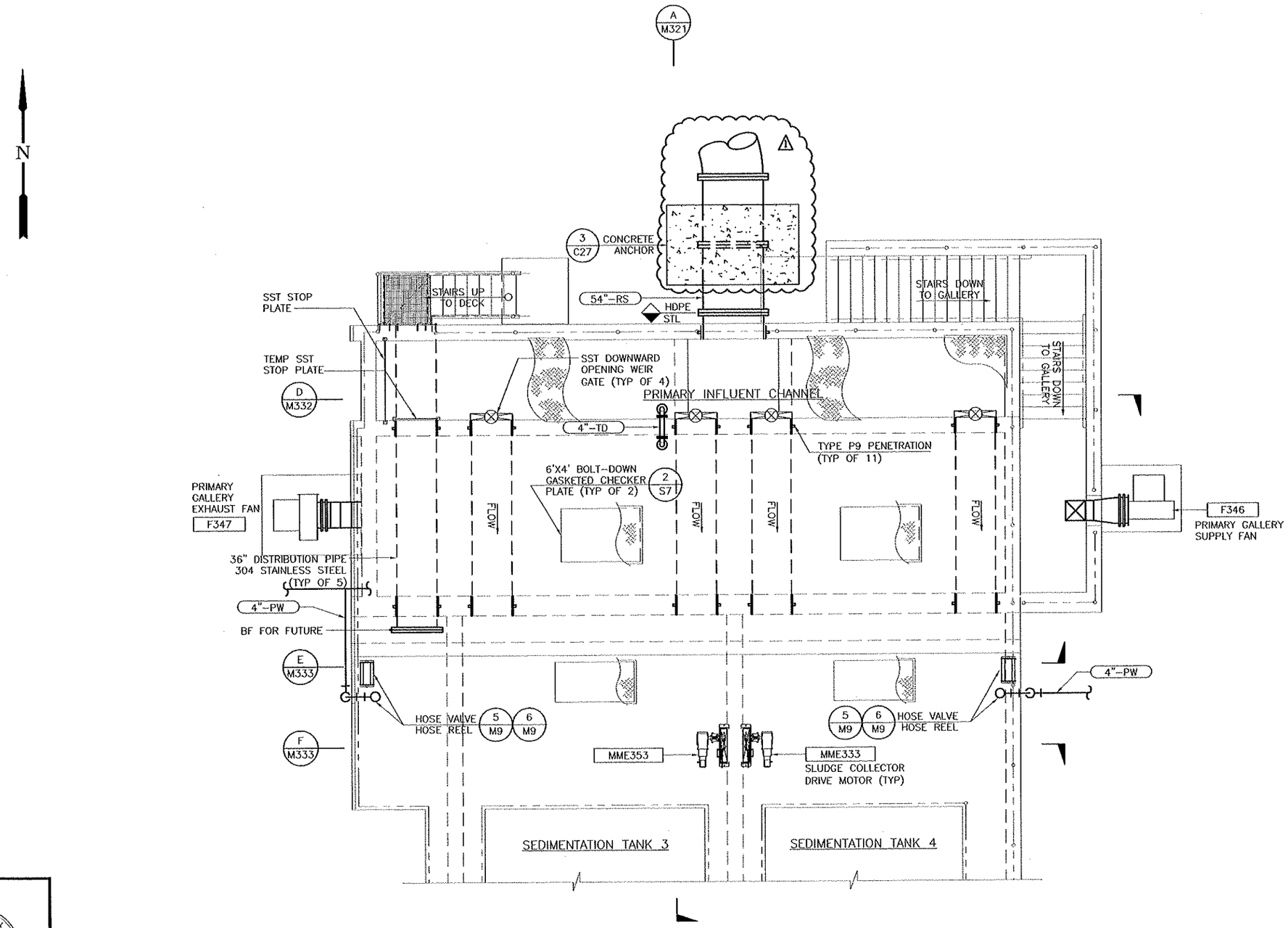
VALLEY SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
PRIMARY SEDIMENTATION AND
SLUDGE DIGESTION FACILITIES

24 INCH
PLAN AND PROFILE
FROM BLOWER BLDG TO SELECTOR TANKS

C122

SHEET 51 OF 230

DWG: N:\PROJ\429\Design\FDP 3R1\Composite\Civil\42905c122.dwg
DATE: Aug 19, 2011 12:05pm



PLAN AT 476.10

SCALE: 1/4"=1'-0"

0 2' 4' 8' 12'

SCALE: 1/4" = 1'-0"

M330

REGISTERED PROFESSIONAL ENGINEER DONALD R. LEE No.M20950 Exp. 06/30/11 MECHANICAL STATE OF CALIFORNIA

NO.	REVISIONS	APPROVED	DATE
1	ADDENDUM 2	LRB	8/18/11

DESIGNED BY: J POLLOCK
DRAWN BY: H ROBLEDO
CHECKED BY: D LEE

THIS LINE IS 2" AT FULL SIZE
(IF NOT 2" SCALE ACCORDINGLY)

LEE&RO, Inc.
City of Industry, California

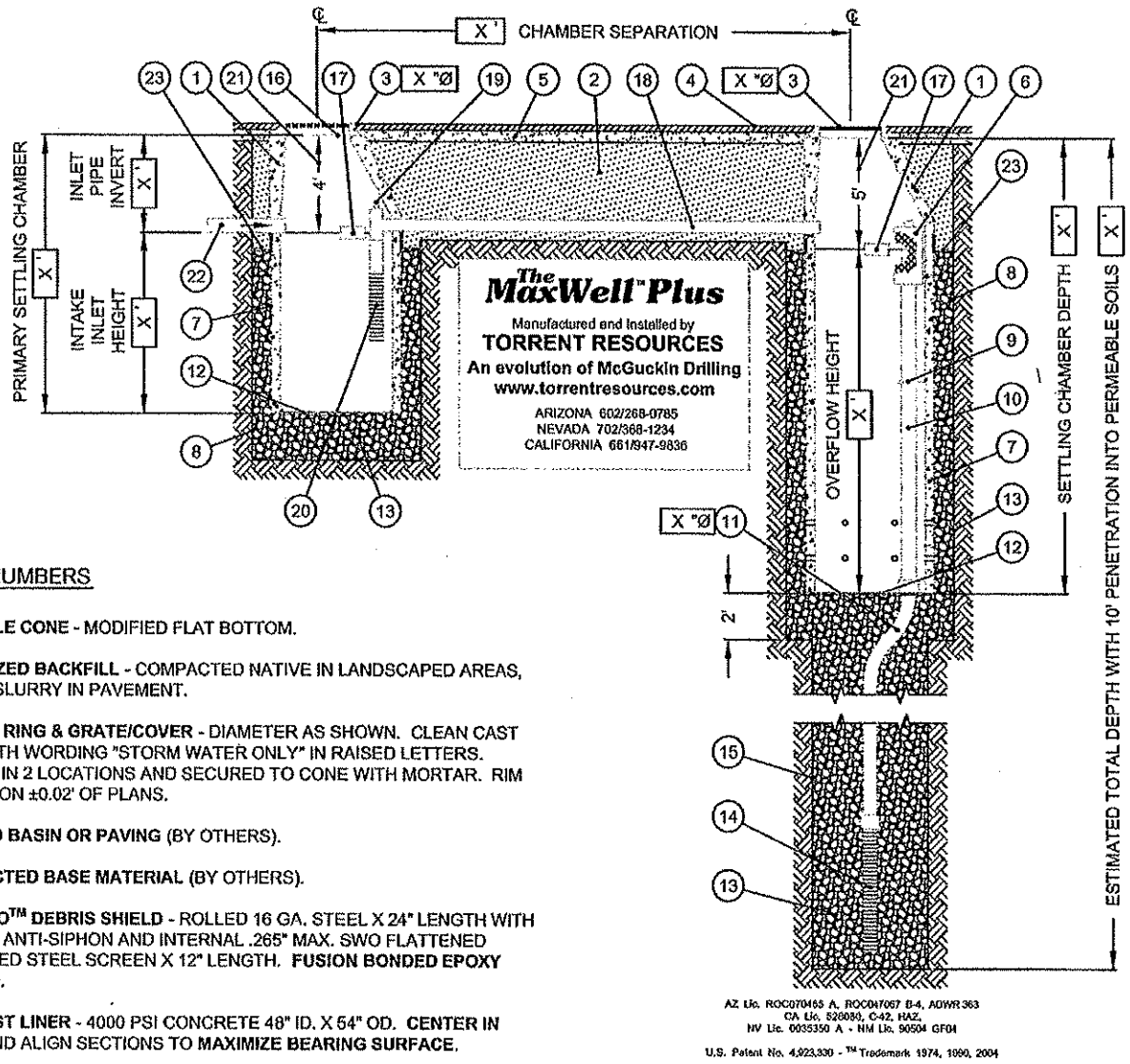
VALLEY SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
PRIMARY SEDIMENTATION AND
SLUDGE DIGESTION FACILITIES

PRIMARY SEDIMENTATION TANKS
INFLUENT CHANNEL PLAN

SHEET 130 OF 230

DWG: N:\PROJ\1429\Design\FDP 3R1\Composite\Mech\42905m330.dwg
DATE: Aug 19, 2011 10:53am

The MaxWell™ Plus Drainage System Detail And Specifications



ITEM NUMBERS

1. **MANHOLE CONE** - MODIFIED FLAT BOTTOM.
2. **STABILIZED BACKFILL** - COMPACTED NATIVE IN LANDSCAPED AREAS, 1 SACK SLURRY IN PAVEMENT.
3. **BOLTED RING & GRATE/COVER** - DIAMETER AS SHOWN. CLEAN CAST IRON WITH WORDING "STORM WATER ONLY" IN RAISED LETTERS. BOLTED IN 2 LOCATIONS AND SECURED TO CONE WITH MORTAR. RIM ELEVATION ±0.02' OF PLANS.
4. **GRADED BASIN OR PAVING** (BY OTHERS).
5. **COMPACTED BASE MATERIAL** (BY OTHERS).
6. **PUREFLO™ DEBRIS SHIELD** - ROLLED 16 GA. STEEL X 24" LENGTH WITH VENTED ANTI-SIPHON AND INTERNAL .265" MAX. SWO FLATTENED EXPANDED STEEL SCREEN X 12" LENGTH. **FUSION BONDED EPOXY COATED.**
7. **PRE-CAST LINER** - 4000 PSI CONCRETE 48" ID. X 54" OD. **CENTER IN HOLE** AND ALIGN SECTIONS TO **MAXIMIZE BEARING SURFACE.**
8. **MIN. 6' Ø DRILLED SHAFT.**
9. **SUPPORT BRACKET** - FORMED 12 GA. STEEL. **FUSION BONDED EPOXY COATED.**
10. **OVERFLOW PIPE** - SCH. 40 PVC MATED TO DRAINAGE PIPE AT BASE SEAL.
11. **DRAINAGE PIPE** - ADS HIGHWAY GRADE WITH TRI-A COUPLER. **SUSPEND PIPE** DURING BACKFILL OPERATIONS TO PREVENT BUCKLING OR BREAKAGE. DIAMETER AS NOTED.
12. **BASE SEAL** - GEOTEXTILE, POLY LINER OR CONCRETE SLURRY.
13. **ROCK** - CLEAN AND WASHED, SIZED BETWEEN 3/8" AND 1-1/2" TO **BEST COMPLEMENT SOIL CONDITIONS.**
14. **FLOFAST™ DRAINAGE SCREEN** - SCH. 40 PVC 0.120" SLOTTED WELL SCREEN WITH 32 SLOTS PER ROW/FT. DIAMETER VARIES 96" OVERALL LENGTH WITH TRI-B COUPLER.
15. **MIN. 4' Ø SHAFT** - DRILLED TO **MAINTAIN PERMEABILITY** OF DRAINAGE SOILS.
16. **FABRIC SEAL** - U.V. RESISTANT GEOTEXTILE - **TO BE REMOVED BY CUSTOMER** AT PROJECT COMPLETION.
17. **ABSORBENT** - HYDROPHOBIC PETROCHEMICAL SPONGE. MIN. 128 OZ CAPACITY.
18. **CONNECTOR PIPE** - 4" Ø SCH. 40 PVC .
19. **VENTED ANTI-SIPHON** INTAKE WITH FLOW REGULATOR.
20. **INTAKE SCREEN** - SCH. 40 PVC 0.120" MODIFIED SLOTTED WELL SCREEN WITH 32 SLOTS PER ROW/FT. 48" OVERALL LENGTH WITH TRI-C END CAP.
21. **FREEBOARD DEPTH VARIES** WITH INLET PIPE ELEVATION. INCREASE PRIMARY/SECONDARY SETTLING CHAMBER DEPTHS AS NEEDED TO MAINTAIN ALL INLET PIPE ELEVATIONS ABOVE CONNECTOR PIPE OVERFLOW.
22. **OPTIONAL INLET PIPE** (BY OTHERS).
23. **MOISTURE MEMBRANE** - 6 MIL. PLASTIC. PLACE SECURELY AGAINST ECCENTRIC CONE AND HOLE SIDEWALL. USED IN LIEU OF SLURRY IN LANDSCAPED AREAS.

