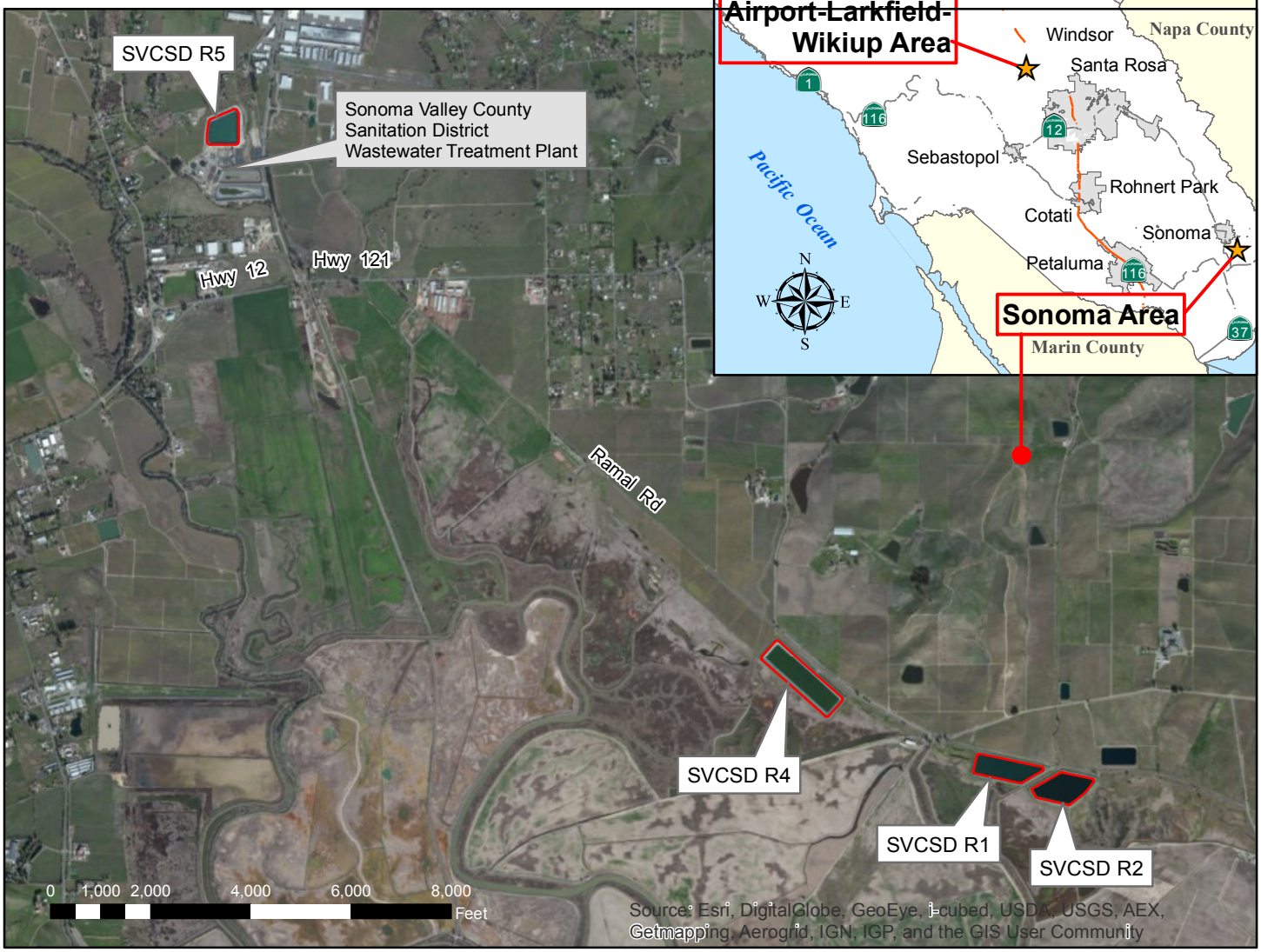
Airport Larkfield Wikiup Area Reservoir Locations



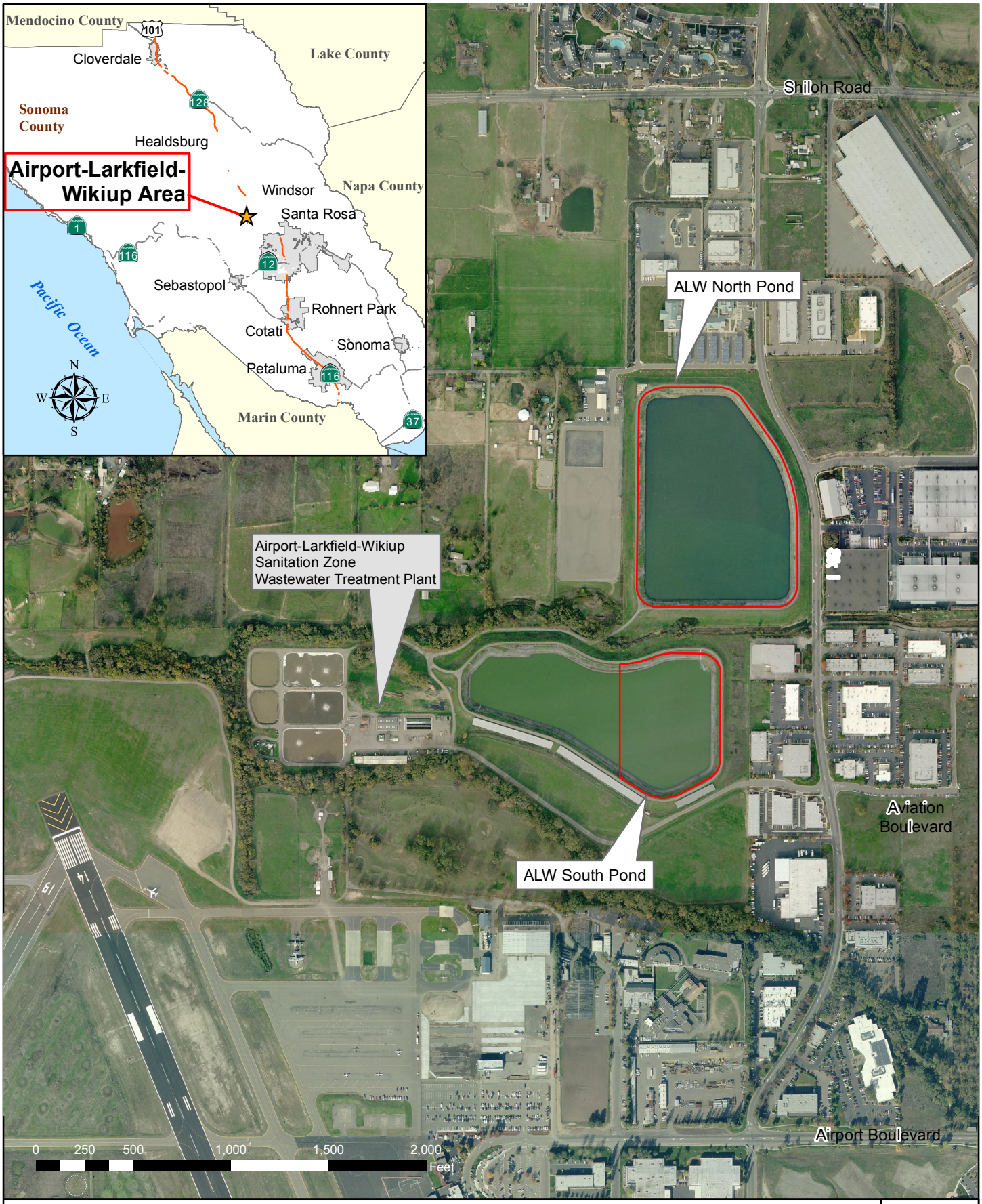
Sonoma Area Reservoir Locations

\\SD-DATA\Proj\special projects\FloatingSolarInPonds_Ex-A_Overall.mxd

SCWA GIS

Sonoma County Water Agency
Floating Solar
Pond Locations

Exhibit C

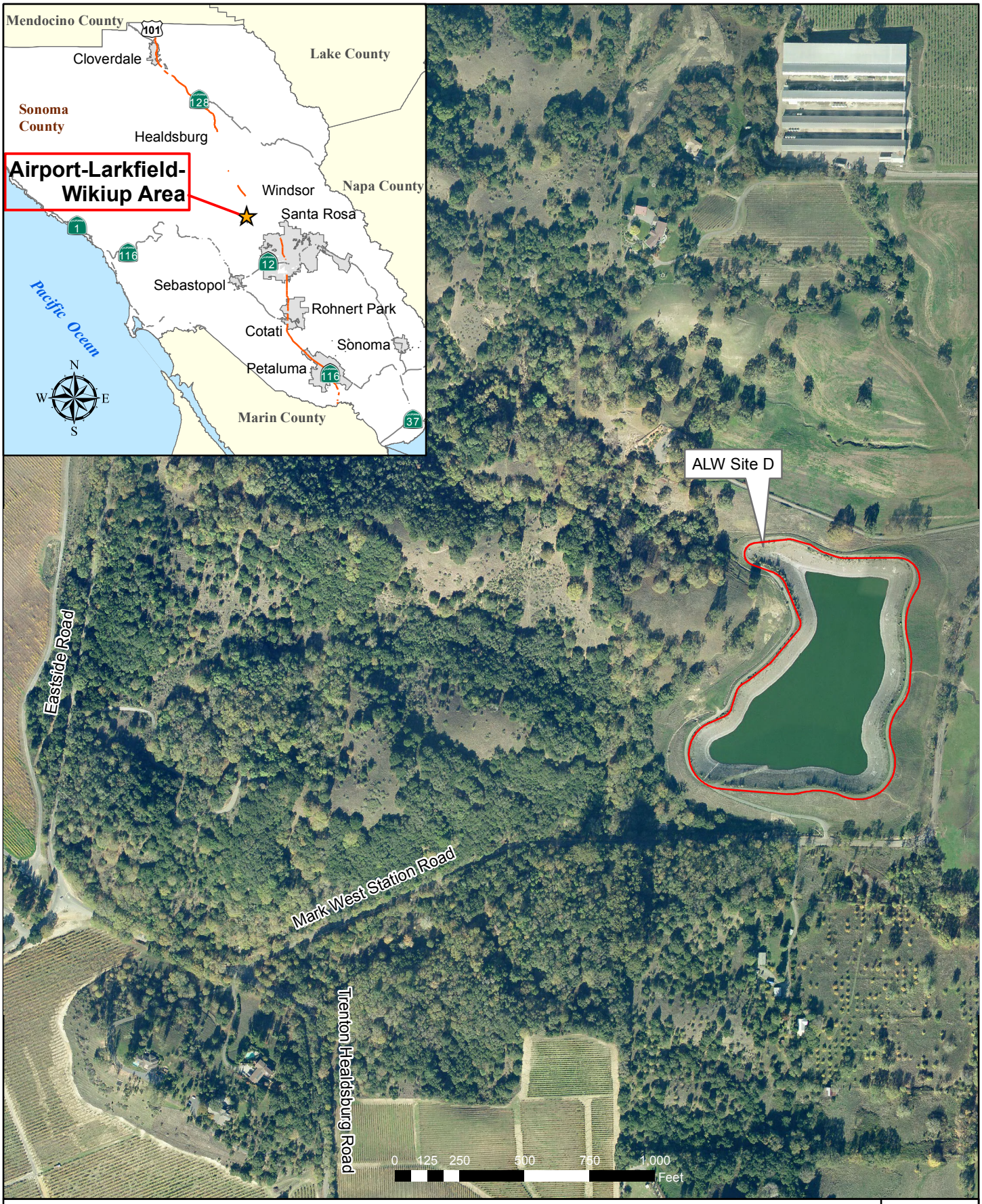


\\SD-DATA\Proj\special projects\FloatingSolarInPonds__Ex-C_ALW-NandS Ponds.mxd

SCWA GIS

Sonoma County Water Agency
Floating Solar
Airport-Larkfield-Wikiup - North and South Ponds