Attachment 1

Bidder's Questions and Answers

Valley Sanitary District
Request for Information – Bid Phase
FINAL LIST OF QUESTIONS

Question 1

Who will be responsible for the Inspections of the Facility?

Answer 1

Buildings – City of Indio Building Department

Plant - Valley Sanitary District

Question 2

Will there be a requirement for bypass pumping?

Answer 2

No, only the bypass line will need to be installed.

Question 3

Is there a DBE/MBE requirement?

Answer 3

No.

Question 4

Is there a requirement that the PRIME Contractor have the majority of the work content, as per the Green Book?

Answer 4

No**.**

Question 5

Is this project ARRA funded?

Answer 5

No.

Question 6

Will there be any future walk thru or plant site visits.

Answer 6

There may be a future walk through, if there is enough demand for such, however, none is planned at this time.

Question 7

I am working on the Indio estimate and on the Operations Building drawing SB-201 the footers are called out as 2' wide except where noted other wise and it also calls out a couple details J-303 and C-301 and they both call out a 3' wide footer. Can you please clarify the correct dimension.

Answer 7

The design is to provide 2'-0" wide footings at 2 X 6 stud walls and provide 3' – 0" wide footings at CMU walls for the Operations Building shown on drawing SB-201.

Question 8

Currently the bid date is on a Monday. Many of the contractors have estimators working on the project from other offices in other states. A Monday bid date requires estimators to travel on weekends. Would it be possible to move the bid date to a Tuesday, Wednesday, or Thursday of the same week?

Answer 8

Due to operational reasons, the date for the bid receiving and opening Bids will be changed to Tuesday, August 30, 2011 at 3pm.

Question 9

Sheet S352 @ B-7: Knockout wall note. Shall Detail 4/S4 be used at this location.

Please provide roofing specification for Ferric Chloride Metering Canopy.

Answer 9

The wall shall be built with concrete and rebar as shown on Drawing S352. The Detail 4 on drawing S4 does not apply, use detail 3 on drawing S4 for future expansion.

Use a 1 1/2" depth Galvanized Steel Deck 20 GA per ASC B36 or equal. The deck shall have 4 puddle welds to steel beam (typical all around).

Question 10

Will there be work on this project from Volume 2 Specification Sections;

- 08360 Overhead Doors
- Metal Windows
- Fire Rated Glazing

Answer 10

The Primary Sedimentation and Sludge Digestion Facilities do not include any Overhead Doors, Metal Windows, or Fire Rated Glazing at this time.

Question 11

Will there be work on this project from Volume 4 Specification Sections;

- 09725 Wall Coverings

Answer 11

Wall covering will not be required and Section 09725 will be deleted from specifications.

Question 12

For Valley Sanitary WWTP: Victaulic grooved pipe joints are not allowed on the Glass Lined Steel section of this project. Ref: System 16 in 15050-27 section of the spec.

Answer 12

Grooved pipe and fittings per Specification Section 15061-2.4 are acceptable.

Question 13

Also the 10" Steel AWWA C200 piping. I'm not sure why; especially for glass lined pipe and grooved fittings. Will you allow for grooved couplings and fittings on these systems?

Lee and Ro will usually allow grooved pipe joints in lieu of flanged and welded joints.

Answer 13

Grooved pipe and fittings per Specification Section 15061-2.4 are acceptable.

Question 14

Is the 54” RS Line (Sheet C4,M251,C100,C101) HDPE or Steel Pipe? There is conflict between some drawings and between the drawings and the specs.

Answer 14

The buried 54" RS line shall be HDPE per Specification Section 15050-3.6 (System 12).

Question 15

Please specify what Piping System the 6” TWAS line is to follow? Line is shown on Sheet C11 and M741.

Answer 15

The 6" TWAS line shall be per Specification Section 15050-3.6 (System 13).

Question 16

Drawing M741 and M742 show six 16" CS lines entering Digester number 2. These same lines are shown on the instrumentation drawing I770 as 14" CS running from the sludge mixing pumps, P740 and P741, to the motorized plug valves FCV747, FCV746, FCV745, FCV744, FCV743, FCV742. Please clarify the correct diameter.

Answer 16

The six CS lines entering digester shall be 16-inch lines as shown on Mechanical Drawings.

Question 17

Drawing M741 indicates 4" HRR/HRS lines running from the yard to Sub Loop Hot Water Pump, P745 and P746, to Heat Exchanger HEX748. The same lines are shown on the instrumentation drawings I770 and I781 as 6" HRR/HRS. Please clarify the correct diameter.

Answer 17

The hot water lines are 4-inch at the Sub loop pumps as shown on Mechanical Drawings. The main header is a 6-inch line with 4-inch laterals as shown on Drawing M780.

Question 19

The specifications are contradictory concerning the type of backfill material to use around structures, including excavation laybacks. Paragraph 02200-2.2.B.6 states that we are to use Structural Backfill as defined by Subsection 2.1.H. However, 2.1.H defines Pervious Backfill, while 2.1.G defines Structural Backfill. Should 02200-2.2.B.6 reference Subsection 2.1.H? Additionally 3.12.C - Structural Backfill states that we are to Backfill with Select Material or Imported Sand. This is in conflict with 02200-2.2.B.6. Please clarify what Materials (Structural Backfill, Select Material, Imported Sand, Pervious Backfill) are allowable to use around Structures.

Answer 19

The material to be used around structures is structural backfill as defined in Subsection 02200-2.1G or select material defined in Subsection 02200-2.1B compacted to 95% under foundation/slabs and 90% elsewhere see Drawing S1. CAB and fabric shall also be used as shown on Structural Drawings.

Question 20

Due to the percentage of fines passing a #200 screen, it appears the onsite materials may not meet the requirements of some of the possible backfill material options detailed above. There is a large cost associated with hauling, disposing and importing new material if the entire layback is to be backfilled with imported material. Is it the engineer's intent to import all backfill material to be used around the new structures? If so, is it allowable to use imported material within 2' of the structure and use onsite material to backfill the rest of the layback?

Answer 20

The material to be used around structures is structural backfill or select material. The extent of this material shall be as shown on cross sections included on Drawings C16 and C17.

Question 21

The Specifications are contradictory concerning the type of backfill material to use Under the Structure. 02200.3.12.B states the we are to use select material or Class A Concrete. 02200.2.2.B.7 states that we are to follow the requirements of 2.1.F.5 or 2.1.F depending on whether it is a hydraulic structure or not. Please clarify what materials are to be used for backfill beneath structures?

Answer 21

Fill directly beneath structures shall be per Subsection 02200-2.2.B.7 unless specifically shown on drawings. See structural drawings for limits of materials beneath structures. The Digester and Primary Tank sections are shown on Drawings S352, S353, and S750 with limits of CAB, fabric, and concrete.

Question 22

The specifications for the heat exchangers name Alfa Laval and DOIT Oliver as manufacturers! Derr Oliver has not offered these heat exchangers in many years and even when they did they bought Alfa Laval Heat Exchangers and resold them.

Currently the only manufacturers of this equipment are Alfa Laval and Gooch and they both manufacture to the same configurations and design standards. We would suggest that you delete Dorr Oliver and insert Gooch in its place so you get good competition and the lowest price.

Answer 22

Gooch will be listed as an acceptable equal.

Question 23

You have specified a Spencer Hermetically sealed blower for the digester gas compression. There are no other manufacturers that make this type of machine. The only other supplier offers a similar multi stage compressor but it is not hermetically sealed.

We think the hermetically sealed feature is a good choice. About 2 months ago Victor Valley bid a similar gas compressor and because it was a defector sole source procurement the representative who offers the Spencer units used it as leverage to package it with other equipment we were offering thus preventing the contractors from considering our bid on the other equipment. We expect to be offering the other equipment and believe the exact same thing will happen. The owner will have to pay a premium price for this equipment.

On other projects this problem has been successfully solve by negotiating the price with the representative and locking it in the bid documents. Another approach is to make it a separate bid item so the representative must provide a standalone price for the item.

All of the other vendors who might be affected by the representative packaging the digester gas blowers with other equipment will appreciate resolution of this problem and the Valley Sanitary District will benefit by lower pricing.

Answer 23

Contractor can list substitution vendors to be evaluated.

Question 24

The plans and specifications for the chain and flight clarifiers section 11234 names Polychem and Envirex. Envirex's design is not even remotely like the specifications.

We represent Wastewater Equipment International, Inc. and we can come very close to

meeting your specifications and would like them to be named as a supplier for this equipment. The following is a review of the specification so you can see what the minor differences would be.

Paragraph 2.3 A specified that the chain be manufactured of Polyester Resin. We off chain manufactured of glass filled nylon which has superior characteristics. Our chain is about 25% stronger and is not brittle like Polyester is. Incidently Envirex uses the weakest chain and is manufactured of acetyl a plastic with a stretch characteristic that requires more frequent removal of links to keep the chain from skipping off the sprockets.

Paragraph 2.3B. 2. This requires a non-metallic clip on the chain pins. We can provide this type of chain but prefer to provide stainless steel cotter keys which are more secure.

Paragraph 3.6 C requires one piece sprockets on the stub shafts which is a unique design feature of Polychem. We offer similar cast nylon stub shafts but we fit them with static sleeve bearings which require split sprockets. See the attached drawing so you can see how our stub shafts are assembled. One of the advantages of our type of stub shaft is that the sprocket location on the shaft is adjustable while the Polychem design is not adjustable.

Paragraph 2.7 This required polyeaxbonate retainer caps of the stub shafts. We do not need retainer caps at all.

Paragraph 2.8 Describes a proprietary telescoping fiberglass head shaft system of Polychem. The other named competitor would use steel head shafts with cast iron bearing housings. Taset who's product we sell use to provide these but stopped doing it because they believe these shafts are two flexible. They now offer a 304 stainless steel head shaft of tubular construction with solid stub shaft welded in the end of the tubular shall We prefer to provide stainless steel bearing housings with graphite impregnated bearings which are self lubricating and have a 15 year track record of success. See the attached drawing.

Paragraph 2.16 Requires not metallic slide base and arm for the chain adjuster. This is a proprietary Polychem design. We furnish a 316 stainless steel slide base and arm which is superior.

Paragraph 2.20 A This paragraphs lists Polychern and Envirex. As mentioned previously the Envirex design is different from the specification in many areas. Taset who manufacturers the majority of our system comes closest to the specifications and will provide solid competition and we request to be added to the listed manufactures.

Answer 24

Polychem and Envirex are listed manufacturers and Wastewater Equipment International can be listed as a Substitute to be evaluated.

Question 25

Existing elevations are shown on the Site Paving and Grading Plan sheets C12 and C14 but are not shown on sheets C13 and C15. Please provide existing elevations on sheets C13 and C15 so that accurate cut/fill quantities can be calculated.

Answer 25

See sections on Drawing C16 for existing elevations associated with grading on Drawing C13. The grading on Drawing C15 consists of drainage improvements (shotcrete, curbs, and paving) with the top of existing slope at approximate elevation of 466.50.

Question 26

On Drawing M-150, Drain Pump Station, the pump discharge piping is depicted as ductile iron pipe and fittings, while this apparently Primary Sludge (PS) discharge piping would fall under System 16, which for exposed piping would be Glass Lined Steel Pipe. Please confirm this is the case.

Answer 26

The 6" discharge piping is Tank Drain (TD) conforming to System 12 which does not require glass lining.

Question 27

On Drawing M250, Aerated Grit Tank, the 30" RS pipe discharging from the grit tank appears to be drawn as steel pipe, with a welded water stop weep ring at the encasement, while RS piping systems under System 12 for buried piping should be HDPE. Please identify if this piping is Steel or HDPE.

Answer 27

The 30" – RS pipe shall be system 12 (HDPE).

Question 28

On Drawing M250, Aerated Grit Tank, the 30" RS pipe discharging from the grit tank, has a call out for Type 4 penetration, which does not agree with the drawing, clearly indicating a welded weep ring attached to the pipe. Please clarify this apparent discrepancy.

Answer 28

The penetration call out shall be Type P9.

Question 29

On Drawing M250, Aerated Grit Tank, the 12" RS pipe discharging from the grit tank, has a callout for Type 4 penetration, which does not agree with the drawing, clearly indicating a welded weep ring attached to the pipe. Please clarify this apparent discrepancy.

Answer 29

The penetration call out shall be Type P9.

Question 30

On Drawing M250, Aerated Grit Tank, the 12" RS pipe discharging from the grit tank appears to be drawn as steel pipe, with a welded water stop weep ring at the encasement, while RS piping systems under System 12 for buried piping of this size should be PVC. Please identify if this piping is Steel or PVC.

Answer 30

The 12" – RS pipe shall conform to System 12 which is AWWA C900 PVC with ductile iron fittings.

Question 31

Please provide a Piping System Specification that correlates with your contract drawings, or provide contract drawings that correlate with your Specifications, or notations of exceptions to the Specifications, and identify which materials will be substituted with.

Answer 31

Answers are provided in Request for Information responses.

Question 32

On Drawing M-150, Drain Pump Station 1, no callout exist as to the piping system for the pump discharge piping. Please identify which piping system this corresponds to.

Answer 32

The 6" discharge piping is Tank Drain (TD) conforming to System 12.

Question 33

We can find no control drawings for the Drain Pump Station Pumps and any required instrumentation. Please provide P&ID drawings corresponding to the Drain Pump Station 1.

Answer 33

The design matches existing controls and instrumentation consists of floats as shown on drawings E48, E49, and E150.

Question 34

On Drawing M-150, Drain Pump Station 1, Section A, in dark line weight, is drawn a feed pipe along with two flexib le couplings, tying into the pump wet well. No such pipe is depicted on the yard piping drawings, or the Site Layout and Location Plan drawing G7. Please verify the piping system, size and routing of the feed pipe to the wet well.

Answer 34

The wet well influent line is an existing 8" pipe shown on drawing C-7.

Question 35

Drawing M-1S0, Drain Pump Station 1, no callout appears at the pipe penetrations thru the pump well. As this appears to be an existing structure, please identify if the existing piping penetrations are sufficiently sized for the proposed new piping, or supply piping penetration details.

Answer 35

Use Type P4 penetration.

Question 36

Section "D" on drawing M332 shows side and bottom slots for a temporary bulkhead. Is this one of the 2 ea SS Stop Plate frames specified in Section 11293 for the Influent Channel?

Answer 36

Yes two stop plates are required, one of the influent channel and one for the effluent channel. The stop frame shall be relocated from 36" pipe to Influent Channel on Drawing M330 in line with frame shown on Drawing M332.

Question 37

Paragraph 11341-2.8.A makes reference to Rotary Lobe Pumps. No Rotary Lobe Pumps are shown or specified to be provided. The macerator feed pumps are progressive cavity pumps specified in Section 11218. Please clarify.

Answer 37

The reference to rotary lobe pumps will be deleted from specification section 11218.

Question 38

Paragraph 11408-2.2.A.3 specifies 36" diameter manholes. Detail 4/M11 shows 30" manholes. Please clarify.

Answer 38

The manhole shall be 36" diameter.

Question 39

Paragraph 11408-2.3 specifies sample hatches. These appear to be shown on detail 2/M11. Are these the same? Where are these shown on Digester 2?

Answer 39

The sample ports are deleted from project, and are not required.

Question 40

Section1 of detail 5/M12 says to cut existing dome and dry pack with grout. Is this correct? These can be cast in place with the new dome. Please clarify.

Answer 40

The view ports can be cast in place.

Question 41

Paragraph 11408-2.4 specifies a total of 6 view ports. Drawing M740 only shows 5. Please clarify.

Answer 41

There are a total of 5 view ports.

Question 42

Paragraph 11620-2.1.A.1 specifies the expansion tank as tank T784. Drawing M781 shows tank T784. Drawings M780 and I781 show an expansion tank T813. Are these the same tank? If so, what is the correct tank number? Please clarify.

Answer 42

This is the same tank and shall be labeled T813.

Question 43

Paragraph 11620-2.4.A.1 specifies 6" balancing valve V781 in the Gas Scrubber and Boiler Facility. Drawing M783 shows 4" balancing valve V820. Are these the same valve? What is the correct size?

Answer 43

The main loop balancing valve is a 4" valve labeled V820.

Question 44

Paragraph 11620-2.5.A.1 specifies chemical feeder MME782 in the Gas Scrubber and Boiler Facility. Drawing M783 shows a chemical feeder MME819. Are these the same? Please clarify.

Answer 44

This is the same chemical feeder and tag number shall be MME819.

Question 45

Drawing M736 does not have length and width dimensions for the Bio-Filters. Section 13250 gives dimensions of 43' long x 34' wide. Are these measurements taken at the bottom of the beds, or at the top of the sloped banks?

Answer 45

The dimensions at the top of the slope banks are 37' X 34'.

Question 46

Section A/M736 shows the depth of the Bio-Filter Media between the bottom of the Rock Cover and the top of the Gravel Media at 4'-6". Paragraph 13250-3.2.C.1 specifies a depth of 3'-0". What is the required depth of the Soil Media?

Answer 46

The bio-filter media depth is 4' – 6".

Question 47

Paragraph 13250-3.2.C.1 specifies a depth of 12" minimum for the Plenum Zone Gravel Media. The Sections on Drawing M736 shows the Gravel Media completely encasing the 18" FRP Air Header. What is the required depth of the Gravel Media? How far above and below the 18" Air Header does the Gravel Media extend?

Answer 47

The gravel media extends 3' – 0" below the 18" FRP Air Header.

Question 48

Reference is made to Specification 13300-1.3-A.

Preload Inc. requests that the digester contractor be allowed to design and construct the prestressed concrete digester in strict accordance with AWWA 0110 Type I or III. The current specification provides for Type I only thus limiting the digester competition to just one (l) single tank contractor. By including a Type III tank contractor, the documents will allow for additional qualified competition among the prestressed concrete tank contractors, In fact, this will allow for the possibility of three qualified digester contractors competing for this tank.

Preload Inc. has constructed over 3600 tanks including two of the larger Digester projects in the U.S.; 10 prestressed tanks(8 digesters) in San Antonio, TX and 18 prestressed concrete digesters at the Hyperion WWTP in Los Angeles, CA in the late 1940's. Preload Inc. has committed to quoting a price to the above referenced project if an addendum allows for an AWWA 0110 Type III Tank(Digester), Preload has constructed many prestressed concrete tanks in high seismic regions that have been in service for many years. Preload is also the pioneer in prestressed concrete tank seismic design having developed the design methodology, base seismic cables, used by all 0110 tank contractors in the U.S since the mid 1950's. That approach to seismic design has performed very well over i'l period of many years, Preload engineers participate and lead various national standards and committees relative to prestressed concrete tank construction and tank design as well as seismic design.

Answer 48

That approach to seismic design has performed very well over a period of many years, Preload engineers participate and lead various national standards and committees relative to prestressed concrete tank construction and tank design as well as seismic design.

Question 49

Ref Specs Volume 2, Section 8710 subsection 3.3 Hardware Schedule and Dig Vol 3 #S170 and S336. The specifications call for 6 doors (5 single exterior, and one single interior), and one overhead door. Whereas drawings S170 and S336 were the only drawings we could find that calls out any doors, and they call for 5 double exterior doors. The labeling between the specs and the drawings is inconsistent (in the specs, a door is called 101A, but in the drawings door schedule, they are called Door 1 and Door 2), and we could not find an overhead door or an interior door. Please clarify.

Answer 49

There are five double doors required:

1) 4 double doors 5’-0” X 8’-0” associated with power buildings as shown on Drawing S170.

2) 1 double door 5’-0” X 7’-0” associated with primary tank galley as shown on Drawing S336.

Question 50

Ref Specs Volume 4, Section 08100, Part 2.02 Metal Doors, Paragraph C Acceptable Products, Subsections 1 and 2. Specs give special directions for a “Security Door” – words which are not in the plans . There are doors that call for key pads/card readers or key locks/ or a gate, but never it’s never spelled out as a security door. What constitutes a “Security Door”?

Answer 50

There are no “Security Doors” on this project as related to said specification.

Question 51

Ref Dig Vol 5 #A011, Door and Hardware Schedule (Ops Building) Door E103. Drawing calls for type A frame, which appears to have a 6' x 12" louver in the frame, however, the schedule doesn't call for a louver. Also, the drawings do not clarify if louvers are present only in the frame. Please clarify.

Answer 51

Louver is required above the door not in the door, refer to M301 Enlarged Plan # 3, also refer to Keynote # 1 for specific requirement of louver.

Question 52

Ref Dig Vol 5 #A020, A101, and A201 number of type D windows. Dig A020 calls for 12 type D windows, while A101 has revisions showing a replacement of one window with an additional door – Exterior door 110. A201 shows no such revisions. How many windows will there be? Reference Dig Vol 5 # A011, A101, and A201 door 110. The door schedule does not include revisions made on A101 sect H1 for door 110. Likewise, Dig A201 does not depict the additional door. What is the needed door information for the door schedule?

Answer 52

A13/A020 Window Schedule – Operations Building Glass Block 8 x 8 Window Type D should be corrected to indicate 11 not 12. Door 110 @ Riser Room 110 of the Operations Building H1/A101 will be required, as Operations Building Door Schedule A1/A011 does not indicate door 110, contractor shall use Frame Type K of K1/A010 Lab & Administration Building Door Schedule. Door Type for Door 110 contractor shall use Door Type A of N9/A011, louver not required. G10/A201 was accidentally not corrected with initial City Plan Check Corrections.

Question 53

We request that the digester contractor be allowed to design and construct the prestressed concrete digester in strict accordance with the AWWA D110 Type I or III. In doing so, this will allow for qualified competition among the prestressed concrete tank contractors including Preload Inc. In fact, this change will allow for the possibility of 3 qualified bids instead of one digester bid.

Preload Inc. has constructed over 3600 tanks including two of the larger Digester projects in the U.S.; 10 prestressed tanks (8 digesters) in San Antonio, TX and 18 prestressed concrete digesters at the Hyperion WWTP in Los Angeles, CA in the late 1940's.

Preload has constructed many prestressed concrete tanks in high seismic regions that have been in service for many years. Preload is also the pioneer in prestressed concrete tank seismic design having developed the design methodology, base seismic cables, used by all D110 tank contractors in the U.S since the mid 1950's. That approach to seismic design has performed very well over a period of many years. Preload engineers participate and lead various national standards and committees relative to prestressed concrete tank construction and tank design as well as seismic design.