Exhibit C

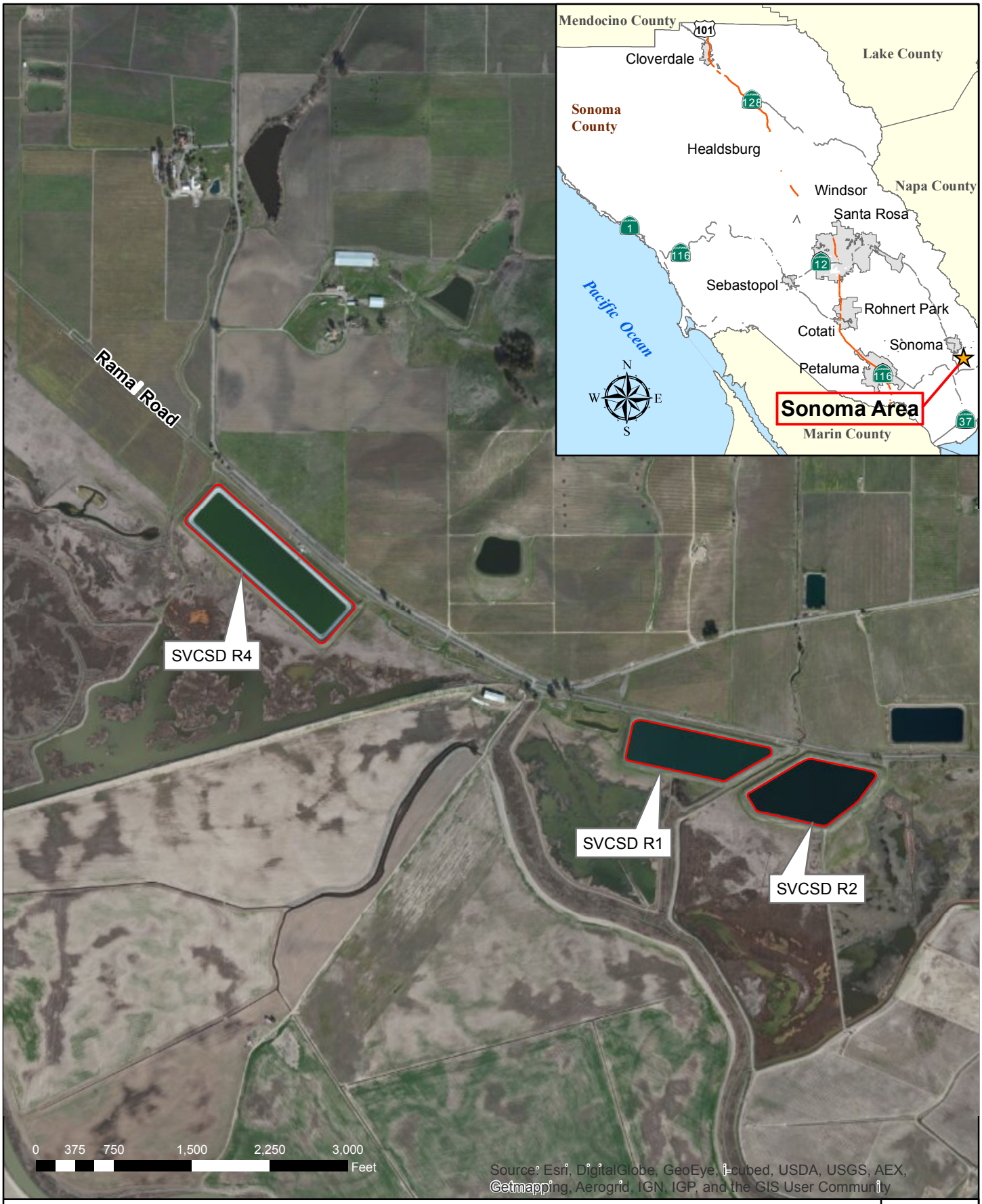


\\SD-DATA\Proj\special projects\FloatingSolarInPonds_Ex-B__ALW-SiteD.mxd

SCWA GIS

Sonoma County Water Agency
Floating Solar
Airport-Larkfield-Wikiup - Site D

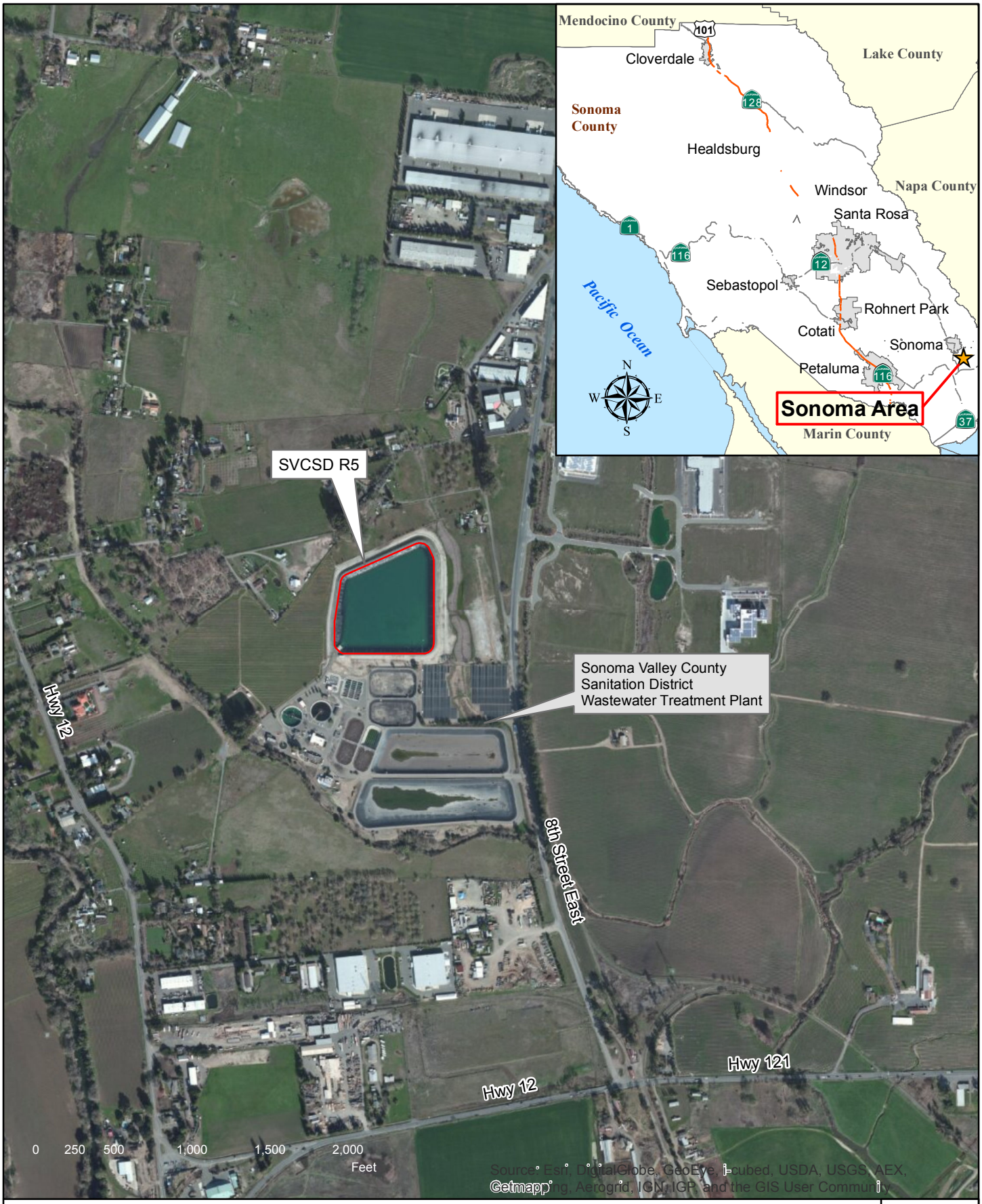
Exhibit C



\\SD-DATA\Proj\special projects\FloatingSolarInPonds__Ex-E_SVCSD_R1-R2-R5.mxd

Sonoma County Water Agency
Floating Solar
Sonoma Valley County Sanitation District - R1, R2, and R4

Exhibit C

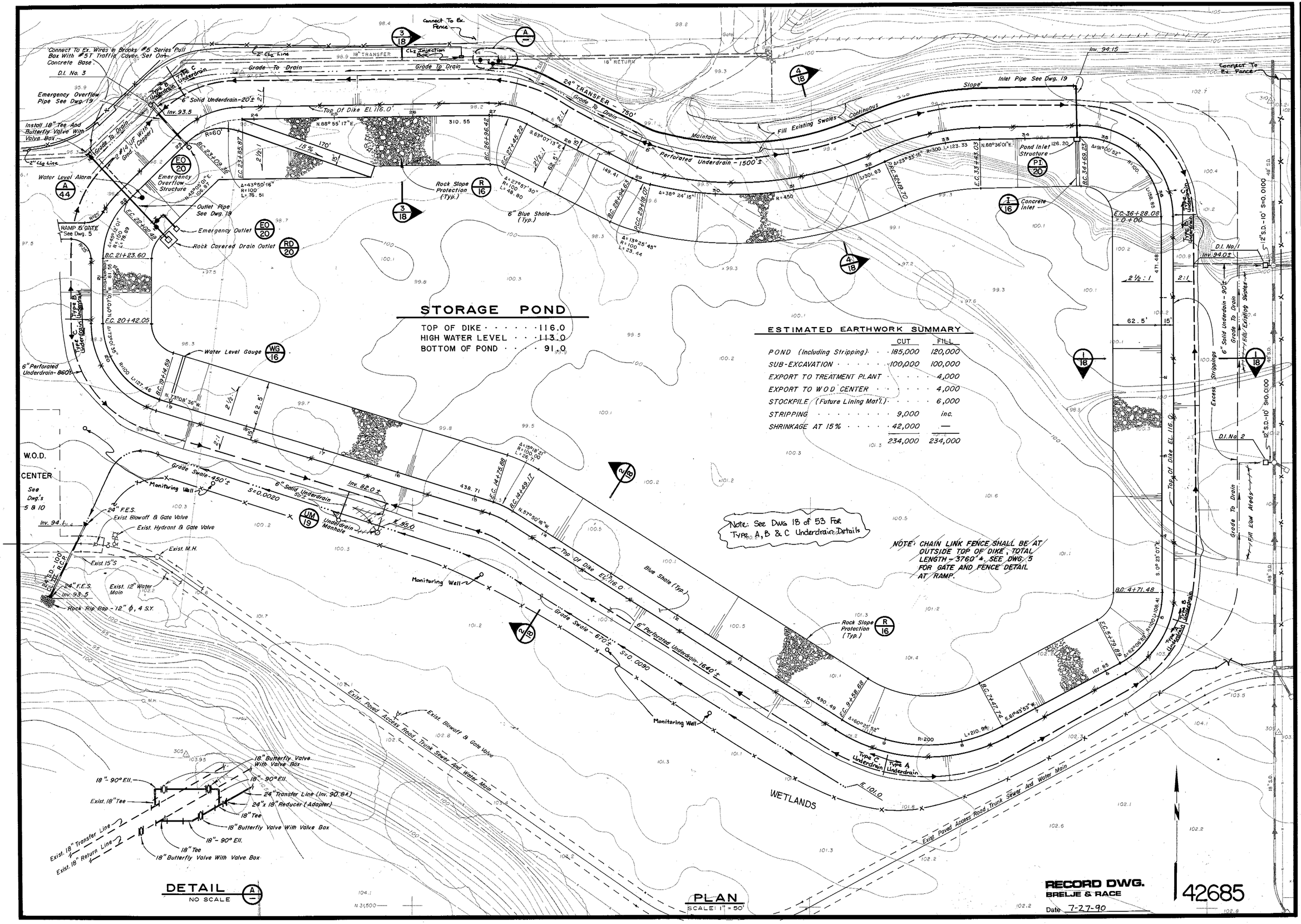


\\SD-DATA\Proj\special projects\FloatingSolarInPonds_Ex-D_SVCSD_R5.mxd

SCWA GIS

Sonoma County Water Agency
Floating Solar
Sonoma Valley County Sanitation District - R5

Exhibit C



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OFFICE · SANTA ROSA, CA 95404
JAMES C. DAUGHERTY RCE 15610

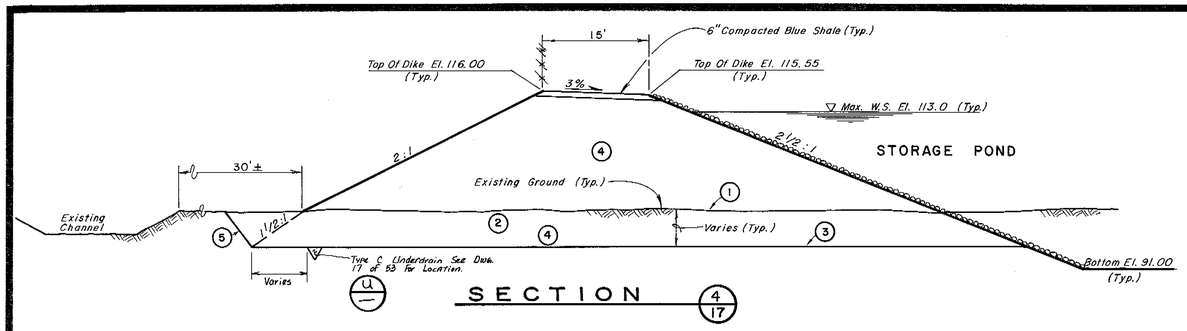
AIRPORT WASTEWATER TREATMENT PLANT
PHASE II
TREATMENT, STORAGE AND DISPOSAL FACILITIES
COUNTY SERVICE AREA NO. 31

GRADING AND PIPING PLAN

DATE APRIL, 1987
REVISIONS

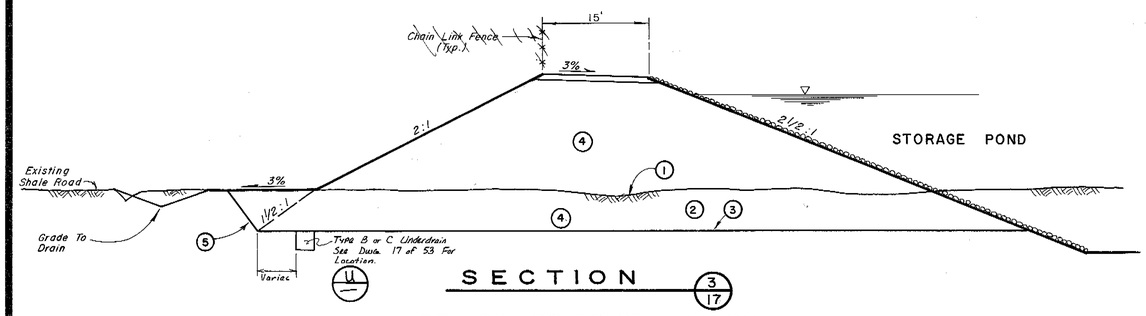
DRAWN BY	CHECKED
H.J. & G.M.	

JOB NO. 818.64
DRAWING NUMBER 17 of 53



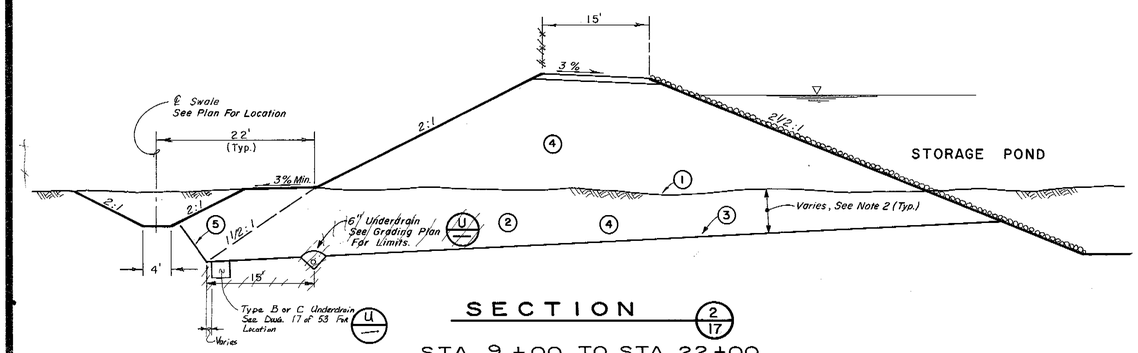
SECTION 4/17

STA. 29+00 TO STA. 35+00



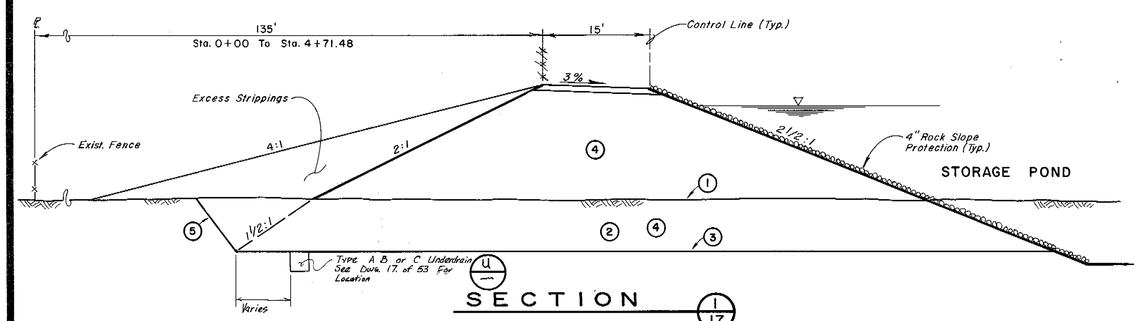
SECTION 3/17

STA. 22+00 TO STA. 29+00



SECTION 2/17

STA. 9+00 TO STA. 22+00

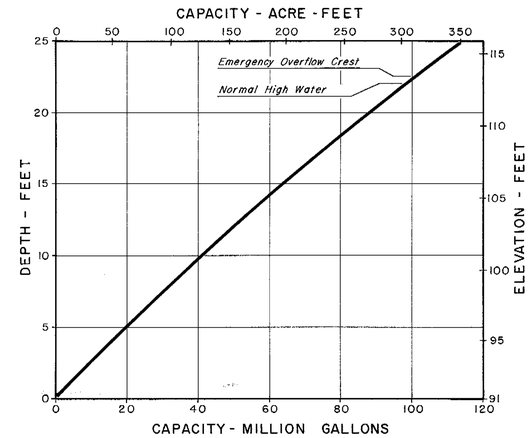


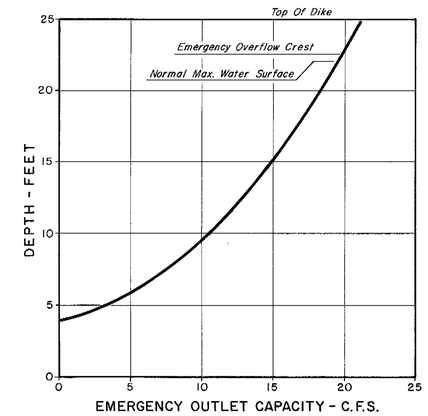
SECTION 1/17

STA. 0+00 TO STA. 9+00
STA. 35+00 TO STA. 36+28

TYPICAL SECTION

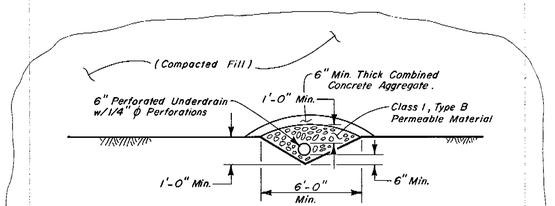
SCALE : 1" = 10'





CONSTRUCTION NOTES FOR SECTIONS ON THIS DRAWING ONLY:

1. STRIP 3" MINIMUM VEGETATION, STOCKPILE FOR REDISTRIBUTION OR DISPOSAL, SEE SPECIFICATIONS.
2. FOUNDATION OBJECTIVE: SUBEXCAVATE TO FIRM MATERIAL. CONTROL GROUND WATER. REMOVE ALL LOOSE, WET SOIL. APPROXIMATE SUBEXCAVATION DEPTH: 2' to 3' STA. 00+00 TO 9+00 AND STA. 22+00 TO 36+28; AS MUCH AS 10' TO 15" ON SOUTHERLY SIDE STA. 9+00 TO STA. 22+00.
3. ESTABLISH DIKE ON CLEAN SURFACE OF FIRM MATERIAL. ANTICIPATED FOUNDATION MATERIAL - COMPACT TO DENSE SANDY SILT OR DENSE GRAVEL. FOUNDATION SHALL BE APPROVED BY THE SOIL ENGINEER AND DIVISION OF SAFETY OF DAMS.
4. HOMOGENEOUS FILL - MATERIAL FROM EXCAVATION BLENDED AS REQUIRED TO MAINTAIN MINIMUM OF 30% PASSING THE #200 SIEVE. MAXIMUM SIZE 3 INCHES. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. SLOPE FOR STABILITY - 3/4:1 MAXIMUM.