Answer 53

~~The design is based on a Type I pre-stressed concrete tank due to tank size. Contractor can list Type III as a substitution to be evaluated.~~ See Answer 66.

Question 54

Section 02200-2.2 B.1.a States "Mortar coated pipe, concrete pipe and uncoated ductile iron pipe shall be provided Type A Bedding, Type B bedding or Concrete Pipe Bedding materials as defined in Subsection 2.1.J,2. The 2.1.J.2 section refers to Sand-Cement Slurry, Does the District want Sand-Cement Slurry for this application?

Answer 54

Sand cement slurry is acceptable for this application along with the other options listed. The Subsection referenced in Specification Section 02200-2.2.B.1.a shall be changed from 2.1.J.2 to 2.1.I.3.

Question 55

Section 02200-2.2 B.6 States "Backfill around or behind structures shall consist of Structure Backfill as defined in Subsection 2,1.H, unless indicated otherwise in the Contract Documents." Section 2, 1.H refers to Pervious Backfill. Does the District really want pervious material for all this backfill?

Answer 55

The material to be used around structures is structural backfill as defined in Subsection 02200-2.1G or select material defined in Subsection 02200-2.1B compacted to 95% under foundation/slabs and 90% elsewhere see Drawing S1. CAB and fabric shall also be used as shown on Structural Drawings.

Question 56

Section 02200 3.14.E states "Backfill materials for manholes 60-inches and less in diameter shall be backfilled with sand-cement slurry per Subsection 2.1.K." Does the District really want soil cement for backfilling manholes?

Answer 56

Soil cement slurry is intended. The Subsection referenced in Specification Section 02200-3.14.E shall be changed from 2.1.K to 2.1.J.

Question 57

Section 022202.01.5 states "Provide granular base under building slabs. Fine aggregate shall comply with requirements of Section 03300 of these specifications." In reviewing Section 03300 2.1 Material products it is difficult to determine just what this material is composed of Please clarify and define this material?

Answer 57

Fill directly beneath structures shall be per Subsection 02200-2.2.B.7 unless specifically shown on drawings. See structural drawings for limits of materials beneath structures. The Digester and Primary Tank sections are shown on Drawings S352, S353, and S750 with limits of CAB, fabric, and concrete.

Question 58

The existing grades (topography) are nearly non-existent on sheet (-13 (27 of 230). Is there a better existing topo sheet of the area which we could be provided?

Answer 58

See sections on Drawing C16 for existing elevations associated with grading on Drawing C13.

Question 59

Spec. Section 16111.2.01 (see above) conflicts with notes 1 & 2 on the Miscellaneous Conduit and Cable Schedule states, “1. PVC Coated RGS conduit shall be used for all exposed conduits. 2. Schedule 40 PVC conduit shall be used for all buried conduits.” Do the notes on the drawings apply in all situations?

Answer 59

The Plant work shown on Volume 3 Drawings shall comply with notes 1 and 2 (1. PVC Coated RGS conduit shall be used for all exposed conduits. 2. Schedule 40 PVC conduit shall be used for

all buried conduits.) and Volume 2 Specification Section 16130. The work shown on Volume 5 Drawings shall conform to Volume 4 Specification Section 16111.

Question 60

When running cable between the ATS and MCC in the cable trench for Electrical Power Buildings B & C will cable only be acceptable? For example conduit # P270E runs between the ATS and MCC and calls for a 5" conduit with (6) 500MCM & (2) 4/0. Is the 5" conduit necessary when there is a cable trench?

Answer 60

During construction alternative raceways will be considered in the cable trench. For short cable lengths conduit will not be required in cable trench.

Question 61

Can you provide make, model number, and year of existing Switchboard "S", Switchboard "N", and Switchboard "MS"? Photos of existing would also be helpful.

Answer 61

SWBD-S Cutler Hammer Westinghouse
SO 73Y2888
CO HLA64619

SWBD-N Eaton Cutler Hammer
LA240626J601

SWBD-MS Square D
21294-1A

Question 62

Reference is made to Volume 3, Drawing S230.

a) Section E. Please clarify the note "APPLY LEAN CONCRETE BELOW GRADE". Finish Grade is at elevation 465.50, whereas bottom of concrete slab is at 470.50.

b) Section E. Please confirm that galvanized flanged rebar couplers with stainless steel cap bolt are required not only for the slab, but for the walls as well.

c) Section A. What is the surface preparation between the existing structure and the new channel?

d) Section A. What is the thickness of the 6' long elevated slab at elevation 480.00?

e) Section B. For the joint between the top of pier wall and the elevated slab, is this a sliding joint? Is there any surface preparation if it is not a sliding joint?

Answer 62

Reponses in reference to Volume 3, Drawing S230:

a) Delete the lean concrete at the bottom of Section E.

b) Yes galvanized flanged rebar couplers with SS cap bolts are required in wall and slab.

c) The surface preparation shall be as follows. Sandblast existing concrete surface to a ¼-inch roughness and apply epoxy bonding agent before concrete placement.

d) The thickness of the elevated slab is 12-inches.

e) The surface preparation shall be as follows. Provide ½-inch neoprene pad between pier and elevated slab.

Question 63

Reference is made to Volume 3, Drawing S353 and M350. Drawing S353 Section A calls out for base gravel between the Parshall Flume and the Effluent Channel. Drawing M350 Section J calls out for a 6" concrete slab. Which one is correct?

Answer 63

The structural drawing S353 will be changed to show a 6-inch 3000 psi concrete slab with #4 rebar @ 12" EW.

Question 64

Reference is made to Volume 3, Drawing S742. Are there additional construction joints at the southwest slab? There are "CJ" called out, but no line drawing to represent the CJ. In addition, there are some dimensions that do not correspond to anything. Please clarify the Drawing.

Answer 64

The construction joints and dimensions will be shown on reissued Drawing S742 in addendum.

Question 65

Shear Wall Schedules 1/SA201 and 1/SB201 shows 2x and 3x sill plates, studs and blocking at panel joints with Footnote: 'C'. - for shear wall nailing and framing requirements see 8/S102

Detail 8/S102 No. 5 calls for 3x framing and blocking requirements, refer to shear wall schedule.

Details B & F/S301 shows 4x6 sills and 4x6 studs at 48" o.c. with referenced Detail 1/S201 which is not among the S sheets.

Answer 65

The above statements are correct. Schedule 1/S201 item C refers to Detail 8/S102 which provides direction for placement of shear wall nailing. Detail 8/S102 references back to 1/S201 for blocking requirements. Details B & F on S301 are referencing 1/SA201 and 1/SB201. Since the sections applied to both building's plans/schedule, we removed the building letter designation. Sections cut on SA201 reference 1/SA201 and sections cut on SB201 reference 1/SB201.

Question 66

Addendum #1, Question #53 requests that the contractor be allowed to design and construct a prestressed concrete type III corewall in lieu of the type I corewall specified for the above referenced digester, Answer #53 states that the design is based on a type I prestressed concrete tank due to the size of the digester, but contractors may list a type III digester wall per AWWA D Il 0"04 as a substitution to be evaluated.

In order to meet the high standards sought by the Valley Sanitary District, please confirm that the following minimum structural dimensions and/or quality control issues shall be required for the type III corewall digester design substitution to be evaluated:

A) Alternate type III corewall digester shall have a minimum wall thickness of 12". (Drawing S750, Specification Section 13300-2.1,A,2.b)

B) Alternate type III corewall digester shall have a minimum floor thickness of 12", (Drawing S750, Specification Section 13300-2.1 .A.2.c)

C) Alternate type JII corewall digester shall have a minimum footing thickness of 24". (Drawing S750)

D) Alternate Type III corewall digester shall have a minimum footing width of 6' - 6".

(Drawing 8750)

E) Alternate type III corewall digester shall have a minimum dome thickness of 9", (Drawing S750)

F) Alternate type III corewall digester shall utilize circumferential prestressing steel which shall be hot dipped galvanized, (Specification Section 13300-2.6.A)

G) Alternate type III corewall digester shall utilize circumferential prestressing.

Answer 66

Type III tank will not be acceptable due to the difficulty of T-Lock installation and other project requirements specified. The Contractor shall provide Type I tank as specified. Answer 66 supersedes Answer 53.

Question 67

Over excavation· Sheet S720 shows the section view of Digester 2 and indicates that the Tensar Geogrid is to be placed at elevation 445.00 under the wall footing of the Digester, sloping down 1:0 approximately elevation 435.2 under the thickened concrete pipe block area at the center of the tank, resulting in an over excavation ranging from approximately 6'· 0" to l' - 8" below the foundation of the structure. However, Page 8 of the Phase 1 Geotechnical Report indicates that a preliminary recommendation of a 10 feet thick layer of compacted fill, underlain by a Tensar Geogrid (or equal), should be placed under the foundation of structures (including the digester) located within the Pond I investigation area. The Report further states that this should be verified in Phase 2. The Phase 2 Geotechnical Report states that the proposed plan configuration had been revised. The Phase 2 Geotechnical Report also does not specifically refer to the digester but does state that the Pond 1 investigation area should be cleared of surface and subsurface obstructions.

Please have the Project Engineer clarify if the Digester is in the Pond 1 Investigation Area. Also. please have the Project Engineer clarify if the shown over excavation and placement of the Tensar Geogrid on Sheet S720 or the described Phase 1 Geotechnical Recommendation of over excavating 10 feet below any foundations and placing a Tensar, Geogrid at the bottom of that overreaction is to be followed.

Answer 67

The Digester is in the Pond 1 Investigation Area. The design details shown on Drawing S750 shall be followed in lieu of the soils report.

Question 68

Geotechnical Questions - Please note that we were unable to determine several geotechnical parameters used to design the reservoir. Please have the Geotechnical Engineer review and provide you with the following;

a. Please have the Geotechnical Engineer confirm that the stated allowable bearing pressure of 3000 psi stated in section 3.5.2 of the Phase 1 Geotechnical Report is a Net Allowable Soil Bearing capacity (excluding water and/or soil overburden pressures).

b. There appears to be a discrepancy between the stated groundwater elevations and the Sste topography. Table I states that groundwater was encountered between depths of 37 and 60 feet below ground surface resulting in elevations of -49 to - 72. The Geotechnical Engineer further states that groundwater is known to fluctuate at the site, However Sheet *C-3* appears to indicate that existing ground surface is around elevation 470, Please have the Geotechnical Engineer provide you with a maximum groundwater elevation which we should use for design purposes.

c. Please have the Geotechnical Engineer provide a backfill drag coefficient.

Answer 68

A) The 3,000 psf bearing pressure is a maximum net allowable soil bearing capacity.

B) The ground water elevation is described in Specification Section 02200-1.4.A.

C) Contractor shall develop their backfill drag coefficient, if necessary.

Question 69

Seismic Design - Specification Section 13300.2.1.A.6.c states to use the Seismic Criteria as specified in the Phase I and Phase II Geotechnical Report. Phase I and Phase II Geotechnical Reports refer to the CBC 2007 which is based off of the UBC 97, Please note that the CBC 2007 is based off of the IBC 2006. Please have the Project Engineer clarify if the Seismic Design is to consider the UBC 97.

Answer 69

The seismic design is based on CBC 2007 / IBC 2006 and the Contractor shall use the same for seismic design.

Question 70

Roof loading - Specification Section 13300.1.1 ,C states that "the tank shall consist of a cast-in-place concrete floor, a cast-in-place prestressed concrete wall with vertical posttensioning, and a concrete dome roof designed as needed to support the design roof loadings". Specification Section 13300.2.1.A. I states that the loading shall consist of a dead load of the dome shell weight, a live load of *6O* psf, a design vacuum pressure of 6" of water with a factor of safety of 2.0 and an internal gas pressure of 14-inch water with a factor of safety of 2,0. However, sheet M750 appears to indicate that there are additional mechanical items (multiple pipes, pipe penetration B and pipe support.s) that are to be placed on the roof. Please have the Project Engineer Clarify if the loading for the additional mechanical items need to be considered separately from the design roof live load or if the additional mechanical items have been incorporated into the design roof live load.

Answer 70

The live load of 60 psf includes the piping, penetrations and supports on digester roof.

Question 71

Construction Joint - Drawing S740 indicates that the floor appears to be case in five (5) sections through the use of multiple construction joints. This drawing shows an octagonal construction joint surrounding the sump and four radial construction joints extending from the octagonal construction joint out to the outer edge of the wall footing.

Please note that when forming a cone-shaped hopper bottom reservoir, a circular construction joint has often been used in lieu of an octagonal construction joint with success. In order to minimize joint lineal footage and therefore, reduce potential sources of leakage, we would recommend to pour the floor in two sections, with a single construction joint oriented circumferentially, at the same radius as shown on sheet S750 (29' diameter centered about the center of the reservoir), Since this will result in a larger single pour, we are proposing to use a shrinkage reducing admixture to minimize potential shrinkage cracks. Please have the Project Engineer clarify if replacing tile octagonal and radial construction joints shown on S740 with a circular construction joint would be acceptable.

Answer 71

Circular in lieu of octagonal construction joints will be acceptable. However, the Contractor shall provide radial construction joints as shown.

Question 72

Mechanical Piping - Drawings M741, M742, M750 and M751 indicate that there are pipes that penetrate the wall at various locations around the reservoir in one of two un-banded (no-wrap) elevation ranges. Sheet M751, Note 1, states that "Locations of pipe penetrations are approximate. Adjust/Coordinate all penetrations w/ final piping locations." Sheet M741 seems to indicate that several of the pipe penetrations shall utilize a spool that is larger than the thickness of the wall and also seems to indicate that the pipe spool is not perfectly radial for all penetrations. Please note that in order to not have to effectively customize each wall form that has pipe penetration while constructing the tank, all the pipe penetrations must be perfectly radial and use a flange-to-flange pipe spool that is equal to the wall thickness (12"). Please also note that in order to keep the proper clearance to these pipe spools the un-banded (no wrap) zone may need to be slightly increased. Please have the Project Engineer clarify if using a perfectly radial 12" thick flange-to-flange pipe spool is appropriate and also if slightly increasing the un-banded (no-wrap) zones would be acceptable.

Answer 72

The pipe penetrations shall be coordinated with the tank contractor and custom design will be required.

Question 73

Dome thickness - Drawing S750 indicates that the dome is to be 9" thick and drawing S741, section A indicates that the dome is to be 8" thick. Please have the Project Engineer clarify what the dome thickness is to be.

Answer 73

The concrete dome thickness shall be 9-inches.

Question 74

Roof Curb - Drawing S750 indicates that a 6" concrete curb is to be placed on top of the wall. This curb appears to have a thickness that is less than the thickness of the wall. It is unclear if this curb is to be notched out of the wall or poured on top of the wall. In addition, it appears that this curb could create a drainage issue. One potential alternative that would allow for a

free draining system would be to replace that curb with a "kicker" attached to the handrails. We have attached a detail for your convenience. This would also eliminate complicated notching or additional pours required to create that concrete curb. Please have the Project Engineer review the detail and clarify if a "kicker" attached to the handrail would be an acceptable alternative.

Answer 74

The curb shall be poured integral with the wall. The tank contractor shall be responsible for prestressed tank design and provide curb openings as required.

Question 75

Expansion .Taint - Drawing S740 indicates that a y," expansion joint is to be placed between the wall and the adjacent concrete slab structures. Due to the potential movement of the reservoir under hydrostatic and hydrodynamic pressures, we would recommend that this expansion joint have a minimum thickness of 1". Please have the Project Engineer confirm that this is appropriate.

Answer 75

The digester tank ½-inch expansion joints shown on Drawings S740, S742, and S743 shall be replaced with 1-inch expansion joints.

Question 76

Addendum # 1, Question #53 requests that the contractor be allowed to design and construct a prestressed concrete Type III corewall in lieu of the type I corewall specified for the above referenced digester. Answer #53 states that the design is based on a type I prestressed concrete tank due to the size of the digester, but contractors may list a type III digester wall per AWWA D110-04 as a substitution to be evaluated.

In order to meet the high standards sought by the Valley Sanitary District, please confirm that the following minimum structural dimensions and/or quality control issues, shall be required for the type III corewall digester design substitution to be evaluated:

A) Alternate type m corewall digester shall have a minimum wall thickness of 12"'. (Drawing S 750, Specification Section 13300-2. 1. A. 2.b)

B) Alternate type III corewall digester shall have a minimum floor thickness of' 12". (Drawing S750, Specification Section 13300·2.1.A.2.c)

C) Alternate type HI corewall digester shall have a minimum floor thickness of 24". (Drawing S750)

D) Alternate type III corewall digester shall have a minimum footing width of 6' - 6". (Drawing S7S0)

E) Alternate type III corewall digester shall have a ll1inimurn dome thickness of 9". (Drawing S750)

F) Alternate type III corewall digester shall utilize circumferential prestressing steel which shall be hot-dipped galvanized. Specification Section 13300-2.6.A)

G) Alternate type III corewall digester shall utilize circumferential prestressing steel which shall be seven wire strand. (Specification Section 13300-2.6v A)

H) Alternate type III corewall digester shall have shotcrete placed on the wall through a nozzle that shall be mounted on power driven machinery enabling the nozzle to travel parallel to the surface to be sprayed at a uniform linear or bi-directional speed. (Specification Section 13300-3.5.C)

I) Alternate type III corewall digester shall utilize circumferential prestressing steel that shall be placed on the wall with a machine capable of consistently producing a stress in the strand within a range of -2 percent to .+2. percent of the stress required by design. (Specification Section 13300-3.6.A)

J) Alternate type JTI corewall digester shall utilize circumferential prestressing steel that shall be placed on the wall through mechanical tensioning. Stressing of the strand may not be accomplished by drawing the strand through a die or in any way deforming the strand, (Specification Section L1300.,3.6,A)

K) Alternate type III corewall digester shall utilize a stress recording device which shall be continuous and instantaneous as the strand is applied to the wall. (Specifications Section 13300-3.6.F)

L) Alternate type III corewall digester shall be required to utilize PVC waterstops in all vertical and horizontal and construction joints. (Specification Section 03290 -1.5.A)

M) Alternate type III corewall digester shall be required to utilize a galvanized steel diaphragm which shall conform to ASTM A653.

N) Alternate type III corewall digester shall be required to utilize a diaphragm that shall have a deformed surface consisting of a regularly spaced pattern of embossments. The surface deformations shall provide a mechanical connection between concrete to steel diaphragm and the shotcrete to steel diaphragm for transferring seismic induced forces. The concrete to steel diaphragm and shotcrete to steel diaphragm bonding strength value used in the design shall be verified by an independent testing laboratory and a report shall be provided with the bid indicating the design meets the project seismic requirements.

0) Alternate type III corewall digester shall be required to utilize a plastic liner that conforms to specification section 06620 and meets the dimensions shown on drawing S750, similar to that of the requirements for the type I corewall.

Answer 76

See Answer 66 above.

Question 77

Question 53 in Addendum 1 addresses the importance of seismic experience in regards to tank design. DYK would concur that experience and proven success of tank design and construction in an AWWA D110-04 Seismic Zone 4 is of paramount importance. Please have the Project Engineer confirm that the following is appropriate:

A) Tank Contractor shall have successfully designed at least ten (10) prestressed concrete tanks in the past ten (10) years, in their own name, of the corewall type submitted with their bid, located in an AWWA D110-04 Seismic Zone.

B) Tank Contractor shall have successfully built at least ten (10) prestressed concrete tanks in the past ten (10) years, in their own name, of the corewall type submitted with their bid, located in an AWWA D110-04 Seismic Zone 4.

Answer 77

Tank contractor shall submit experience record per Specification Section 13300-1.3.A.2.

Question 78

Please provide Catch basin inverts (DTL 8 drawing 26) for catch basins found on drawing C13 .

Answer 78

Drawing C13 will be reissued with catch basin invert elevations.

Question 79

On Drawing C10, the 6" – DS pipe shows continuation onto drawing C3. On drawing C3 there is no point of connection (POC) shown. Does the contractor need to provide the 6" – DS pipe shown on drawings C3, 6, and 7?

Answer 79

The 6" – D is continued on Drawing M730.

Question 80

Is an existing general resolution of the board of directors granting authority to sign acceptable to submit in lieu of the Bid Certificate form for corporation included on page 00300-2 of the bid form?

Answer 80

No, since this page certifies that the Board of Directors of the general contractor authorizes the President of the company to execute a contract with VALLEY SANITARY DISTRICT, in specific, not that they are authorized in general.

Question 81

Drawing M251, M321 and Specification 15050 call out 54" RS to be HDPE, but drawings C100 and C101 call for this pipe to be CML&C Welded Steel Pipe. Please clarify the correct piping material for the 54" RS pipeline.

Answer 81

Answered this question in Question 14 - The buried 54" RS line shall be HDPE per Specification Section 15050-3.6 (System 12).

Question 82

Drawing C100, detail 1 calls for a BFV for the 30" RS connection to existing but drawing I250 details a PV and specification 15050 calls for eccentric plug valves. Please clarify the required valve type at the 30" RS connection to existing.

Answer 82

The 30" RS valve shall be a BFV.

Question 83

Specification section 15050 does not detail a piping specification for the TWAS or CW or systems. Please advise on the piping specification to use for the TWAS and CW systems.

Answer 83

The TWAS piping system is System 16 and the CW system is System 11.

Question 84

Specification section 15050, system 15 does not specify the required interior lining. Please specify the required interior lining.

Answer 84

In accordance with piping system 15 exposed pipe 10" and larger shall be cement mortar lined steel pipe in accordance with Specification Section 15061.

Question 85

Specification section 15050, system 24 does not specify the material type for 2" D buried drain piping beyond 5' outside building. Please specify the material type for 2" buried D piping.

Answer 85

The 2" buried drain lines beyond 5' outside building shall be polypropylene pipe (PP) per Specification Section 15064-2.3.B.

Question 86

Specification section 15050, system 5, buried and encased pipe calls for polyethylene material per Specification 15064 but specification 15064 does not include polyethylene pipe. Please provide specification for PE pipe.

Answer 86

The polyethylene pipe shall be Medium Density Polyethylene (MDPE) per ASTM D2513 with SDR-11 minimum wall thickness. The pipe joints shall be thermal socket fusion or butt-fusion welded with flanged adapters for valves. Delete reference to Specification Section 15064.

Question 87

Drawing S750, note 3 calls for 8" thick CAB wrapped in filter fabric under Digester 2 slab but Specification section 13300 calls for a minimum 18" thick layer of compacted ¾" crushed rock placed beneath the tank foundation. Please clarify the required leveling base material required underneath Digester 2.

Answer 87

The minimum base is the 8-inch thick CAB wrapped base shown on Drawing S750.

Question 88

Drawing C111 calls out Drain 4 IE=454.22 at the tie-in to Drain 2 but drawing C113 calls out IE=458.23 for this same location. Please specify the correct invert elevation.

Answer 88

The Drain 4 invert elevation shall be IE = 454.2.

Question 89

Drawing C111 calls out Drain 5 IE=454.20 at the tie-in to Drain 2 but drawing C113 calls out IE=458.23 for this same location. Please specify the correct invert elevation.

Answer 89

The Drain 5 invert elevation shall be IE = 454.2.

Question 90

Drawing C113 calls out Drain 8 IE=458.23 at STA 20+24.35 but the yard piping coordinate table calls out IE=452.15 at STA 20+24.35. Please specify the correct invert elevation.

Answer 90

Drawing C113 will be reissued.

Question 91

Drawing M741 notes references civil drawings C8, C9, C10 and C11 for drains but these drawings do not include Drain 4. Please provide routing of Drain 4 at Digester 2.