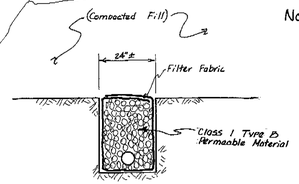
NOTE: Foundation Materials (Very Firm Glen Ellen Sandy Silt Or Very Firm Sandy Gravel).

TYPE A UNDERDRAIN

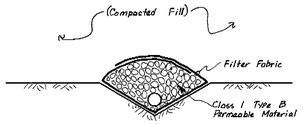
UNDERDRAIN

NO SCALE

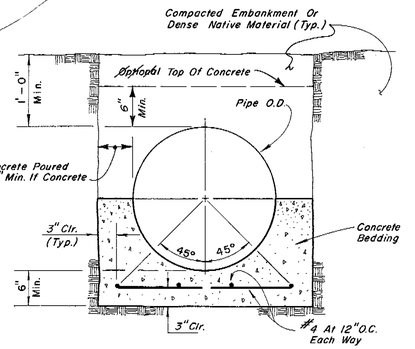
Note: See Dwg. 17 of 53 For Location of Each Type



TYPE B UNDERDRAIN



TYPE C UNDERDRAIN



CONCRETE BEDDING

NO SCALE

RECORD DWG.
BRELJE & RACE
Date 7-27-90

42686

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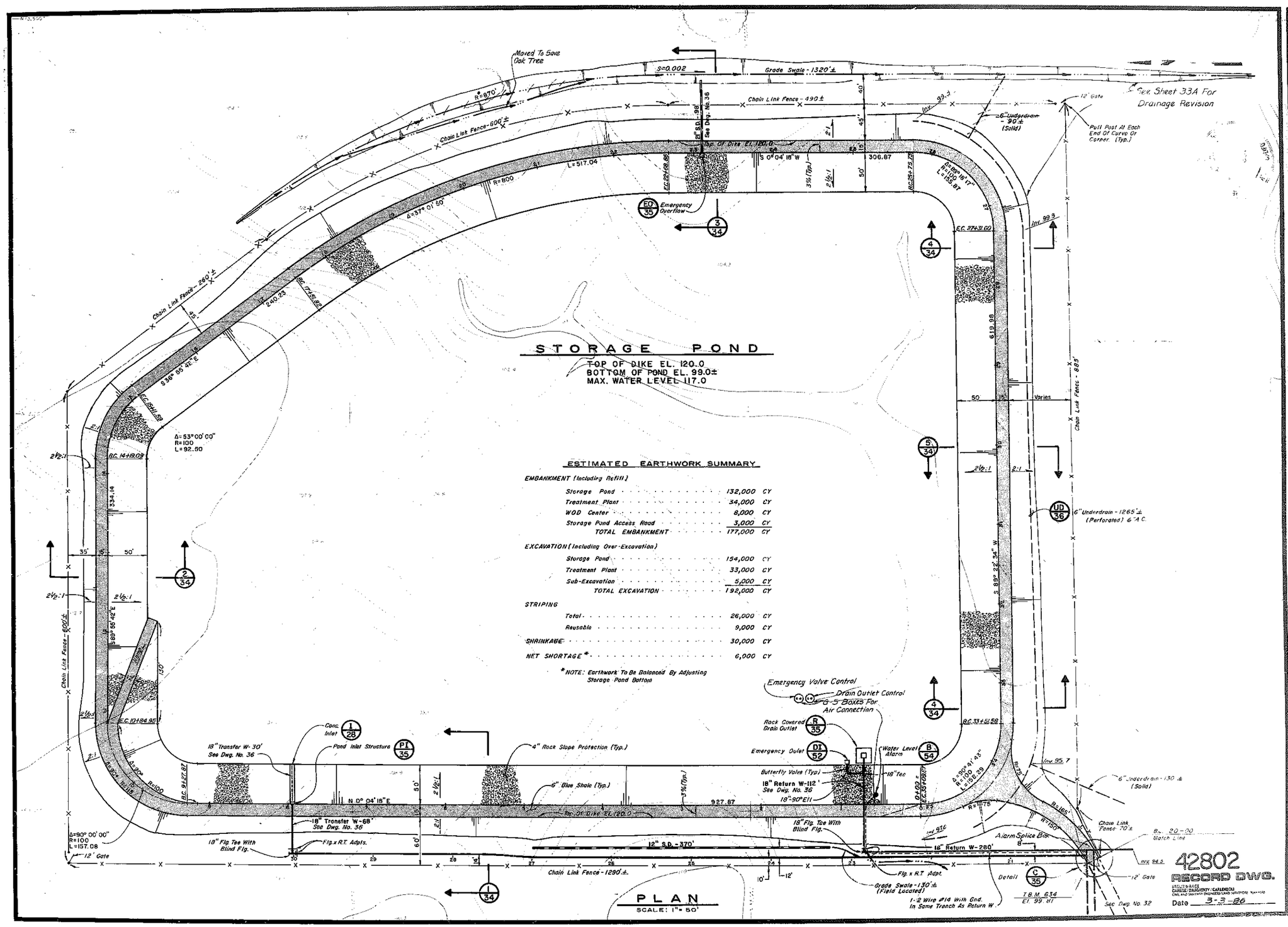
AIRPORT WASTEWATER TREATMENT PLANT
PHASE II
TREATMENT, STORAGE AND DISPOSAL FACILITIES
COUNTY SERVICE AREA NO. 31

SECTIONS AND DETAILS

DATE APRIL, 1987
REVISIONS

DRAWN BY H.J. & G.M. | CHECKED
JOB NO. 818.64
DRAWING NUMBER 18 of 53



ESTIMATED EARTHWORK SUMMARY

EMBANKMENT (Including Refill)		
Storage Pond	132,000	CY
Treatment Plant	34,000	CY
WQD Center	8,000	CY
Storage Pond Access Road	3,000	CY
TOTAL EMBANKMENT	177,000	CY
EXCAVATION (Including Over-Excavation)		
Storage Pond	154,000	CY
Treatment Plant	33,000	CY
Sub-Excavation	5,000	CY
TOTAL EXCAVATION	192,000	CY
STRIPING		
Total	26,000	CY
Reusable	9,000	CY
SHRINKAGE	30,000	CY
NET SHORTAGE*	6,000	CY

*NOTE: Earthwork To Be Balanced By Adjusting Storage Pond Bottom

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JAMES V. DAUGHERTY R.C.E. 18810

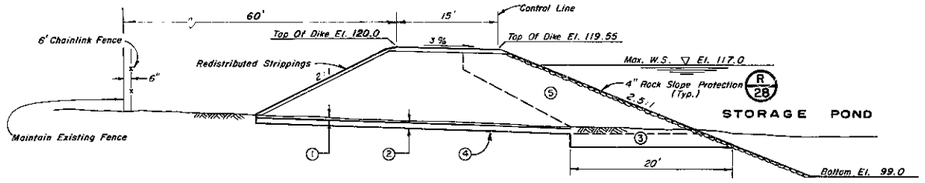
AIRPORT SEWER ASSESSMENT DISTRICT NO. 1
TREATMENT, STORAGE AND DISPOSAL FACILITIES
COUNTY SERVICE AREA NO. 31

GRADING PLAN

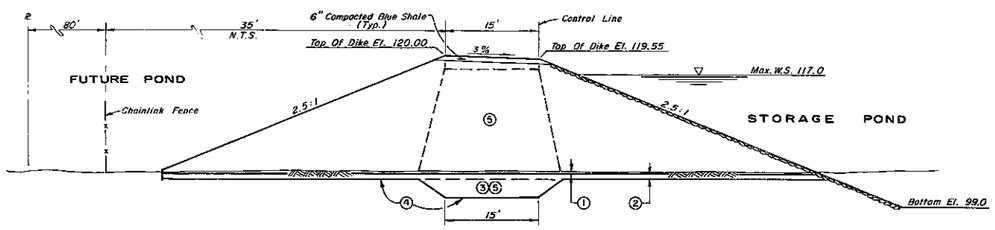
DATE APRIL, 1985
REVISIONS

DRAWN BY H.J. | CHECKED TEV
JOB NO 818.50
DRAWING NUMBER 33 of 62

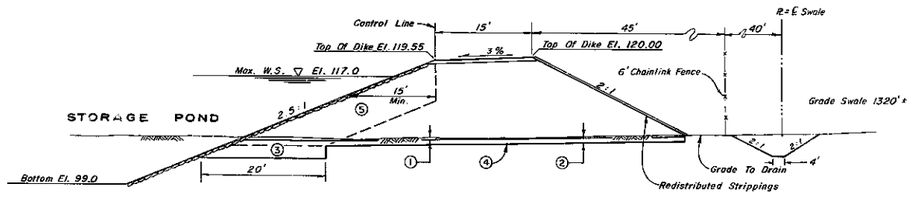
Added in Addendum 2



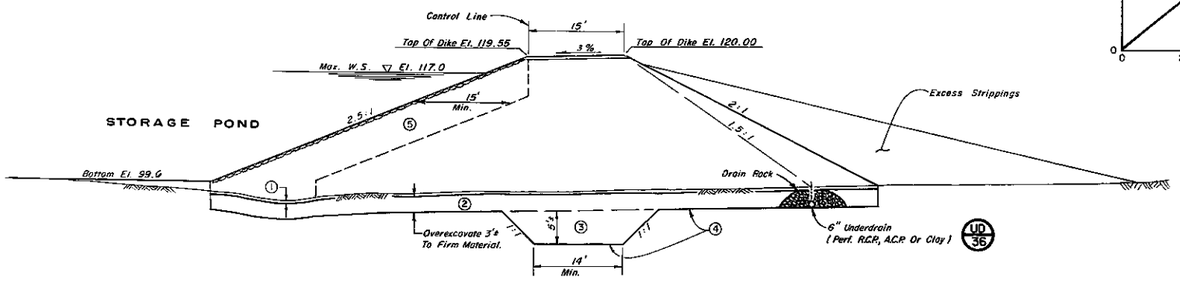
SECTION 1/33
SCALE: 1" = 10'
STA. 0+00 TO STA. 10+00



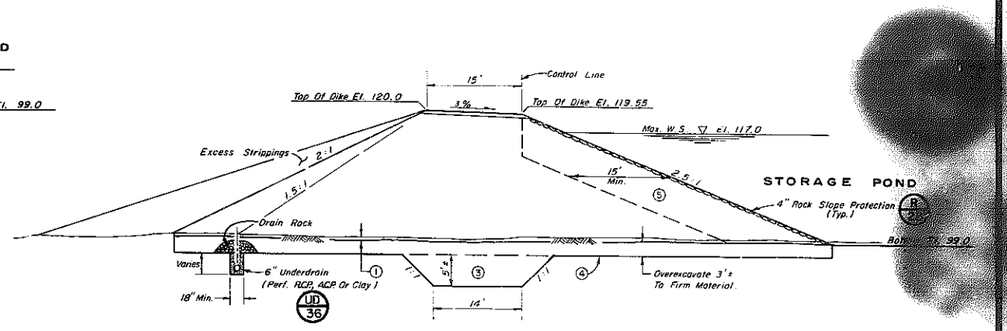
SECTION 2/33
SCALE: 1" = 10'
STA. 10+00 TO STA. 16+00



SECTION 3/33
SCALE: 1" = 10'
STA. 16+00 TO STA. 25+00



SECTION 4/33
SCALE: 1" = 10'
STA. 25+00 TO STA. 28+00
AND
STA. 33+00 TO STA. 35+00



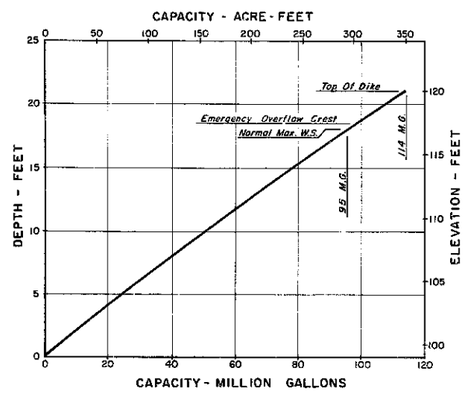
SECTION 5/33
SCALE: 1" = 10'
STA. 28+00 TO STA. 33+00

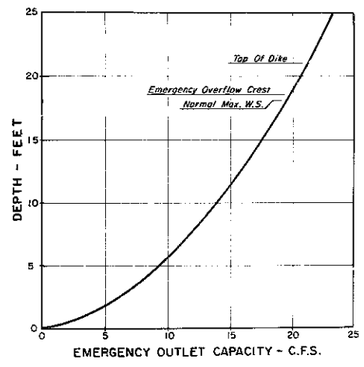
CONSTRUCTION NOTES FOR SECTIONS ON THIS DWG. ONLY:

1. Strip 3" Min. Vegetation, Stockpile For Redistribution Or Disposal.
2. Overexcavate 1'± Topsoil - May Be Blended For Reuse In Impervious Portion Of Dike.
3. Subexcavate Dike Foundation To Intact Glen Ellen Formation. (3'± Unless Otherwise Noted.)
4. Scarify, Moisture Condition And Compact To 92% Relative Compaction, CTM 216.
5. Fill Material Shall Have A Minimum Of 30% Passing The #200 Screen.