Answer 91

Drain 4 is shown on Drawing C113.

Question 92

Drawing C116, 10”-OF/SN profile shows a VPI at STA 94+19.19 downstream of a VPI at STA 94+25.87. The stationing appears to be incorrect. Please advise.

Answer 92

Change Station 94+19.19 to Station 94+30.27 and Change Station 94+25.87 to Station 94+23.65.

Question 93

Drawing C118 indicates IE=461.19 at STA 20+00 but drawing M781, section C indicates IE=463.1 at the same location. Please specify the correct invert elevation.

Answer 93

The elevation of IE = 461.19 is the correct elevation.

Question 94

Drawing C118 indicates IE=463.54 at STA 11+14.64 but drawing M781, section C indicates IE=463.1 at the same location. Please specify the correct invert elevation.

Answer 94

Drawing C118 is correct.

Question 95

Drawing C118 indicates IE=463.97 for the lateral at STA 10+65.35 but drawing C18, section A indicates IE=461.00 at the same location. Please specify the correct invert elevation.

Answer 95

The invert elevation of 460.78 as shown on Drawing C118 is at Station 10+65.85 and the lateral shown on Section A Drawing C18 is sloped up to elevation 461.0.

Question 96

Drawing C118 indicates IE=463.19 for the condensate drip leg at STA 10+96.59 but drawing C18, section B indicates IE=461. Please specify the correct invert elevation.

Answer 96

The invert elevation at Station 10+85 on Drawings C118 is approximately 460.35 and invert elevation on Drawing C18 should read 460.35.

Question 97

Drawing C118 indicates IE=455.98 for the condensate drip leg at STA 20+20.17 that locates it below the 6" D invert of 458.35 at the manhole shown on C114 for Drain 8. Please specify the correct elevation.

Answer 97

The invert of the condensate drip leg at Station 20+20.17 should read 461.00.

Question 98

Drawing C118 LSG profile invert elevations do not match vertical reference elevations on grid. Please clarify.

Answer 98

Drawing C118 will be reissued with updated invert elevations.

Question 99

Drawing C10 and C11 callout TCO for D system piping. Drawing C110 callout is for either TCP (P) or TCO (P). Please specify the correct designation. As well, drawing C111 does not call out cleanouts.

Answer 99

The TCO is a Traffic Area Clean Out. The clean outs on Drawing C110 should read TCO(P), not TCP(P) and the clean outs on Drawing C111 should be TCO.

Question 100

Drawing M331 calls out for FD6 but standard detail drawing M9 does not include a detail for FD6. Please provide a detail for FD6.

Answer 100

The floor drain call out FD6 shall be changed to FD5.

Question 101

Drawing M736, section B references detail 5 on drawing M10 for the condensate drawing off the 20" FA line but detail 5 on drawing M10 is for LSG collection piping condensate drains. Please confirm that this is the correct detail for the condensate drain off the 20" FA.

Answer 101

Detail 5 is the correct detail for the 20-inch FA line.

Question 102

Drawing M9, Detail 6 calls for a 4" riser pipe at yard installed hose valves but Specification section 15117 calls for a 2" riser pipe. Please clarify the required riser pipe diameter.

Answer 102

A 4-inch riser is used for hose valves as shown on Drawing M9, Detail 6.

Question 103

Drawing C122, 24" A pipe lengths based on coordinates do not match pipe stationing or scaled length. Please specify the correct pipe lengths.

Answer 103

Drawing C122 will be reissued.

Question 104

Drawings M741 and C111 do not provide details on the terminations of Drain 4 lateral routing from the sludge mixing pump slabs. Please provide termination details.

Answer 104

Will reissue Drawing.

Question 105

Drawings M741 and C111 do not provide details on the terminations of Drain 5 lateral routing from the sub loop hot water pump slab. Please provide termination details.

Answer 105

Drain 5 collects water from Catch Basin shown on reissued Drawing.

Question 106

Drawing C113 Drain 4 profile does not match layout shown on plan view on sheets C10 and C113. Please clarify Drain 4 layout.

Answer 106

Drain 4 collects water from two floor drains on equipment pad (Drawing will be reissued).

Question 107

Drawing C100 details three (3) different locations for HPI/VPI for the 54" RS pipe in the plan and profile. Please clarify the correction station for the HPI/VPI.

Answer 107

Delete Station 10+28.61, Change Station 10+19.60 to Station 10+20.17, and Change Station 11+09.44 to Station 11+01.11.

Question 108

Do grated manholes require PVC liner?

Answer 108

The storm drain grated manholes shown on Drawings C12, C13, C14, C111, and C121 do not require a PVC liner.

Question 109

There appears to be an overlap of AC paving scope between the Base Bid and Bid Alternate 2 at 1st Street as shown on drawings G7, G12 and c-500r. Please clarify in which bid item these cost should be included.

Answer 109

Delete paving from base bid.

Question 110

Drawing C121, plan view shows a D running north from the manhole at STA 14+61.86 but does not provide a profile or termination detail for this run. Please provide details of the D running north from STA 14+61.86.

Answer 110

Drawing C121 will be reissued showing continuation of drain to the north.

Question 111

Please clarify the limits of lean concrete backfill required as shown on drawings S335 and S336. Is lean concrete backfill required under the influent channel and the concrete stairs?

Answer 111

Lean concrete backfill is required under the influent channel adjacent to the stairs as shown on Section C Drawing S335 (minimum of 3' – 0" horizontally from structure with a 1 to 1 minimum slope).

Question 112

Specification 03290 calls for construction joints at a maximum spacing of 25' when not shown on the drawings but specification 03300 calls for a maximum spacing of 30'. Please clarify the maximum spacing for construction joints when not shown on the drawings.

Answer 112

The maximum construction joint spacing is 30 feet.

Question 113

Drawing C-1300r calls for 18" class 1 rip rap but drawing C-1400r calls for 12" class 1 rip rap. Please clarify the correct rip rap thickness.

Answer 113

Class 1 rip rap to be 12" thick per "RIP RAP DETAIL" sheet C-1300 and "SECTION A-A" sheet C-1400.

Question 114

Drawing C-1000r calls out for the Operations Building concrete slab to be 4" concrete, 2" sand and 1 layer of 6 mil visqueen but drawing SB201 calls out 6" concrete, 2" sand, 1 layer of 15 mil visqueen and 4" gravel. Please clarify the correct drawing to use for the Operations building concrete slab.

Answer 115

Slab thickness should be per SB 201 for the Operations Building. Slab thickness for the Lab. Bldg. should also be per SB drawing.

Question 116

Drawing SB201 indicates footings are 2' wide for section call outs C/S301 and J/S303 but details on S301 and S303 for these sections indicate 3' wide footings. Please clarify the correct footing width.

Answer 116

Answer 7 - The design is to provide 2'-0" wide footings at 2 X 6 stud walls and provide 3' – 0" wide footings at CMU walls for the Operations Building shown on drawing SB-201.

Question 117

Please advise if single wall ADS can be used for 3" area drains as only CI soil pipe is manufactured in 3" of the material options.

Answer 117

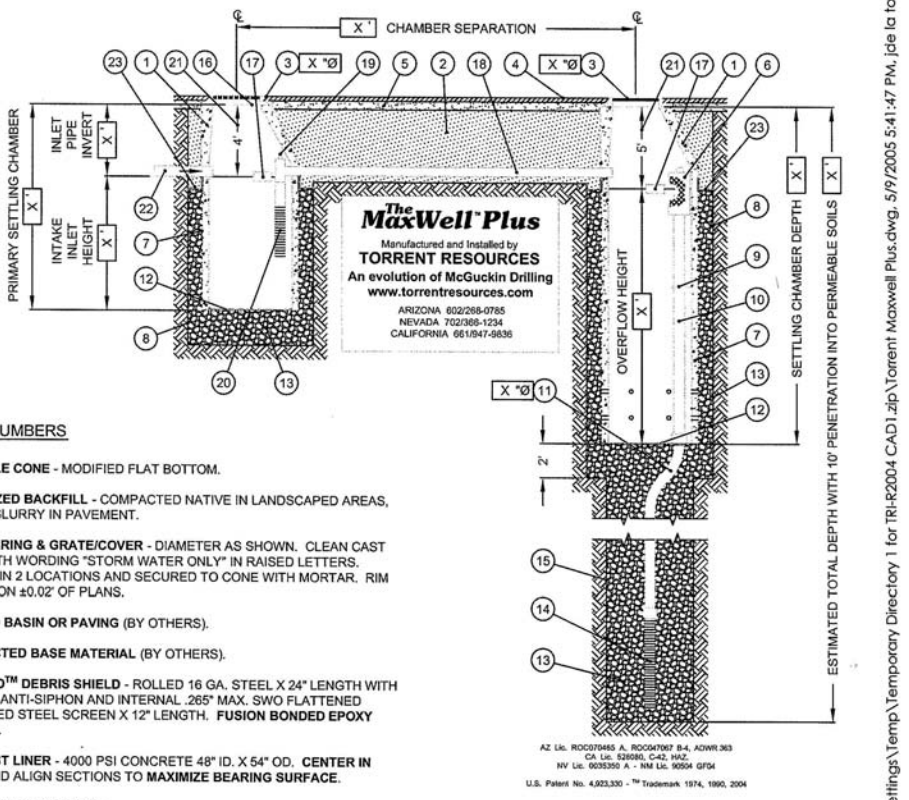
Single wall ADS pipe for the area drains is acceptable.

Question 118

Drawing C-1100r references a "Maxwell Plus" drainage system. The specifications do not define what is required and the drawings outline components that are not defined. Where might the specifications for this system be found?

Answer 118

The MaxWell™ Plus Drainage System Detail And Specifications



ITEM NUMBERS

1. **MANHOLE CONE** - MODIFIED FLAT BOTTOM.
2. **STABILIZED BACKFILL** - COMPACTED NATIVE IN LANDSCAPED AREAS, 1 SACK SLURRY IN PAVEMENT.
3. **BOLTED RING & GRATE/COVER** - DIAMETER AS SHOWN. CLEAN CAST IRON WITH WORDING "STORM WATER ONLY" IN RAISED LETTERS. BOLTED IN 2 LOCATIONS AND SECURED TO CONE WITH MORTAR. RIM ELEVATION ±0.02' OF PLANS.
4. **GRADED BASIN OR PAVING** (BY OTHERS).
5. **COMPACTED BASE MATERIAL** (BY OTHERS).
6. **PUREFLO™ DEBRIS SHIELD** - ROLLED 16 GA. STEEL X 24" LENGTH WITH VENTED ANTI-SIPHON AND INTERNAL .265" MAX. SWO FLATTENED EXPANDED STEEL SCREEN X 12" LENGTH. **FUSION BONDED EPOXY COATED.**
7. **PRE-CAST LINER** - 4000 PSI CONCRETE 48" ID. X 54" OD. **CENTER IN HOLE** AND ALIGN SECTIONS TO **MAXIMIZE BEARING SURFACE.**
8. **MIN. 6' Ø DRILLED SHAFT.**
9. **SUPPORT BRACKET** - FORMED 12 GA. STEEL. **FUSION BONDED EPOXY COATED.**
10. **OVERFLOW PIPE** - SCH. 40 PVC MATED TO DRAINAGE PIPE AT BASE SEAL.
11. **DRAINAGE PIPE** - ADS HIGHWAY GRADE WITH TRI-A COUPLER. **SUSPEND PIPE** DURING BACKFILL OPERATIONS TO PREVENT BUCKLING OR BREAKAGE. DIAMETER AS NOTED.
12. **BASE SEAL** - GEOTEXTILE, POLY LINER OR CONCRETE SLURRY.
13. **ROCK** - CLEAN AND WASHED, SIZED BETWEEN 3/8" AND 1-1/2" TO **BEST COMPLEMENT SOIL CONDITIONS.**
14. **FLOFAST™ DRAINAGE SCREEN** - SCH. 40 PVC 0.120" SLOTTED WELL SCREEN WITH 32 SLOTS PER ROW/FT. DIAMETER VARIES 96" OVERALL LENGTH WITH TRI-B COUPLER.
15. **MIN. 4' Ø SHAFT** - DRILLED TO **MAINTAIN PERMEABILITY** OF DRAINAGE SOILS.
16. **FABRIC SEAL** - U.V. RESISTANT GEOTEXTILE - **TO BE REMOVED BY CUSTOMER** AT PROJECT COMPLETION.
17. **ABSORBENT** - HYDROPHOBIC PETROCHEMICAL SPONGE. MIN. 128 OZ. CAPACITY.
18. **CONNECTOR PIPE** - 4" Ø SCH. 40 PVC .
19. **VENTED ANTI-SIPHON** INTAKE WITH FLOW REGULATOR.
20. **INTAKE SCREEN** - SCH. 40 PVC 0.120" MODIFIED SLOTTED WELL SCREEN WITH 32 SLOTS PER ROW/FT. 48" OVERALL LENGTH WITH TRI-C END CAP.
21. **FREEBOARD DEPTH VARIES** WITH INLET PIPE ELEVATION. INCREASE PRIMARY/SECONDARY SETTLING CHAMBER DEPTHS AS NEEDED TO MAINTAIN ALL INLET PIPE ELEVATIONS ABOVE CONNECTOR PIPE OVERFLOW.
22. **OPTIONAL INLET PIPE** (BY OTHERS).
23. **MOISTURE MEMBRANE** - 6 MIL. PLASTIC. PLACE SECURELY AGAINST ECCENTRIC CONE AND HOLE SIDEWALL. USED IN LIEU OF SLURRY IN LANDSCAPED AREAS.