Addendum #1

A. Intact Glen Ellen Shall Not Be Scarified, etc.
B. Vert. Walls Shall Be 1:1





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2-28-86

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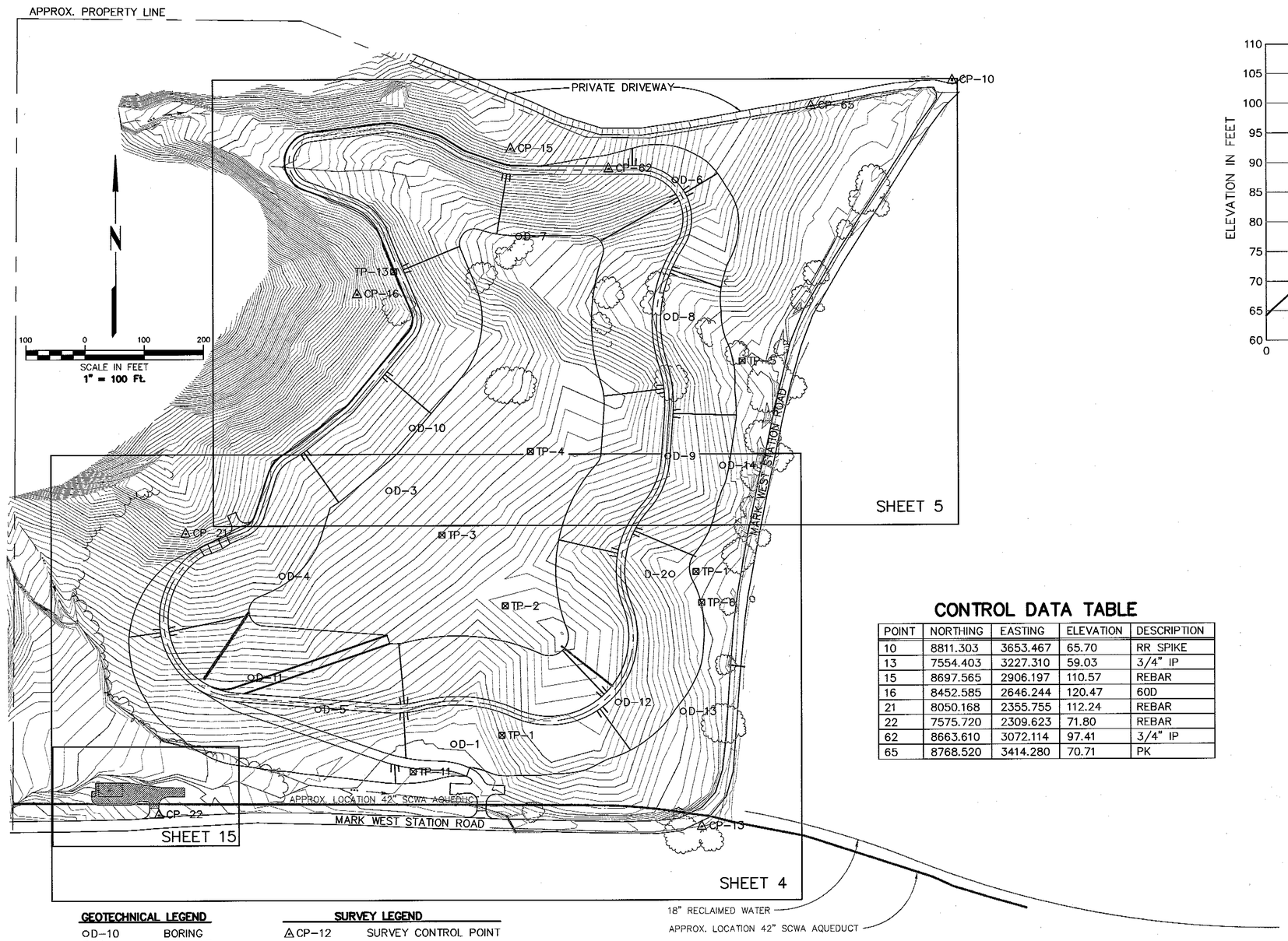
B&C

AIRPORT SEWER ASSESSMENT DISTRICT NO. 1
TREATMENT, STORAGE AND DISPOSAL FACILITIES
COUNTY SERVICE AREA NO. 31

GRADING SECTIONS

DATE APRIL, 1983	
REVISIONS	
DRAWN BY D.E.	CHECKED TRV
JOB NO. 818 5.1	
DRAWING NUMBER 34 of 62	



GEOTECHNICAL LEGEND

OD-10	BORING
TP-4	TEST PIT

SURVEY LEGEND

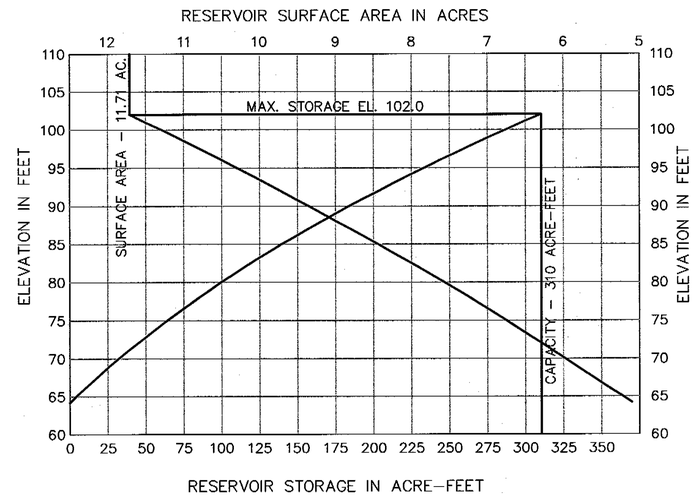
CP-12	SURVEY CONTROL POINT

KEY MAP

CONTROL DATA TABLE

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	8811.303	3653.467	65.70	RR SPIKE
13	7554.403	3227.310	59.03	3/4" IP
15	8697.565	2906.197	110.57	REBAR
16	8452.585	2646.244	120.47	60D
21	8050.168	2355.755	112.24	REBAR
22	7575.720	2309.623	71.80	REBAR
62	8663.610	3072.114	97.41	3/4" IP
65	8768.520	3414.280	70.71	PK

AREA CAPACITY CURVES



RESERVOIR DATA

CAPACITY	310 AC-FT
TOP EMBANKMENT EL.	105.5
SPILLWAY WEIR EL.	102.5
NORMAL MAX. W.S. EL.	102.0
NORMAL MAX. W.S. AREA	11.71 AC.
BOTTOM EL.	64.2

EARTHWORK SUMMARY

STRIPPING	9900 C.Y.
EXCAVATION	238,200 C.Y.
SUBEXCAVATION	81,500 C.Y.
EMBANKMENT	214,200 C.Y.
SHRINKAGE (7.5%)	24,000 C.Y.
NET	0 C.Y.

RECORD DRAWING
DATE: 7/22/03 BY: Rich Lyke

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CONSULTING CIVIL ENGINEERS
5570 SKYLANE BLVD. SANTA ROSA CA 95403 707/576-1322
JOHN S. LOCEY R.C.E. 31909

REGISTERED PROFESSIONAL ENGINEER JOHN SIDNEY LOCEY No. 31909 Exp. 12-31-00 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: MAY 2000
DRAWN: BB
CHECKED: DL

APPROVED DEPUTY CHIEF ENGINEER RCE 54302
SUBMITTED RCE 46862
DESIGNED RCE 31909

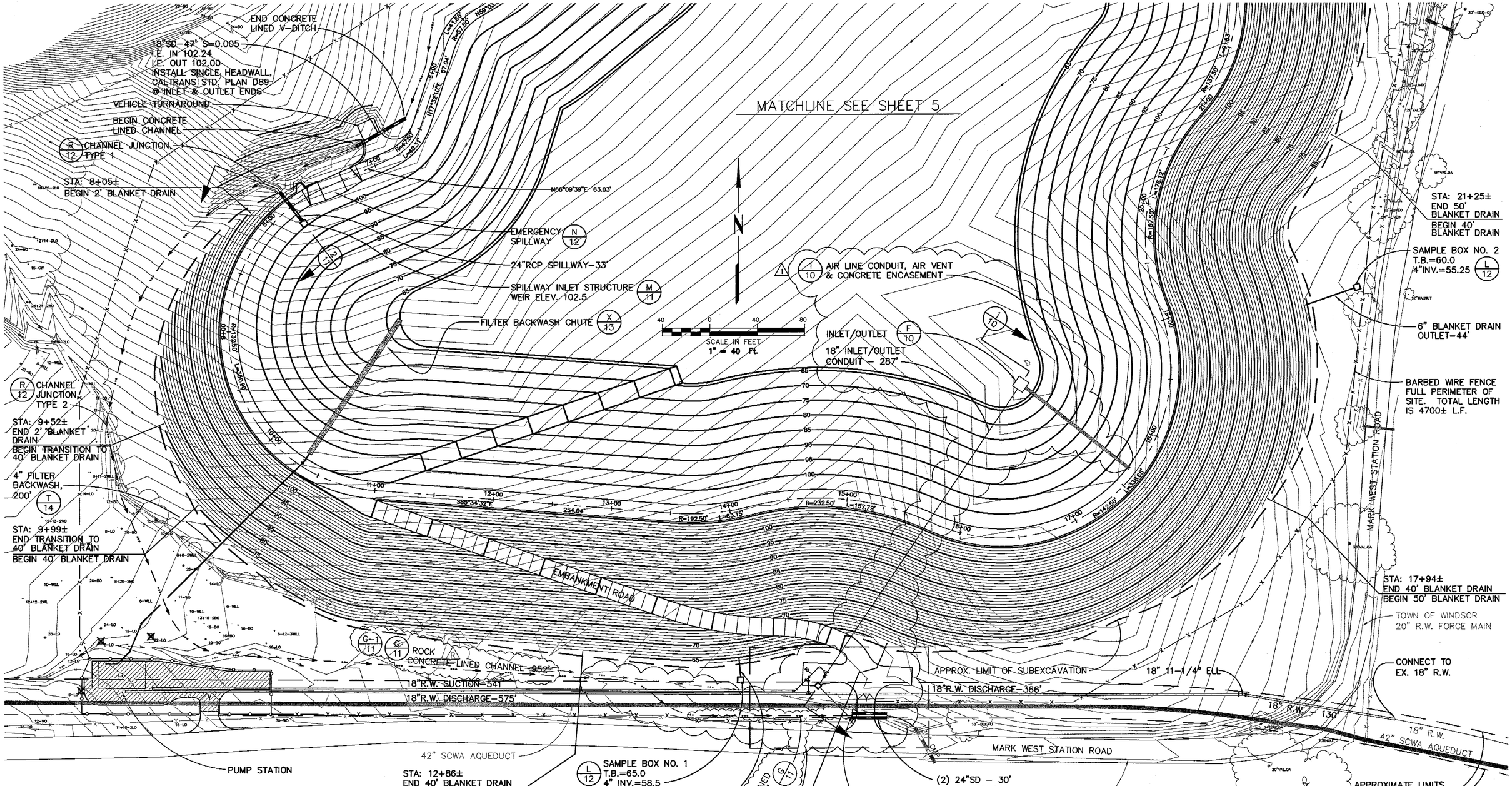
AIRPORT – LARKFIELD – WIKIUP SANITATION ZONE
STORAGE AND RECLAMATION FACILITIES, AIRPORT RESERVOIR D
KEY MAP, RESERVOIR DATA & CAPACITY TABLES

DRAWING NAME
DRAWING NUMBER 70-6-102.103_R

SHEET NO. 3 OF 27

P:\sanitation\airport | w sz\treatment plant\reservoirs\Airport Reservoir D\Record_Dwgs\70-6-102_103_R.dwg 05/20/2004 01:49:25 PM PDT
\22103BASE.DWG XREF: TOPO3.DWG

Added in Addendum 2



NOTES:

1. ALL PORTIONS OF EXISTING DRAINAGE COURSES WHOSE FLOW HAS BEEN DIVERTED TO NEW CONCRETE LINED CHANNEL SHALL BE FILLED TO TOP OF BANK WITH NATIVE MATERIAL COMPACTED TO 85% R.C.
2. FOR SHEET NO. 4 ONLY: ALL TREES SHALL REMAIN UNLESS OTHERWISE MARKED.

RECORD DRAWING
DATE: 7/22/03 BY: Rich Kyle

BRELJE & RACE
CONSULTING CIVIL ENGINEERS
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JOHN S. LOCEY R.C.E. 31909

REGISTERED PROFESSIONAL ENGINEER JOHN SIDNEY LOCEY No. 31909 Exp. 12-31-00 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY
1	1-30-01	REALIGN INLET/OUTLET AND CONCRETE-LINED CHANNEL	
/R\	7/22/03	RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: MAY 2000
DRAWN: BB
CHECKED: DL

APPROVED DEPUTY CHIEF ENGINEER RCE 54302
SUBMITTED RCE 46862
DESIGNED RCE 31909

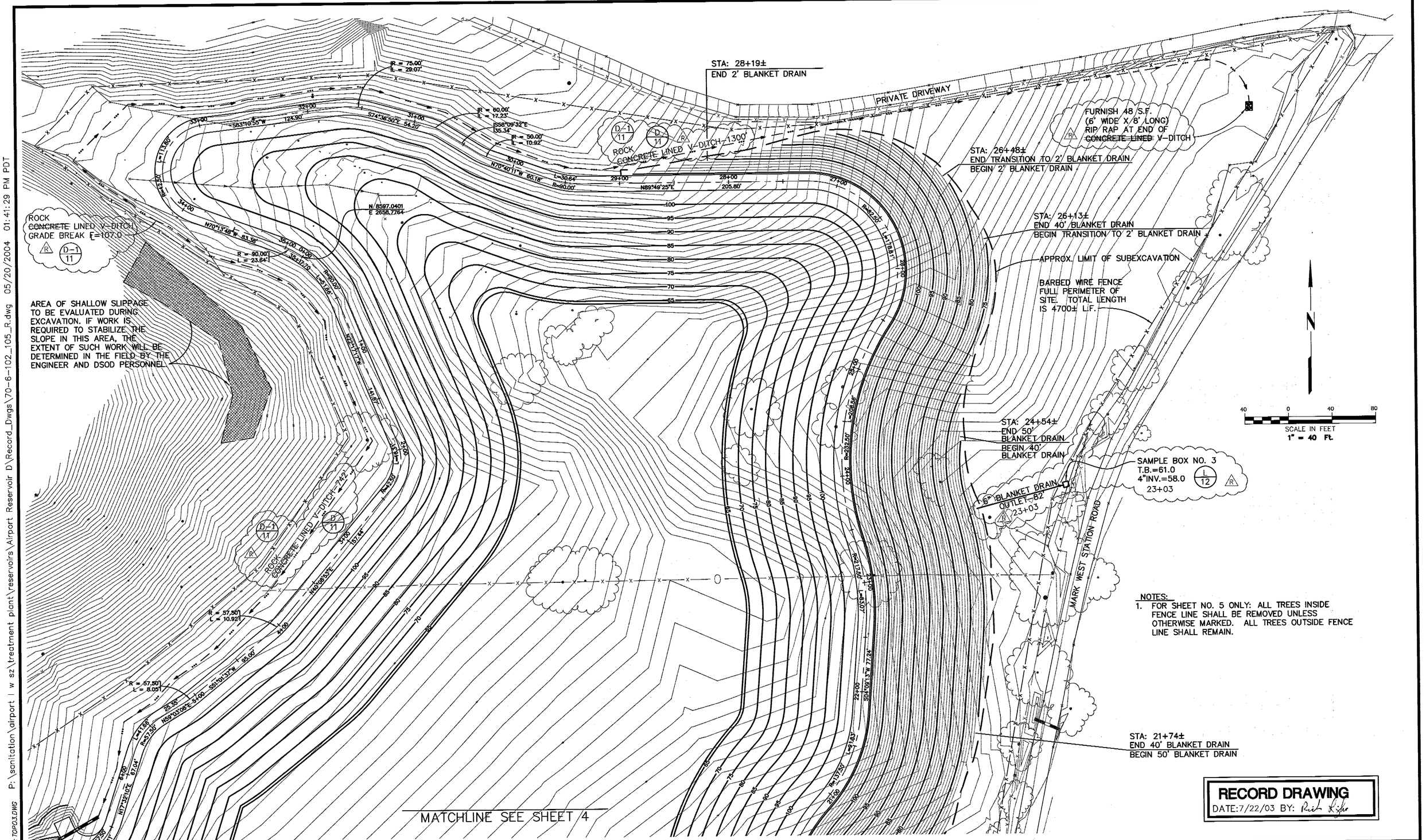
AIRPORT – LARKFIELD – WIKIUP SANITATION ZONE
STORAGE AND RECLAMATION FACILITIES, AIRPORT RESERVOIR D
RESERVOIR GRADING PLAN

DRAWING NAME / DRAWING NUMBER 70-6-102.104_R

SHEET NO. 4 OF 27

P:\sanitation\airport | w sz\treatment plant\reservoirs\Airport Reservoir D\Record_Dwgs\70-6-102_104_R.dwg 05/20/2004 01:48:49 PM PDT
XREF: TOPO3.DWG
\2210JBASE.DWG

Added in Addendum 2



NOTES:
1. FOR SHEET NO. 5 ONLY: ALL TREES INSIDE FENCE LINE SHALL BE REMOVED UNLESS OTHERWISE MARKED. ALL TREES OUTSIDE FENCE LINE SHALL REMAIN.

RECORD DRAWING
DATE: 7/22/03 BY: Rich Race

P:\sanitation\airport I w sz\treatment plant\reservoirs\Airport Reservoir D\Record_Dwgs\70-6-102_105_R.dwg 05/20/2004 01:41:29 PM PDT

\22103BASE.DWG XREF: TOPO3.DWG

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JOHN S. LOCEY R.C.E. 31909

REGISTERED PROFESSIONAL ENGINEER JOHN SIDNEY LOCEY No. 31909 Exp. 12-31-09 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY
R	7/22/03	RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: MAY 2000
DRAWN: BB
CHECKED: DL

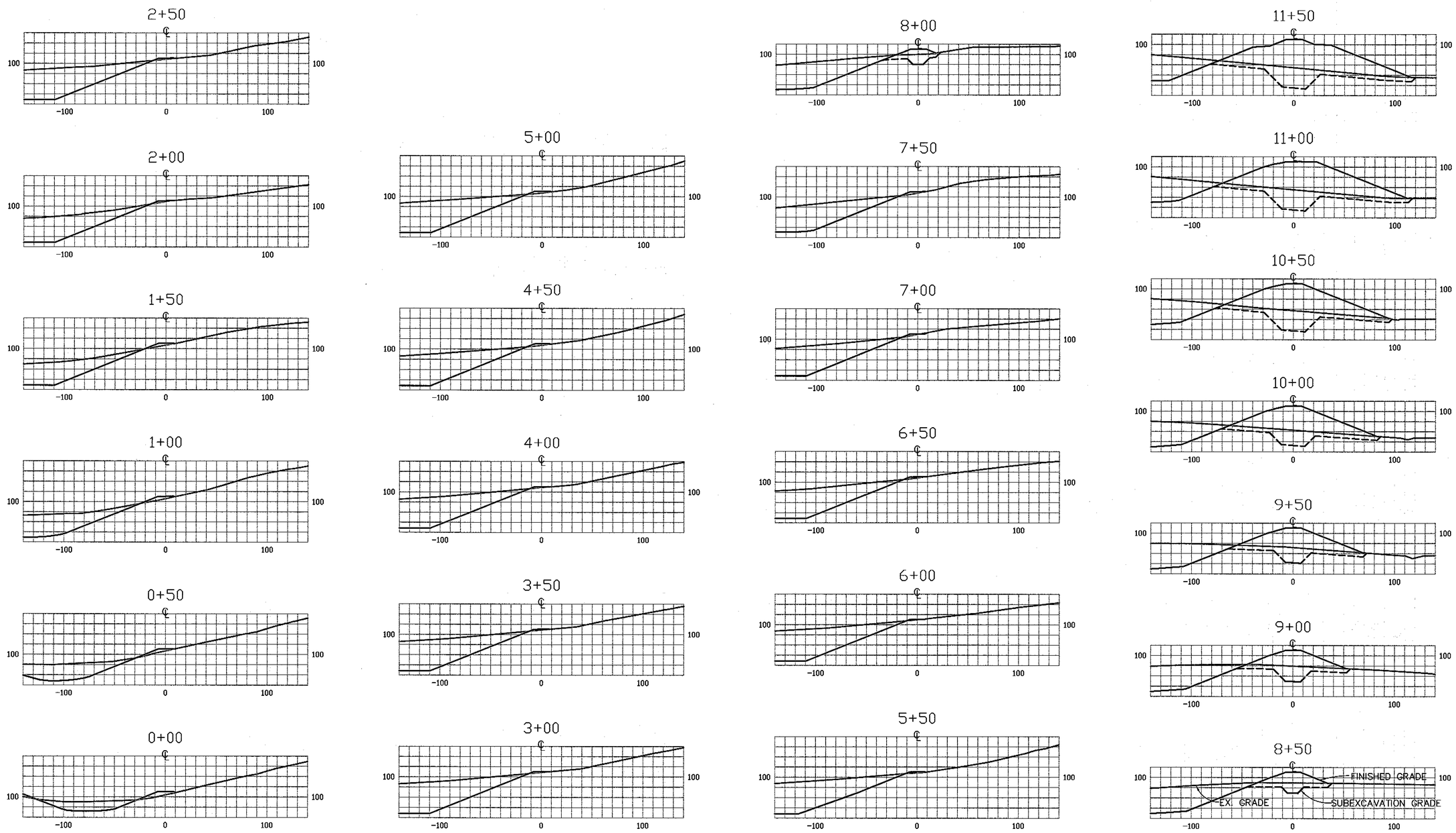
APPROVED DEPUTY CHIEF ENGINEER RCE 54302
SUBMITTED RCE 48882
DESIGNED RCE 31909

AIRPORT – LARKFIELD – WIKIUP SANITATION ZONE
STORAGE AND RECLAMATION FACILITIES, AIRPORT RESERVOIR D
RESERVOIR GRADING PLAN

DRAWING NAME
DRAWING NUMBER 70-6-102.105_R

SHEET NO. 5 OF 27

Added in Addendum 2



NOTE:
SEE SCWA SURVEY TOPO NOTES (6/02) FOR FINAL CROSS SECTIONS

SECTIONS

SCALE: HORZ. 1"=50'
VERT. 1"=50'

RECORD DRAWING
DATE: 7/22/03 BY: Rich Keller

NOTES:

1. GRADING SECTIONS SHOWN ARE APPROXIMATE AND MAY BE ALTERED BY THE ENGINEER AND DSOD BASED UPON OBSERVATIONS IN THE FIELD AND/OR THE RESULTS OF TESTING.
2. BOTTOM OF CUTOFF TRENCH SHALL BE CONSTRUCTED HORIZONTAL. REFER TO (3/9) FOR GEOMETRICAL DETAILS OF CUTOFF TRENCH.

P:\sanitation\airport l w sz\treatment plant\reservoirs\Airport Reservoir D\Record_Dwgs\70-6-102_106_R.dwg 05/20/2004 02:25:13 PM PDT

\221035EC.DWG

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CONSULTING CIVIL ENGINEERS
JOHN S. LOCEY R.C.E. 31909
5570 SKYLANE BLVD. SANTA ROSA CA 95403 707/576-1322

REGISTERED PROFESSIONAL ENGINEER JOHN SIDNEY LOCEY No. 31909 Exp. 12-31-00 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY
R	7/22/03	RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: MAY 2000
DRAWN: BB
CHECKED: DL

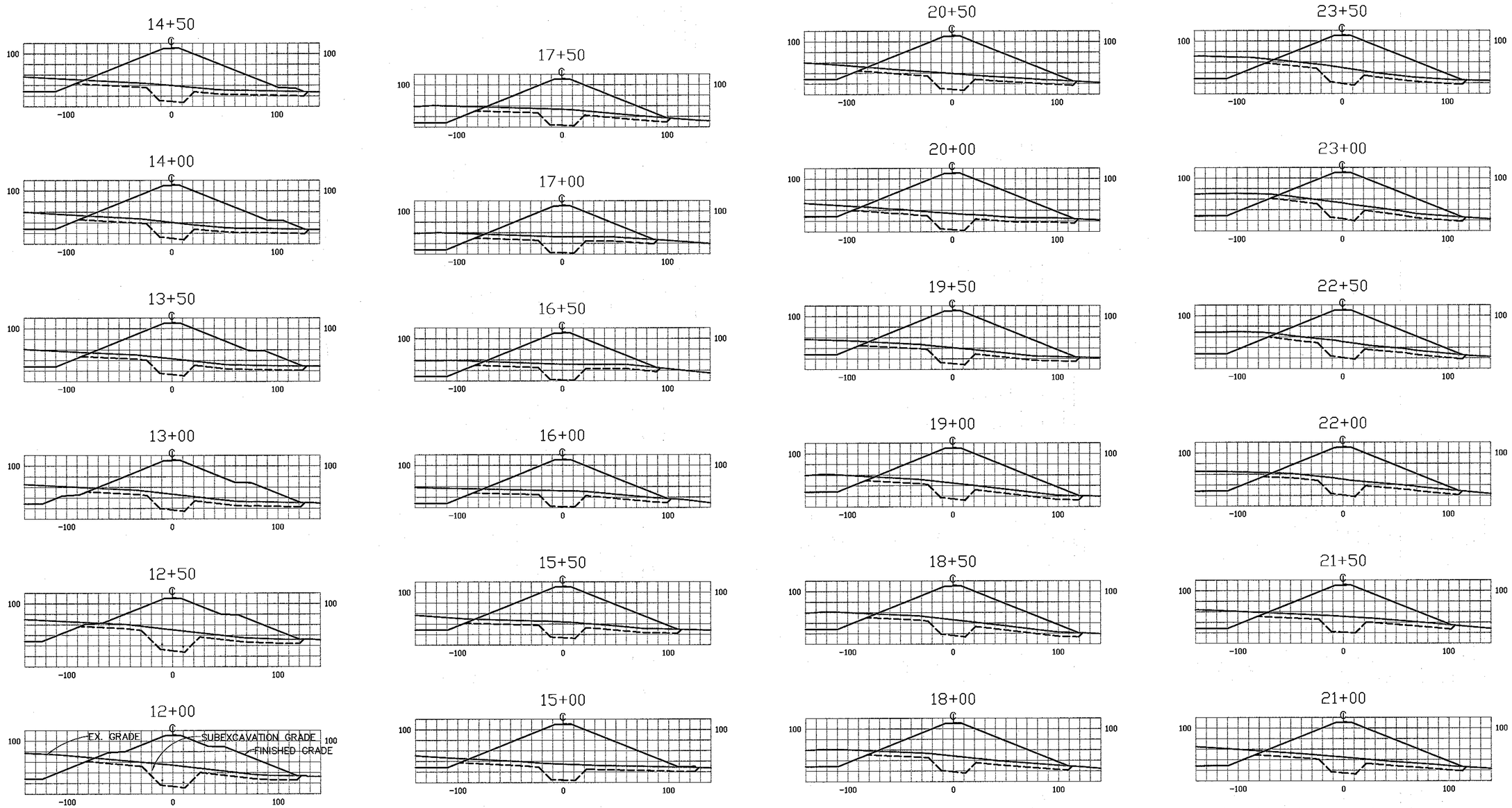
APPROVED DEPUTY CHIEF ENGINEER RCE 54302
SUBMITTED RCE 46862
DESIGNED RCE 31909

AIRPORT – LARKFIELD – WIKIUP SANITATION ZONE
STORAGE AND RECLAMATION FACILITIES, AIRPORT RESERVOIR D
EMBANKMENT SECTIONS

DRAWING NAME
DRAWING NUMBER 70-6-102.106_R

SHEET NO. 6 OF 27

Added in Addendum 2



NOTE:
SEE SCWA SURVEY TOPO NOTES (6/02) FOR FINAL CROSS SECTIONS

SECTIONS

SCALE: HORZ. 1"=50'
VERT. 1"=50'

RECORD DRAWING
DATE: 7/22/03 BY: Rick Lyle

NOTES:

1. GRADING SECTIONS SHOWN ARE APPROXIMATE AND MAY BE ALTERED BY THE ENGINEER AND DSOD BASED UPON OBSERVATIONS IN THE FIELD AND/OR THE RESULTS OF TESTING.
2. BOTTOM OF CUTOFF TRENCH SHALL BE CONSTRUCTED HORIZONTAL. REFER TO (3/9) FOR GEOMETRICAL DETAILS OF CUTOFF TRENCH.

P:\sanitation\airport t w sz\treatment plant\reservoirs\Airport Reservoir D\Record_Dwgs\70-6-102_107_R.dwg 05/20/2004 02:24:31 PM PDT

\221035EC.DWG

BRELJE & RACE
CONSULTING CIVIL ENGINEERS
5570 SKYLANE BLVD. SANTA ROSA CA 95403 707/576-1322
JOHN S. LOCEY R.C.E. 31909

REGISTERED PROFESSIONAL ENGINEER JOHN SIDNEY LOCEY No. 31909 Exp. 12-31-00 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY
R	7/22/03	RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: MAY 2000
DRAWN: BB
CHECKED: DL

APPROVED DEPUTY CHIEF ENGINEER RCE 54302
SUBMITTED RCE 46882
DESIGNED RCE 31909

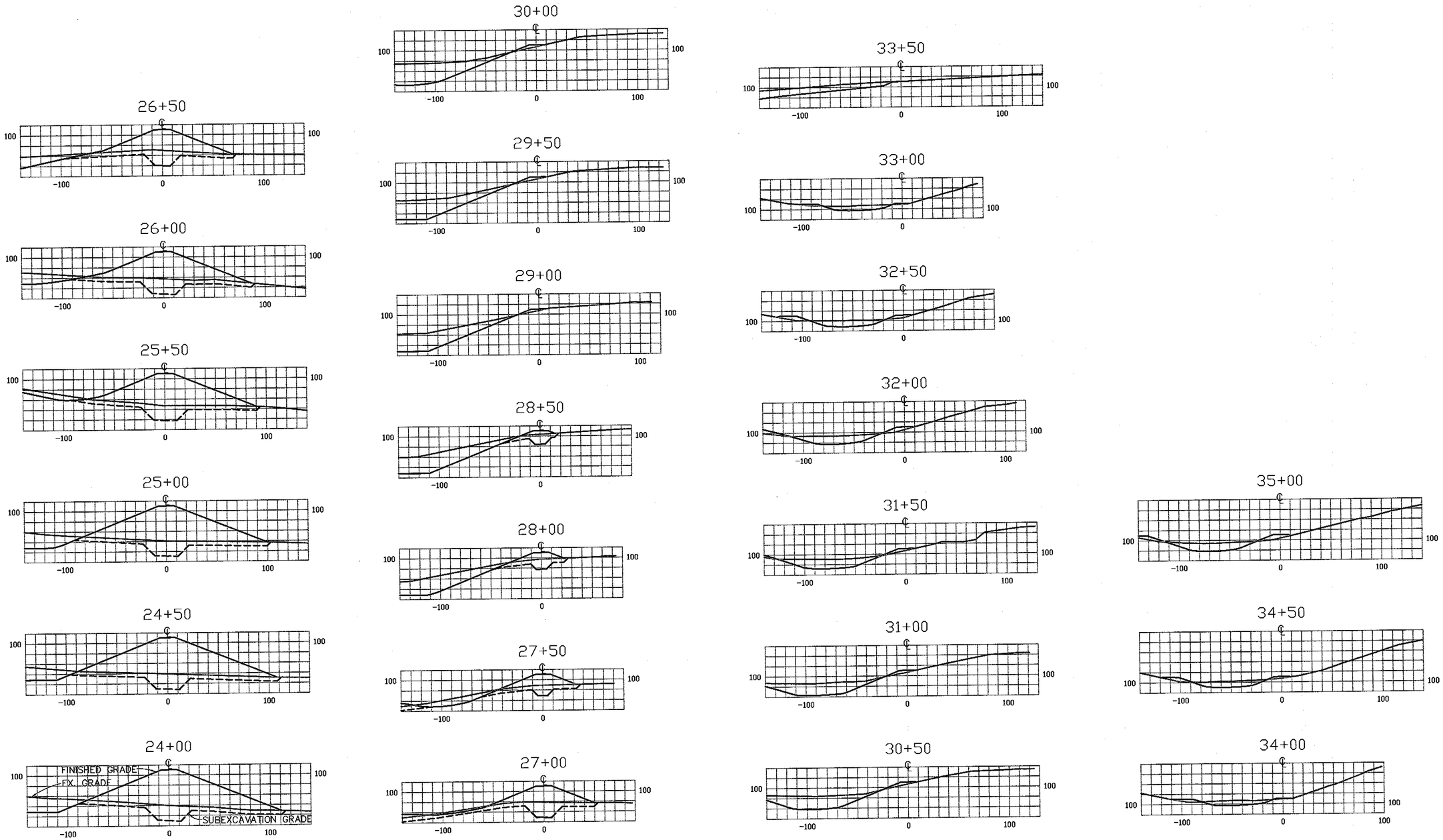
AIRPORT – LARKFIELD – WIKIUP SANITATION ZONE
STORAGE AND RECLAMATION FACILITIES, AIRPORT RESERVOIR D
EMBANKMENT SECTIONS

DRAWING NAME
DRAWING NUMBER 70-6-102.107_R

SHEET NO. 7 OF 27

Added in Addendum 2

P:\sanitation\airport l w sz\treatment plant\reservoirs\Airport Reservoir D\Record_Dwgs\70-6-102_108_R.dwg 05/20/2004 02:20:16 PM PDT



NOTE:
SEE SCWA SURVEY TOPO NOTES (6/02) FOR FINAL CROSS SECTIONS

SECTIONS

SCALE: HORZ. 1"=50'
VERT. 1"=50'

RECORD DRAWING
DATE: 7/22/03 BY: Rial Kyle

NOTES:

1. GRADING SECTIONS SHOWN ARE APPROXIMATE AND MAY BE ALTERED BY THE ENGINEER AND DSOD BASED UPON OBSERVATIONS IN THE FIELD AND/OR THE RESULTS OF TESTING.
2. BOTTOM OF CUTOFF TRENCH SHALL BE CONSTRUCTED HORIZONTAL. REFER TO (3/9) FOR GEOMETRICAL DETAILS OF CUTOFF TRENCH.