C:\Documents and Settings\jde la torre\Local Settings\Temp\Temporary Directory 1 for TRI-R2004 CAD1.zip\Torrent Maxwell Plus.dwg, 5/9/2005 5:41:47 PM, jde la torre, MSA Consult

The watermark for drainage solutions.

TORRENT RESOURCES

May 9th, 2005

MSA Consulting
34-200 Bobe Hope Drive
Rancho Mirage, California 92270

Attention: Mr. Julian DeLaTorre

Dear Julian,

As requested, the accompanying ***MaxWell***™ Drainage Products catalog and specification data are forwarded for your resources.

For most applications involving the disposal of runoff and nuisance water flows from impermeable surfaces, we recommend the use of our ***MaxWell Plus*** System. This dual-chambered design pre-treats the water twice prior to disposal for the removal of suspended solids and floating petroleum-based organic compounds. Offering unmatched efficiency, this product has been endorsed as the specified standard of quality by numerous municipalities in Arizona and California, as well as the Arizona Department of Environmental Quality.

The reliability of our ***MaxWell*** structures has been field-proven for more then three decades across five states in the greater Southwest. In fact, more than 99% of the 40,000 systems we have installed since 1972 are still in service.

If additional information would be helpful, please do not hesitate to contact us. We look forward to further opportunities to be of service.

Sincerely,

Roger L. Williams
Technical Marketing Representative
Torrent Resources, Inc.

Encl.

Torrent Resources Incorporated
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Phoenix Arizona 85040-1391

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An evolution of McGuckin Drilling

Design Suggestions

FOR RETENTION AND DRAINAGE SYSTEMS

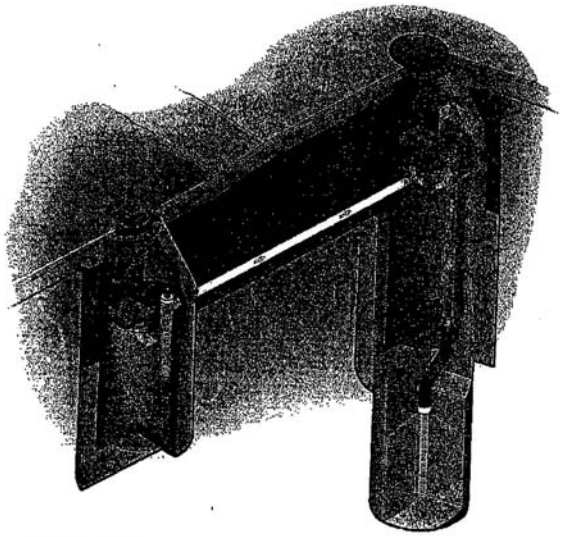
TORRENT RESOURCES

THE MAXWELL™ CONCEPT

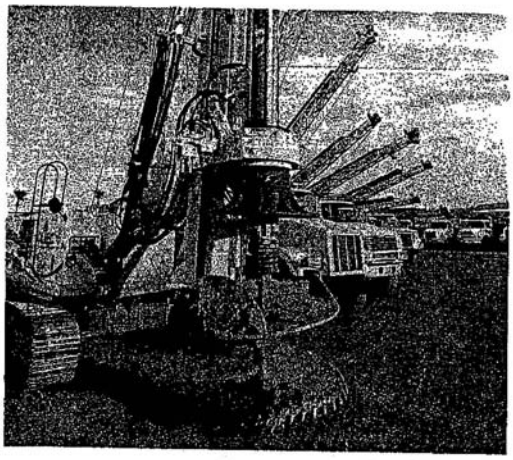
Since 1974, over 40,000 MaxWell™ Systems have proven their value as a cost-effective solution in a wide variety of drainage applications. Earlier experience had shown that the silt and debris that flow into a conventional storm water drywell could quickly cut short its life by clogging the soils meant to transmit water. Pavement sediment could contribute to these problems by further restricting long-term performance.

As a result, engineers have been specifying MaxWell Systems to bring an end to these life-expectancy problems and provide a practical solution to drainage requirements.

Common to all MaxWells is large settling capacity combined with a carefully designed drainage assembly. The drawing shown here of a MaxWell Plus™ illustrates the patented overflow process on which the system works. Incoming water from the surface grated inlet is received in the Primary Settling Chamber where silt and other heavy particles settle to the bottom. A PureFlo™ Debris Shield ensures containment by trapping floating debris and pavement oil. Suspended matter is filtered out by an intake screen while a floating absorbent sponge wicks residual pavement oils and compounds from the water. The pre-treated flow is then regulated to a constant rate and directed to a secondary settling chamber. The settling and containment process is repeated, thereby effectively achieving controlled uniform treatment. The system is drained as water rises under the PureFlo Debris Shield and spills into the top of the overflow pipe. The drainage assembly returns the cleaned water to the surrounding soil through the FloFast™ drainage screen.



MAXWELL PLUS



Equally important to long life is the care taken in drilling the drywell and installing the components. At least 10 feet of penetration with a large, 4-foot diameter hole into the permeable, clay-free sand, gravel and cobbles is vital. Torrent's specially designed, "crowd"-equipped rigs get through difficult cemented soils to reach clean drainage soils at depths up to 180 feet. Additionally, the firm's proprietary techniques assure that soils will stay clean from the drilling operation through initial well use.

RETENTION FACILITY DESIGN CONSIDERATIONS

Most municipalities require storm water be retained on site to minimize the peak flow from storm events and to mitigate flooding. Disposal of the retained water is then required within an acceptable time period. The retention volume required on a given property should be calculated according to the requirements of the municipality or local jurisdiction. Generally, any rainfall in excess of these requirements is allowed to overflow to the streets or storm sewers.

Since no allowance is made for soil or drywell transmissibility, the retention facility must be designed to retain 100% of the calculated rainfall volume. Most retention is achieved using parking lots, landscaped areas or a combination of the two.

With parking lots, the most important design factor is user convenience. Although most municipalities allow up to 36 hours to dissipate retained water, practical application normally prescribes drainage times of 4 to 6 hours. Parking lot retention should be designed so that most of the water is stored away from the project's buildings to minimize pedestrian inconvenience during storms and with acceptable depth to allow safe vehicle traffic.

Ideally, deeper perimeter landscaped retention combined with even pavement storage provides the best balance. Such decisions should consider parking lot size and loading, kind of business, major storm frequency and the drainage facilities installed for disposing of the retained water.

The speed with which water is removed, thus the number of **hours acceptable** for disposal, is determined by the number of **MaxWells** and their transmissibility. *See Calculating MaxWell Requirements.*

Landscaped retention areas can contribute significantly to both the aesthetic and functional qualities of the property they protect. Where space permits, landscaped retention areas might take the form of a depressed grass area, a rockscape, a playground or even a golf course.

Unlandscaped retention basins are definitely not recommended since their silt erosion can result in premature aging of drywells. Landscaped retention should be designed to drain quickly so that plants or grass are not damaged. The MaxWell™ Plus System allows for nuisance water to be intercepted in the drainage-way, enabling the retention basin bottom to stay dry between storm events and minimizing basin maintenance. To match the appropriate drywell inlet structure to your retention facility, refer to MaxWell and Envibro™ System Surface Treatments and Details on the following page.

CALCULATING MAXWELL REQUIREMENTS

1. Determine the total cubic feet of **required retention** needed to meet code.
2. Determine the number of **hours acceptable** for disposal of water retained.
3. Determine the **TOTAL CFS** of disposal needed to drain retention in the hours acceptable. 2000 gpm = 4.46 cfs

$$\text{TOTAL CFS} = \frac{\text{Required Retention (ft}^3\text{)}}{\text{Hours Acceptable x 3600}}$$

4. Determine the appropriate **individual well percolation test rate:**
   a) For non-critical applications, known soil data can be the basis for estimated percolation rates. Torrent maintains extensive records including maps and related drilling logs from past projects. From this data, Torrent personnel can quickly determine likely soil conditions and an associated **individual well percolation** test rate for most sites requiring drywells.

   b) For large projects, sites with critical drainage demands, or to verify well performance, an actual constant-head percolation test is recommended. Constant-head testing closely simulates actual working conditions and provides data that is accurate for standard MaxWell designs installed in any soil condition. It is common practice to install one drywell in a required location and then test the completed well. By testing a finished well, performance is optimized and the number of required wells is minimized. Over $135,000 was saved for a major semiconductor facility through this testing method.

Because MaxWells will often accept test water faster than a water truck or spigot can provide it, Torrent utilizes a percolation testing apparatus that can bring water to the well from a fire hydrant 1/2 mile or more away through large

1340GPM

diameter lines. Flow rates up to 3.0 cubic feet per second (CFS) are measured by precision totalizing flow meters to arrive at an **individual well percolation test rate.** For certified tests, monitoring by a soils laboratory can be arranged.

For assistance in estimating individual well percolation rates or arranging a percolation test, contact the Torrent Design Staff.

5. Determine the **Number of MaxWell Systems** required using either of the following methods:
   a) Standard MaxWell settling chamber depths and drainage components are engineered for disposal rates of from 0.25 to 0.50 CFS per system, depending on head of water. For general applications draining retained storm water, use (1) standard **MaxWell IV** for up to 1 acre of paved surfaces and up to 3 acres of landscaped contributory area. For large paved surfaces, subdivision drainage, nuisance water drainage or other demanding applications, use (1) standard **MaxWell Plus** for up to 2 acres of paved surface and up to 5 acres of landscaped contributory area, or
   b) Where applicable soil and site conditions permit higher system disposal rates, or if a percolation test is in order, calculate the number of MaxWells as follows:

$$\text{Number of MaxWell Systems} = \frac{\text{Total CFS} \times A_f}{\text{Individual Well Percolation Test Rate}}$$

A_f = derating factor for well aging. Use a factor of 2 for course grained soils and 3 for fine grained soils. Stiff or hard soils may require a higher factor.

Based upon soil data, either use the general guidelines in (a) or if (b) is appropriate, consult the Torrent Design staff to engineer a design that meets your site's specific requirements.

6. Select and specify the desired MaxWell System based upon the size and type of property to be drained. Where drainage areas are impacted by industrial operations, the **Envibro™ System** may be recommended.