BRELJE & RACE
CONSULTING CIVIL ENGINEERS
5570 SKYLANE BLVD. SANTA ROSA CA 95403 707/576-1322
JOHN S. LOCEY R.C.E. 31909

REGISTERED PROFESSIONAL ENGINEER JOHN SIDNEY LOCEY No. 31909 Exp. 12-31-00 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY
R	7/22/03	RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: MAY 2000
DRAWN: BB
CHECKED: DL

APPROVED DEPUTY CHIEF ENGINEER RCE 54302
SUBMITTED RCE 46882
DESIGNED RCE 31909

AIRPORT – LARKFIELD – WIKIUP SANITATION ZONE
STORAGE AND RECLAMATION FACILITIES, AIRPORT RESERVOIR D
EMBANKMENT SECTIONS

DRAWING NAME
DRAWING NUMBER 70-6-102.108_R

SHEET NO. 8 OF 27

\221035EC.DWG

Added in Addendum 2

EMBANKMENT HEIGHT, E *	STATION	W	H
3' < E <= 15'	7+84 TO 8+78 & 27+13 TO 28+50	10'	6'
15' < E <=30'	8+78 TO 9+99 & 26+13 TO 27+13	15'	11'
30' < E <= 46'	9+99 TO 26+13	23'	11' **

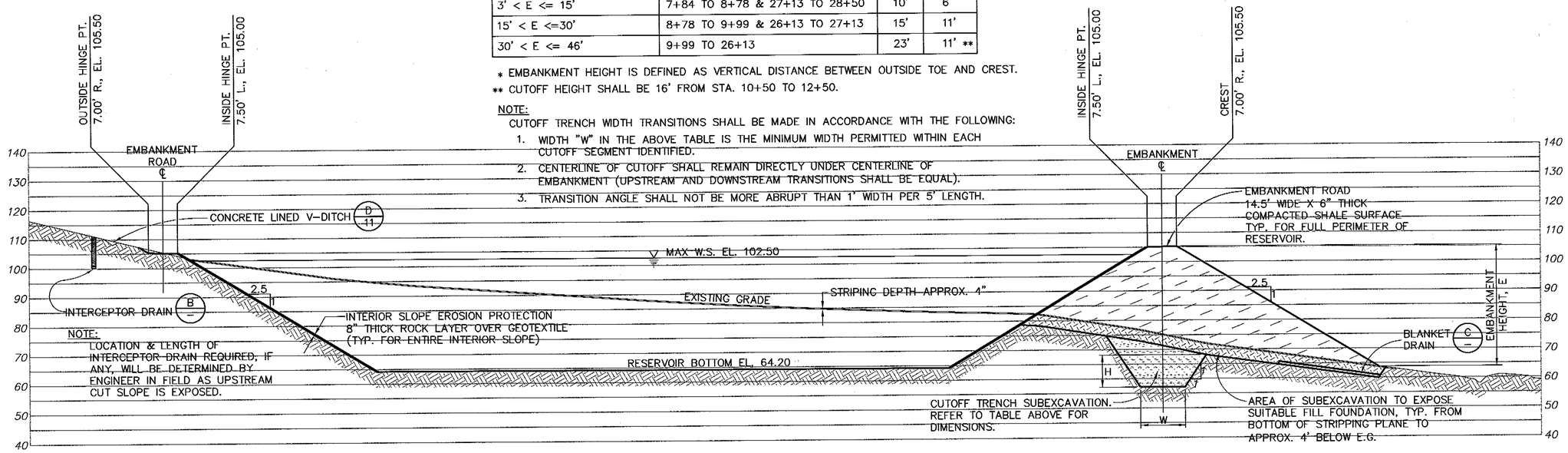
* EMBANKMENT HEIGHT IS DEFINED AS VERTICAL DISTANCE BETWEEN OUTSIDE TOE AND CREST.

** CUTOFF HEIGHT SHALL BE 16' FROM STA. 10+50 TO 12+50.

NOTE:

CUTOFF TRENCH WIDTH TRANSITIONS SHALL BE MADE IN ACCORDANCE WITH THE FOLLOWING:

1. WIDTH "W" IN THE ABOVE TABLE IS THE MINIMUM WIDTH PERMITTED WITHIN EACH CUTOFF SEGMENT IDENTIFIED.
2. CENTERLINE OF CUTOFF SHALL REMAIN DIRECTLY UNDER CENTERLINE OF EMBANKMENT (UPSTREAM AND DOWNSTREAM TRANSITIONS SHALL BE EQUAL).
3. TRANSITION ANGLE SHALL NOT BE MORE ABRUPT THAN 1' WIDTH PER 5' LENGTH.



TYPICAL RESERVOIR SECTION (3/-)

SCALE: HORZ. 1" = 30'
VERT. 1" = 20'

EMBANKMENT HEIGHT, E *	B
5' < E <=25'	2'
25' < E <= 30'	NOTE 2
30' < E <= 40'	40'
E > 40'	50'

* EMBANKMENT HEIGHT IS DEFINED AS VERTICAL DISTANCE BETWEEN OUTSIDE TOE AND CREST

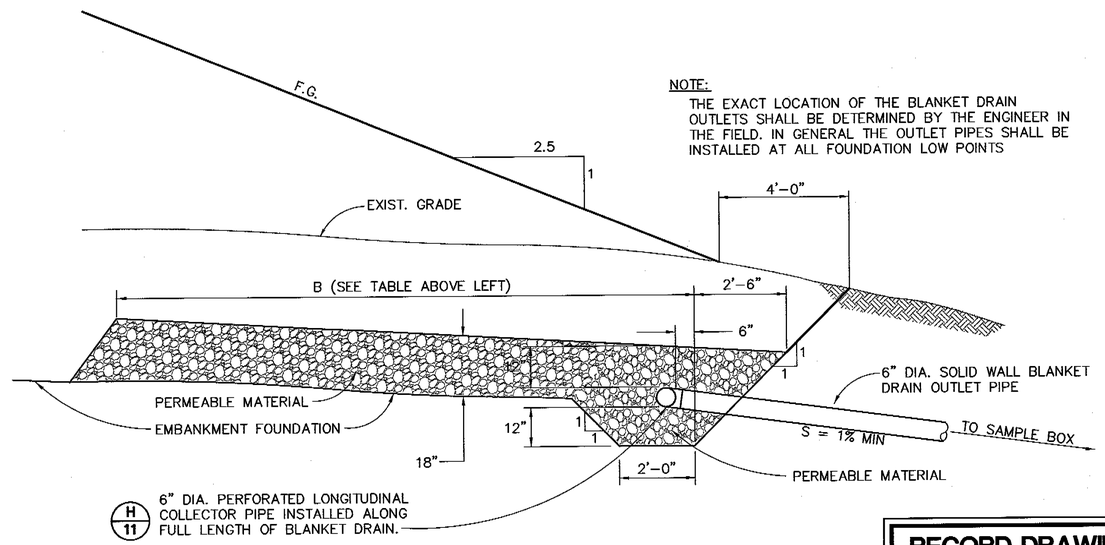
NOTES:

TRANSITION OF PERMEABLE MATERIAL WIDTH SHALL BE MADE IN ACCORDANCE WITH THE FOLLOWING:

1. WIDTH "B" IN THE ABOVE TABLE IS THE MINIMUM WIDTH PERMITTED WITHIN THE EMBANKMENT HEIGHT RANGE SPECIFIED.
2. WIDTH "B" SHALL TRANSITION FROM 2 FEET TO 40 FEET AT A CONSTANT ANGLE OVER THE ENTIRE LENGTH OF THE SECTION.
3. TRANSITION ANGLE BETWEEN 40-FOOT WIDE AND 50-FOOT WIDE PERMEABLE MATERIAL SECTIONS SHALL NOT BE MORE ABRUPT THAN 1' WIDTH PER 2' LENGTH.

NOTE:

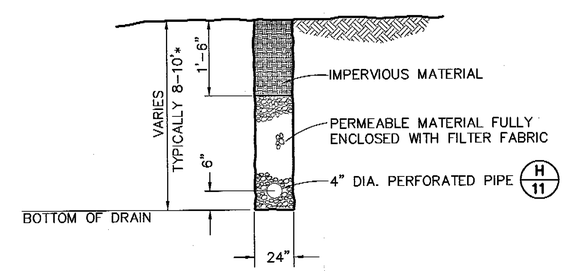
THE EXACT LOCATION OF THE BLANKET DRAIN OUTLETS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. IN GENERAL THE OUTLET PIPES SHALL BE INSTALLED AT ALL FOUNDATION LOW POINTS



BLANKET DRAIN (C/-)

NOT TO SCALE

RECORD DRAWING
DATE: 7/22/03 BY: Rich Kipke



* DEPTH OF DRAIN TO BE DETERMINED BY ENGINEER IN FIELD

INTERCEPTOR DRAIN (B/-)

NOT TO SCALE

P:\sanitation\airport t w sz\treatment plant\reservoirs\Airport Reservoir D\Record_Dwgs\70-6-102_109_R.dwg 05/20/2004 01:32:40 PM PDT

\221037SEC.DWG

BRELJE & RACE
CONSULTING CIVIL ENGINEERS
5570 SKYLANE BLVD. SANTA ROSA CA 95403 707/576-1322
JOHN S. LOCEY R.C.E. 31909

REGISTERED PROFESSIONAL ENGINEER JOHN SIDNEY LOCEY No. 31909 Exp. 12-31-00 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY

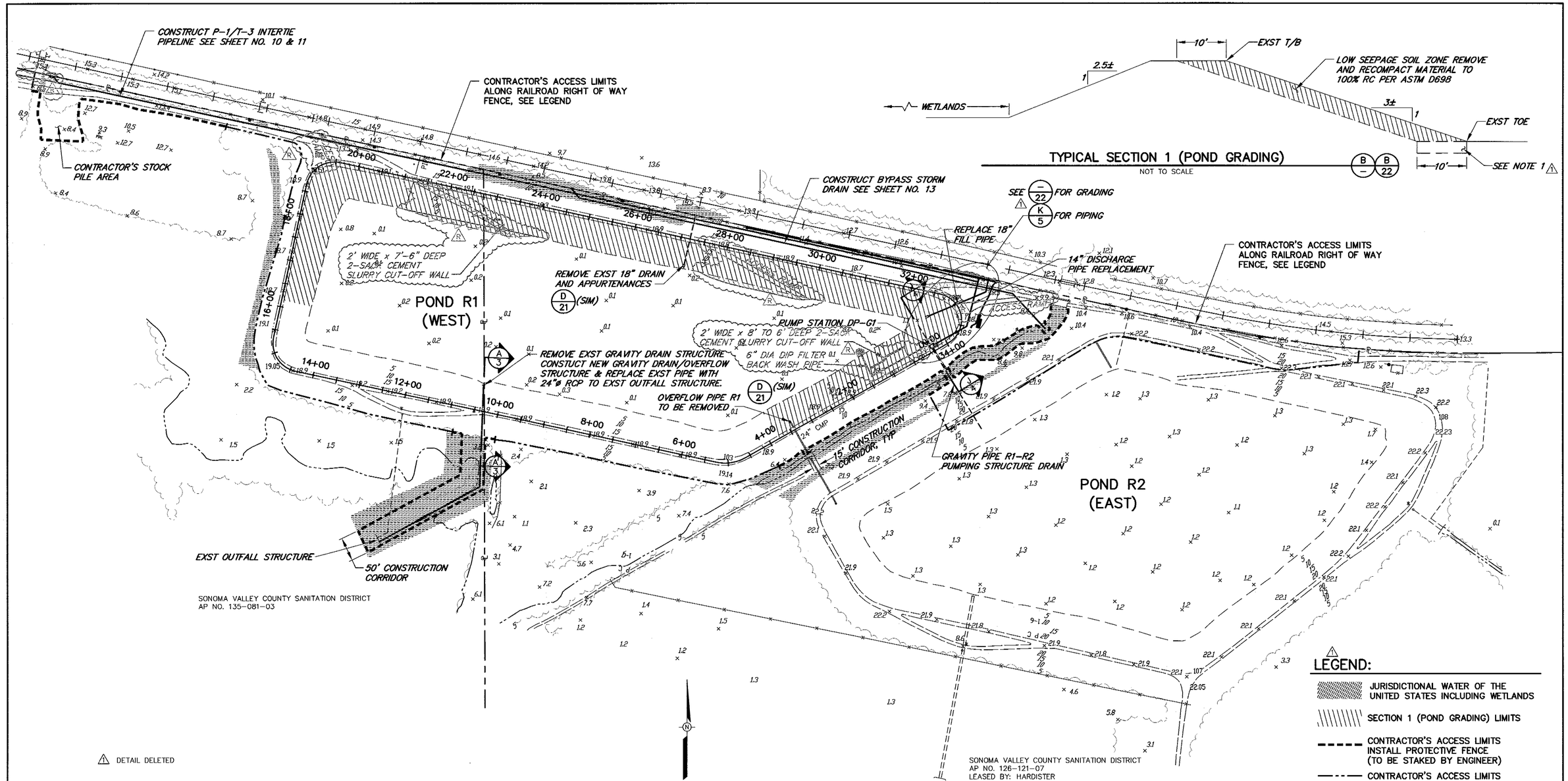
SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: MAY 2000
DRAWN: BB
CHECKED: DL

APPROVED DEPUTY CHIEF ENGINEER RCE 54302
SUBMITTED RCE 46862
DESIGNED RCE 31909

AIRPORT – LARKFIELD – WIKIUP SANITATION ZONE
STORAGE AND RECLAMATION FACILITIES, AIRPORT RESERVOIR D
TYPICAL RESERVOIR SECTION AND DETAILS

DRAWING NAME
DRAWING NUMBER 70-6-102.109_R



△1 DETAIL DELETED

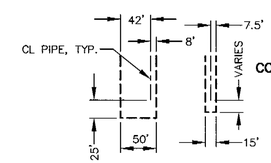
SITE PLAN

SCALE: 1" = 100'

100 0 100 200 400

SCALE : 1" = 100'

RECORD DRAWING
DATE:3/17/00 BY: Rich Fyke



CONSTRUCTION CORRIDORS

NOTES:

△1 1. PLACE SOIL FOR LOW SEEPAGE SOIL ZONE ON FIRM IMPERVIOUS FORMATIONAL MATERIAL.