Please refer to Product Literature for specific MaxWell and Envibro design requirements. For additional design considerations, CAD drawings, or site-specific instructions, contact the Torrent Design Staff for no-charge assistance in any phase of your planning.

STANDARD INLET GRATES & COVERS

All inlet castings are clean cast iron with wording "Storm Water Only" in raised letters. Rings are cast to fit either 24" or 30" manhole openings. All castings are bolted in two locations for safety unless otherwise noted. Open area of grates matches capacity of respective drainage system components as follows:

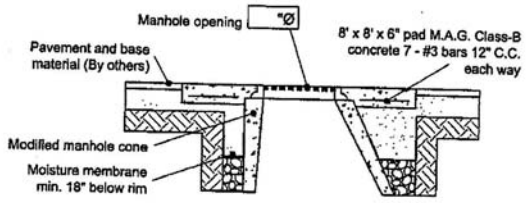
Manhole Opening	Grate Casting Style	Matches Drainage Component
24"	Traffic	6"
24"R	Landscaped	6"
30"	Traffic, Landscaped	8" or 12"

"R" denotes reversible inset casting option for landscaped applications.
Add a "C" to casting number for M.H. Cover option.

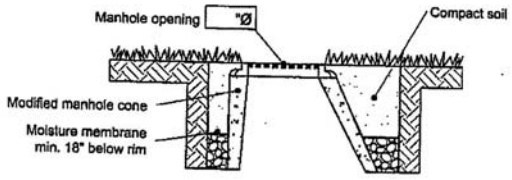
MAXWELL™ AND ENVIBRO™ SYSTEM SURFACE TREATMENTS AND DETAILS

Drawing A, B, C or D may be used in place of the top portion of the standard system detail to adapt it to the varying surface conditions shown.

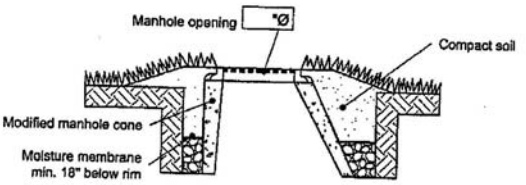
A. Adds concrete pad for heavy traffic areas.



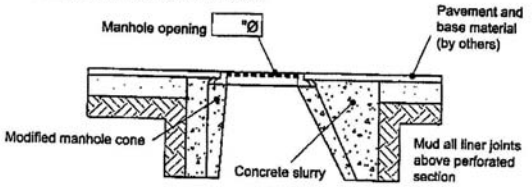
B. For landscaped retention ponds and planters. No paving or pad. In areas where silt might flow to drywell, use C.



C. Use in landscaped retention/detention basins or where heavy silt flow is anticipated. Height should be 4"±.



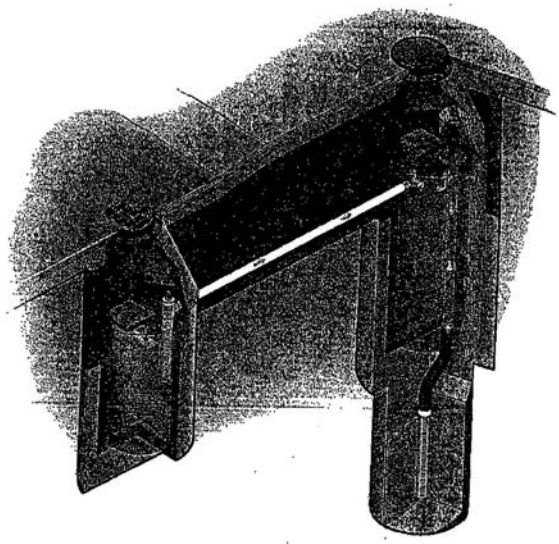
D. A special design where unstable soil conditions could cause surface subsidence. Also installed with connecting pipes and trenches.



MaxWell Plus DRAINAGE SYSTEM

TORRENT RESOURCES

The ***MaxWell™ Plus,*** as manufactured and installed exclusively by Torrent Resources Incorporated, is the industry standard for draining large paved surfaces, nuisance water and other demanding applications. This patented system incorporates state-of-the-art pre-treatment technology.



THE ULTIMATE IN DESIGN

Since 1974, over 40,000 MaxWell™ Systems have proven their value as a cost-effective solution in a wide variety of drainage applications. They are accepted by state and municipal agencies and are a standard detail in numerous drainage manuals. Many municipalities have recognized the inherent benefits of the MaxWell Plus and now require it for drainage of all paved surfaces.

SUPERIOR PRE-TREATMENT

Industry research, together with Torrent Resource's own experience, has shown that initial storm drainage flows have the greatest impact on system performance. This "first flush" occurs during the first few minutes of runoff and carries the majority of sediment and debris. Larger paved surfaces or connecting pipes from catch basins, underground storage, etc. can also generate high peak flows which may strain system function. In addition, nuisance water flows require controlled processing separate from normal storm runoff demands.

Manufactured and Installed Exclusively by Torrent Resources Incorporated
Please see reverse side for additional information
U.S. Patent No. 4,923,330 ™Trademark 1974, 1987, 2004 11/04

In the ***MaxWell Plus,*** preliminary treatment is provided through collection and separation in deep large-volume settling chambers. The standard MaxWell Plus system has over 2,500 gallons of capacity to contain sediment and debris carried by incoming water. Floating trash, paper, pavement oil, etc. is effectively stopped by the **PureFlo™ Debris Shields** in each chamber. These shielding devices are equipped with an effective screen to filter suspended material and are vented to prevent siphoning of floating surface debris as the system drains.

EFFECTIVE PROCESSING

Incoming water from the surface grated inlets or connecting pipes is received in the Primary Settling Chamber where silt and other heavy particles settle to the bottom. A PureFlo™ Debris Shield ensures containment by trapping floating debris and pavement oil. The pre-treated flow is then regulated to a design rate of up to 0.25cfs and directed to a secondary settling chamber. The settling and containment process is repeated, thereby effectively achieving controlled, uniform treatment. The system is drained as water rises under the PureFlo Debris Shield and spills into the top of the overflow pipe. The drainage assembly returns the cleaned water to the surrounding soil through the **FloFast™ Drainage Screen.**

ABSORBENT TECHNOLOGY

To provide prompt removal of pavement oils, both ***MaxWell Plus*** settling chambers are equipped with absorbent sponges. These floating pillow-like devices are 100% water repellent and literally wick petrochemical compounds from the water. Each sponge has a capacity of over 128 ounces to accommodate effective, long-term treatment. The absorbent is completely inert and will safely remove runoff constituents down to rainbow sheens which are typically no more than one molecule thick.

SECURITY FEATURES

MaxWell Plus Systems include bolted, theft-resistance, cast iron gratings and covers as standard security features. Special inset castings which are resistant to loosening from accidental impact are available for use in landscaped applications. Machined mating surfaces and "Storm Water Only" wording are standard.

THE MAXWELL FIVE-YEAR WARRANTY

Innovative engineering, quality materials and exacting construction are standard with every MaxWell system produced and installed by Torrent Resources Incorporated. The MaxWell Drainage Systems Warranty is the best in the industry and guarantees against failures due to workmanship or materials for a period of five years from date of completion.

MAXWELL™ PLUS DRAINAGE SYSTEM DETAIL AND SPECIFICATIONS

CALCULATING MAXWELL PLUS REQUIREMENTS:

The type of property, soil permeability, rainfall intensity and local drainage ordinances determine the number and design of MaxWell Systems. For general applications draining retained storm water, use **one standard MaxWell Plus per the instructions below** for up to 5 acres of landscaped contributory area, and up to 2 acres of paved surface. To drain nuisance water flows in storm runoff systems, **add a remote inlet** to the System. For smaller drainage needs, refer to our ***Type IV MaxWell.*** For industrial drainage, our ***Envibro™ System*** may be recommended. For additional considerations, please refer to **"Design Suggestions For Retention And Drainage Systems"** or consult our Design Staff.

COMPLETING THE MAXWELL PLUS DRAWING

To apply the ***MaxWell Plus*** drawing to your specific project, simply fill in the blue boxes per the following instructions. For assistance, please consult our Design Staff.

PRIMARY SETTLING CHAMBER DEPTH

The overall depth of the Primary Settling Chamber is determined by the amount of surface area being drained. Use a standard depth of **10 feet** for the initial acre of contributory drainage area, **plus 2 feet** for each additional acre, up to the design limits of the property type noted in "Calculating MaxWell Plus Requirements" noted above. Other conditions that would require increased chamber depths are property usage, maintenance scheduling, and severe or unusual service conditions. Connecting Pipe Depth may dictate deeper chambers so as to maintain the effectiveness of the settling process.

ESTIMATED TOTAL DEPTH

The Estimated Total Depth is the approximate total system depth required to achieve 10 continuous feet of penetration into permeable soils, based upon known soil information. Torrent's specialized **"crowd"** equipped rigs get through the difficult cemented soils to reach clean drainage soils at depths up to **180 feet** and their extensive drilling log database is available to use as a reference.

SETTLING CHAMBER DEPTH

On **MaxWell Plus Systems** of over 30 feet overall depth and up to 0.25cfs design rate, the standard Settling Chamber Depth is **18 feet.**

OVERFLOW HEIGHT

The Overflow Height and Settling Chamber Depth determine the effectiveness of the settling process. The higher the overflow pipe, the deeper the chamber, the greater the settling capacity. An overflow height of **13 feet** is used with the standard settling chamber depth of **18 feet.**

DRAINAGE PIPE

This dimension also applies to the ***PureFlo™*** Debris Shields, the ***FloFast™*** Drainage Screen, and fittings. The size is based upon system design rates, multiple primary settling chambers, soil conditions, and need for adequate venting. Choices are 6", 8", or 12" diameter. Refer to our company's **"Design Suggestions for Retention and Drainage Systems"** for recommendations on which size best matches your application.

BOLTED RING & GRATE/COVER

Standard models are quality cast iron and available to fit 24" Ø or 30" Ø manhole openings. All units are bolted in two locations with wording "Storm Water Only" in raised letters. For other surface treatments, please refer to "Design Suggestions for Retention and Drainage Systems."

INLET PIPE INVERT

Pipes up to 24" in diameter from catch basins, underground storage, etc. may be connected into the primary settling chamber. Inverts deeper than 4 feet will require additional depth in both system settling chambers to maintain respective effective settling capacities.

INTAKE INLET HEIGHT

The Intake Inlet Height determines the effectiveness of the settling process in the Primary Settling Chamber. A minimum inlet height of **6 feet** is used with the standard primary settling chamber depth of 10 feet. Greater inlet heights would be required with increased system demands as noted in Primary Settling Chamber Depth.

CHAMBER SEPARATION

The standard separation between chambers is **15 feet** from center to center for inlet pipe inverts up to 7 feet. For deep inlet pipes or underground storage systems that result in a deeper Connector Pipe, add 5 feet of separation for each 3 feet of additional Connector Pipe depth. Maximum Connector Pipe depths and Chamber separations are 13 feet and 25 feet, respectively. A pump and lift station is recommended for systems with deeper requirements.

Question 119

Instruction to Bidders Page 00101-3 (attached) section 5 indicates that all blanks shall be completed in shall be completed in ink. We were wondering if the intent of this section was for the signatures to be in ink and the document could be typed.

Answer 119

The blanks can be typed in, with the bid values, however, the bid requires a wet, signed inked signatures.

Question 120

Digester 2 Supernatant Box Sheet S755: Shall all the box materials and pipe to fabricate this box be fabricated from 316 Stainless Steel?

Answer 120

All the box materials and pipe shall be fabricated from 316 stainless steel.

Question 121

Digester 2 Mixing Inlet Pipe Structure Sheet S750: Shall all the support materials and pipe that make up this structure including the Inlet as shown on detail 6/M12 be fabricated from 316 Stainless Steel?

Answer 121

All the support materials and pipe shall be fabricated from 316 stainless steel.