NO.	DATE	REVISION	BY
R	3/17/00	RECORD DRAWING	
△1	9/14/99	CHANGE ORDER NO. 1	KNB
△2 △3	6/22/99	ADDENDUM NO. 1	KNB

SONOMA VALLEY COUNTY SANITATION DISTRICT

SCALE: AS SHOWN
DATE : JUNE 14, 1999
DRAWN : ADF\FJA
CHECKED :

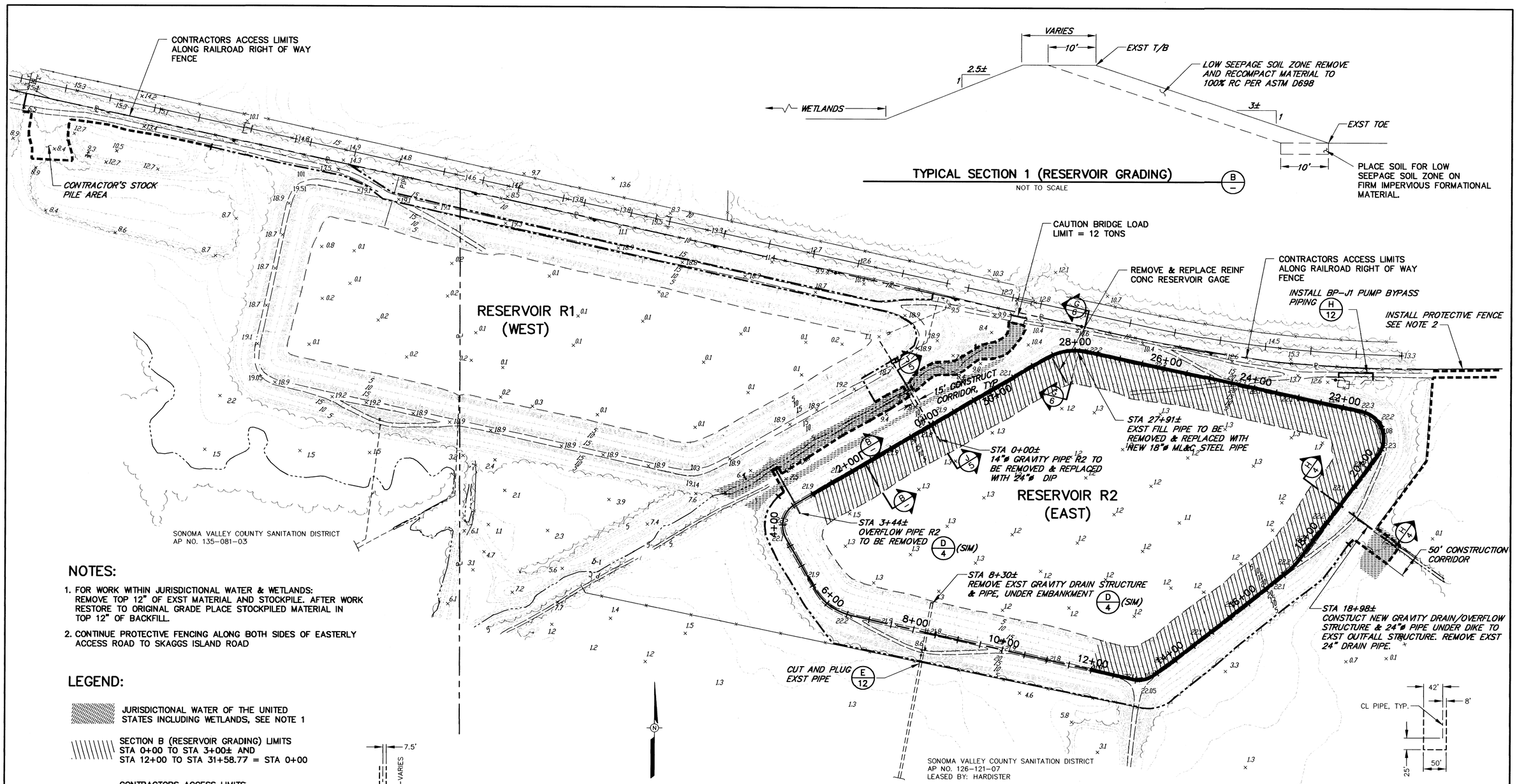
APPROVED DEPUTY CHIEF ENGINEER RCE C54302
SUBMITTED RCE C046862
DESIGNED RCE C-53084

RESERVOIR R1 EMERGENCY REPAIR PROJECT

SITE PLAN AND DETAILS

\SANITATION\SONOMA VALLEY CSD\RESERVOIRS\R1\RECORD-DWGS\341_R
DRAWING NUMBER 70-12-102.341_R

SHEET NO. 2 OF 27 △2 △1



TYPICAL SECTION 1 (RESERVOIR GRADING)

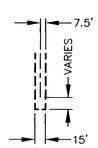
NOT TO SCALE

NOTES:

1. FOR WORK WITHIN JURISDICTIONAL WATER & WETLANDS: REMOVE TOP 12" OF EXST MATERIAL AND STOCKPILE. AFTER WORK RESTORE TO ORIGINAL GRADE PLACE STOCKPILED MATERIAL IN TOP 12" OF BACKFILL.
2. CONTINUE PROTECTIVE FENCING ALONG BOTH SIDES OF EASTERLY ACCESS ROAD TO SKAGGS ISLAND ROAD

LEGEND:

- JURISDICTIONAL WATER OF THE UNITED STATES INCLUDING WETLANDS, SEE NOTE 1
- SECTION B (RESERVOIR GRADING) LIMITS STA 0+00 TO STA 3+00± AND STA 12+00 TO STA 31+58.77 = STA 0+00
- CONTRACTORS ACCESS LIMITS INSTALL PROTECTIVE FENCE (TO BE STAKED BY ENGINEER)
- CONTRACTORS ACCESS LIMITS



STA 0+00± & STA 3+44±, 15' CONSTRUCTION CORRIDOR

NOT TO SCALE

SITE PLAN

SCALE: 1" = 100'

STA 18+98±, 50' CONSTRUCTION CORRIDOR

NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER KEVIN N. BERGER No. C-53084 Exp. 6/30/03 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY

SONOMA VALLEY COUNTY SANITATION DISTRICT

SCALE: AS SHOWN
DATE : JUNE 14, 2000
DRAWN : ADF
CHECKED :

APPROVED DEPUTY CHIEF ENGINEER RCE C54302
SUBMITTED RCE C046862
DESIGNED RCE C-53084

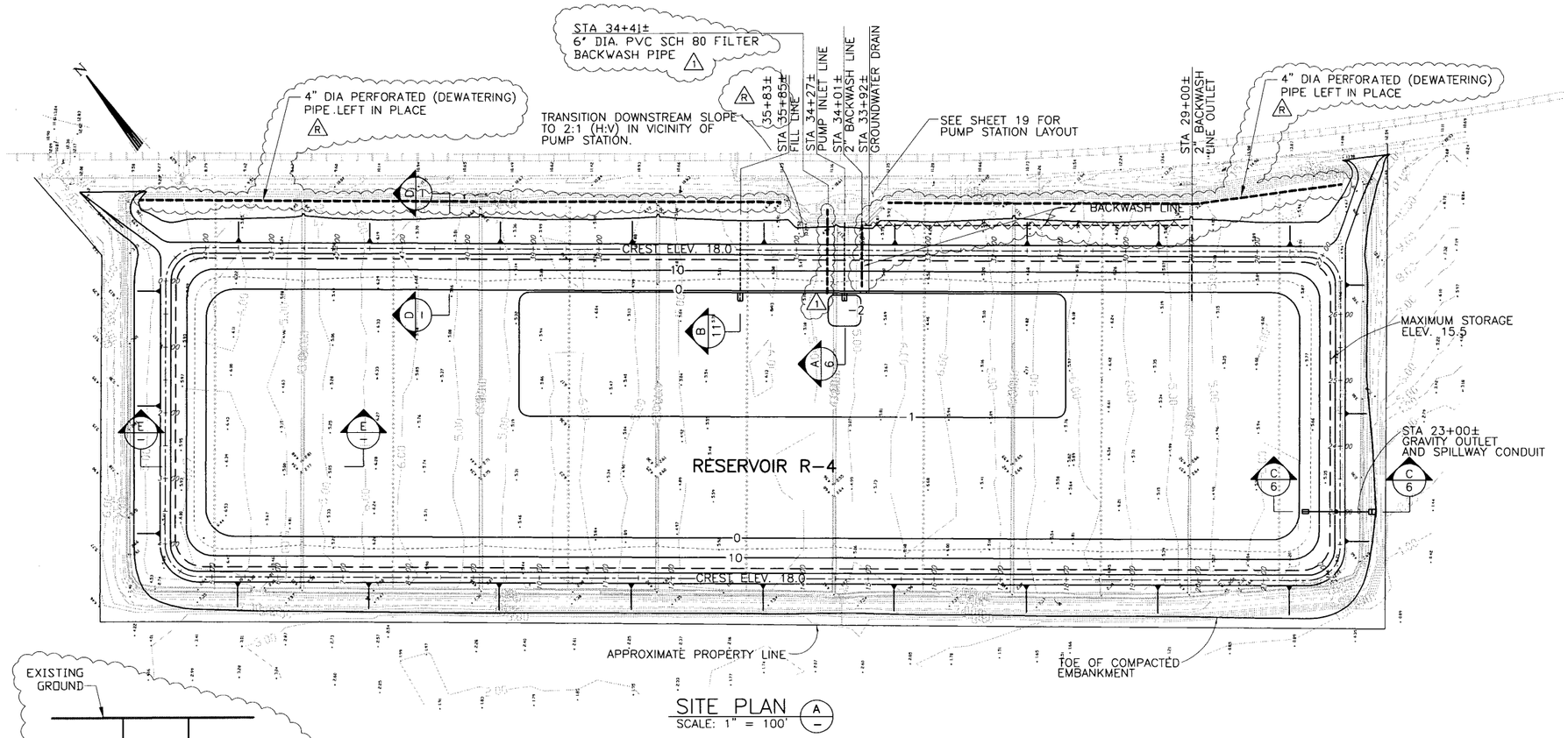
RESERVOIR R2 EMERGENCY REPAIR PROJECT

SITE PLAN AND DETAILS

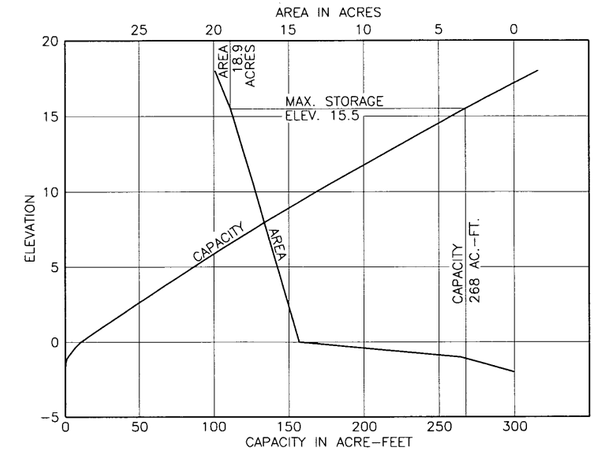
\SANITATION\SONOMA VALLEY CSD\RESERVOIRS\R2\12-364

DRAWING NUMBER 70-12-102.364

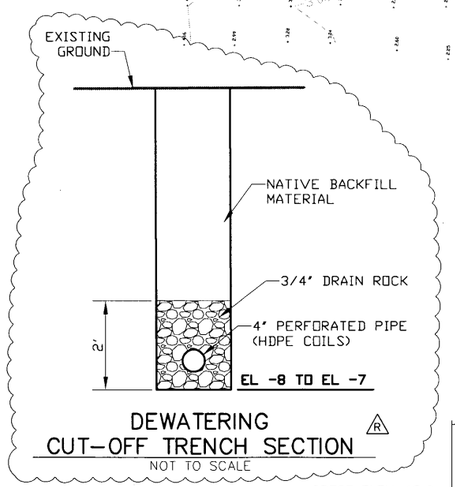
SHEET NO. 3 OF 21



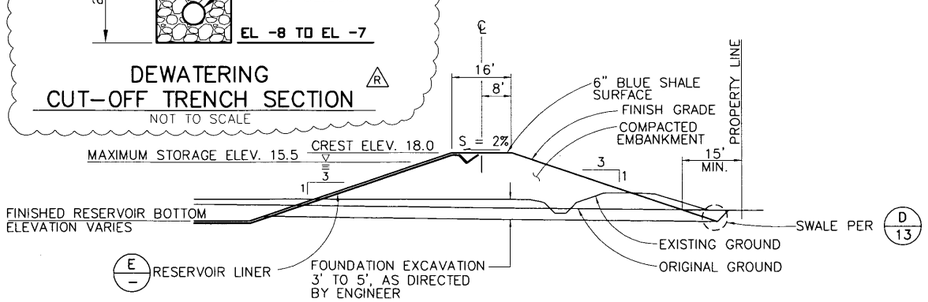
SITE PLAN (A/–)
SCALE: 1" = 100'



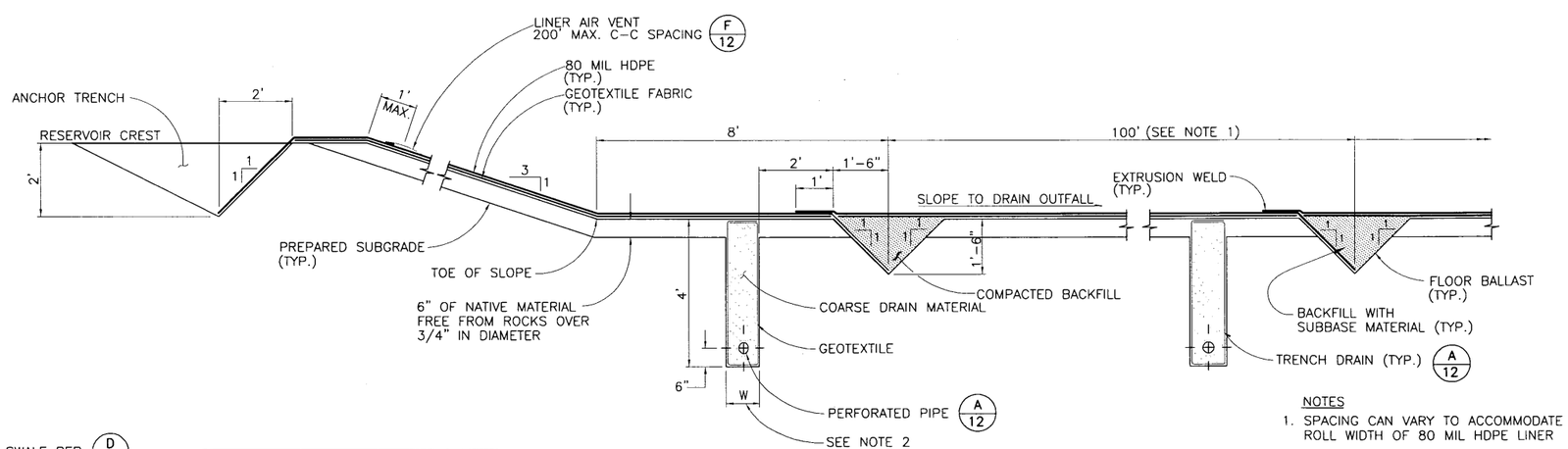
AREA–CAPACITY CURVES



DEWATERING CUT–OFF TRENCH SECTION (R)
NOT TO SCALE



TYPICAL SECTION (D/–)
SCALE: 1" = 20'



TYPICAL–RESERVOIR LINER AND TRENCH DRAIN (E/–)
SCALE: 1/2" = 1'

NOTES
1. SPACING CAN VARY TO ACCOMMODATE ROLL WIDTH OF 80 MIL HDPE LINER
2. TRENCH WIDTH "W" AS DESCRIBED BELOW:

PIPE DIA.	W
4"	12"
6"	18"
12"	34"

RECORD DRAWING
DATE: 10/14/03 BY: RB

REGISTERED PROFESSIONAL ENGINEER JOHN S. HANSON No. 45764 Exp. 12/31/02 CIVIL STATE OF CALIFORNIA

JAMES C. HANSON
CONSULTING CIVIL ENGINEER
A CORPORATION

NO.	DATE	REVISION	BY
1	10/20/03	BACKWASH PIPE INSTALLED BY MAINTENANCE CREW	
R	10/14/03	RECORD INFORMATION	

SONOMA VALLEY COUNTY SANITATION DISTRICT

SCALE: AS SHOWN
DATE: JUNE 14, 2001
DRAWN: RJB/KS
CHECKED: DPL

APPROVED DEPUTY CHIEF ENGINEER RCE C046862
SUBMITTED RCE C046862
DESIGNED RCE C045764

EFFLUENT STORAGE RESERVOIR R4
RESERVOIR SITE PLAN, AREA–CAPACITY CURVES, TYPICAL SECTION AND LINER DETAILS

\RESERVOIRS\R4_EFFLUENT_STORAGE_PROJ\C05
DRAWING NUMBER 70–12–102.123

SHEET NO. 5 of 35

North Bay Water Reuse Program
SONOMA VALLEY EFFLUENT RESERVOIR R5

Sonoma Valley County Sanitation District

January 2011

Contract No. 70-12-7 #45

SHEET LIST

GENERAL

G01 COVER SHEET, LOCATION AND VICINITY MAPS, SHEET LIST, AND GENERAL NOTES
G02 GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
G03 PROCESS FLOW SCHEMATIC AND DESIGN CRITERIA
G04 STANDARD DETAILS
G05 STANDARD STRUCTURAL DETAILS I
G06 STANDARD STRUCTURAL DETAILS II
G07 STANDARD STRUCTURAL DETAILS III
G08 STANDARD STRUCTURAL DETAILS IV
G09 STANDARD STRUCTURAL DETAILS V
G10 STANDARD STRUCTURAL DETAILS VI

CIVIL

C01 OVERALL SITE PLAN AND RESERVOIR CAPACITY CURVE
C02 EFFLUENT STORAGE RESERVOIR SITE PLAN
C03 EFFLUENT STORAGE RESERVOIR ENLARGED AREA PLAN
C04 EFFLUENT STORAGE RESERVOIR SECTIONS AND DETAILS I
C05 EFFLUENT STORAGE RESERVOIR SECTIONS AND DETAILS II
C06 EFFLUENT STORAGE RESERVOIR SECTIONS AND DETAILS III
C07 EFFLUENT STORAGE RESERVOIR SECTIONS AND DETAILS IV
C08 RESERVOIR INLET PIPE AND CHEMICAL FEED AREA PLANS, SECTIONS AND DETAILS
C09 24" RESERVOIR INLET PIPE & 24" OVERFLOW PIPE PLAN AND PROFILE
C10 WATMAUGH EXPORT PIPE PLAN AND PROFILE

STRUCTURAL/PROCESS

SP01 RESERVOIR EXPORT PUMPING STATION DECK LEVEL PLAN
SP02 RESERVOIR EXPORT PUMPING STATION SECTIONS AND DETAILS I
SP03 RESERVOIR EXPORT PUMPING STATION SECTIONS AND DETAILS II
SP04 MOTOR CONTROL CENTER FOUNDATION PLAN, SECTION AND DETAILS

ELECTRICAL

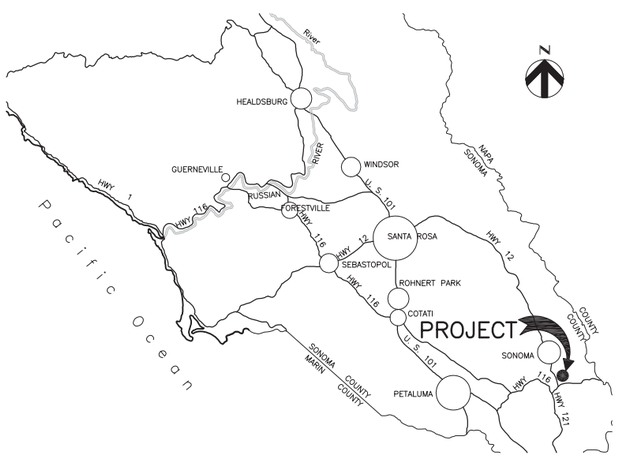
E01 ELECTRICAL SYMBOLS AND LEGEND
E02 ELECTRICAL SITE PLAN
E03 EXPORT PUMPING STATION AND MCC-R ELECTRICAL PLANS
E04 SINGLE LINE DIAGRAM, CONTROL DIAGRAMS AND SCHEDULES
E05 ELECTRICAL DETAILS
E06 DUCT BANK WIRING AND CONDUIT SCHEDULES

GENERAL NOTES

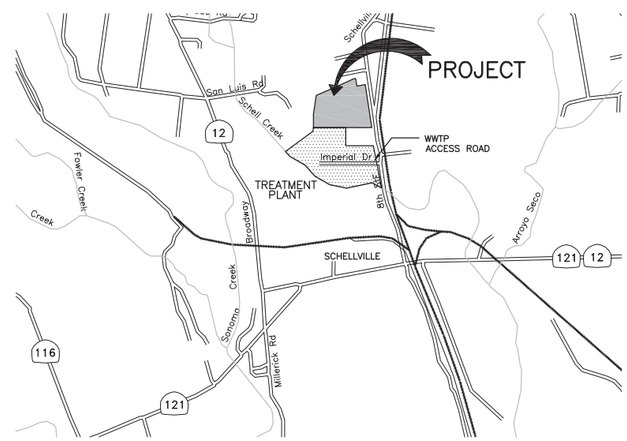
1. **HORIZONTAL DATUM:**
   CALIFORNIA COORDINATE SYSTEM ZONE 2, NAD 1983

2. **VERTICAL DATUM:**
   BASED ON MEAN SEA LEVEL DATUM OF 1929. A U.S.C. AND G.S. BRONZE DISK STAMPED "L 470 1951" FOUND APPROXIMATELY 1.0 MILE SOUTHEAST ALONG THE SOUTHERN PACIFIC RAILROAD COMPANY TRACKS FROM THE STATION AT SCHELLVILLE, AND 250'± NORTHWEST OF BURNDALE ROAD. BENCHMARK IS SET IN THE TOP OF THE NORTHWEST END OF THE NORTHEAST CONCRETE HEADWALL, 7.4' NORTHEAST OF THE NORTHEAST RAIL. ELEVATION 6.51'.

3. **PROJECT BENCHMARK:**
   A 1 1/2" BRONZE DISK STAMPED "SV-1 EL 23.43" AND SET IN THE CONCRETE BASE OF THE FLAGPOLE AT THE SOUTHEAST CORNER OF THE SONOMA VALLEY TREATMENT PLANT OPERATIONS BUILDING. ELEVATION 23.43'.



VICINITY MAP
NTS



LOCATION MAP
NTS

HDR
HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
	04/05/11	CONFORMED
0	1/20/2011	ISSUED FOR BID

PROJECT MANAGER	CRAIG OLSON, PE
DESIGNED	R. NATOLI
CHECKED	C. OLSON
DRAWN	P. VAN MEURS
PROJECT NUMBER	9240-144993
DISTRICT PROJECT	7487

REVIEWED

REVIEWED

REGISTERED PROFESSIONAL ENGINEER CRAIG A. OLSON NO. 39819 EXP. 12-31-11 CIVIL STATE OF CALIFORNIA
1/20/11

North Bay Water Reuse Program
Sonoma Valley Effluent Reservoir R5

Sonoma Valley County Sanitation District

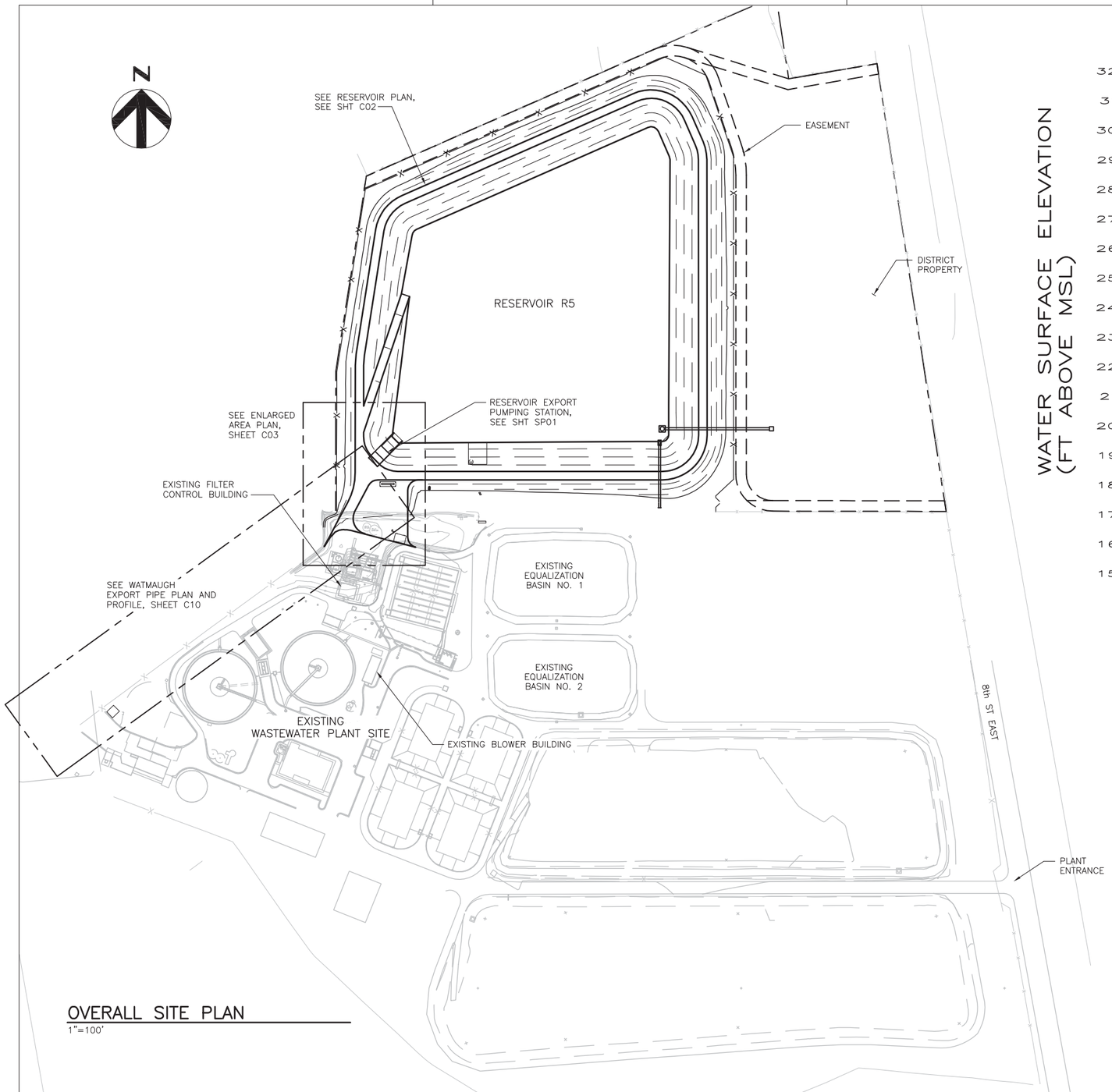
GENERAL

COVER SHEET, LOCATION AND VICINITY MAPS, SHEET LIST AND GENERAL NOTES

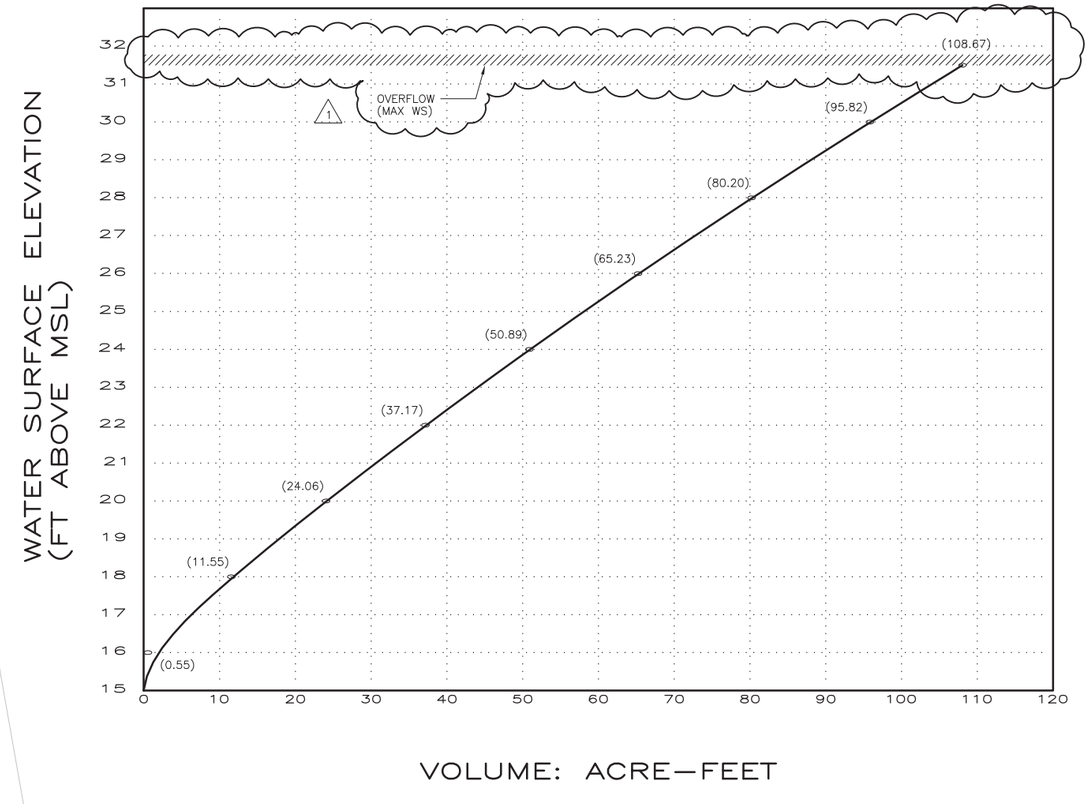
0 1" 2"

FILENAME	144993_G01.dwg
SCALE	NONE

SHEET G01



OVERALL SITE PLAN
1"=100'



RESERVOIR R5 CAPACITY CURVE
AS NOTED

HDR
HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
1	04/05/11	CONFORMED
0	1/20/2011	ISSUE FOR BID

PROJECT MANAGER	CRAIG OLSON, PE
DESIGNED	R. NATOLI
CHECKED	C. OLSON
DRAWN	P. VAN MEURS
PROJECT NUMBER	9240–144993
DISTRICT PROJECT	7487

REVIEWED

REVIEWED

REGISTERED PROFESSIONAL ENGINEER CRAIG A. OLSON NO. 39819 EXP. 12-31-11 CIVIL STATE OF CALIFORNIA
1/20/11

North Bay Water Reuse Program
Sonoma Valley Effluent Reservoir R5

Sonoma Valley County Sanitation District

CIVIL

OVERALL SITE PLAN AND RESERVOIR CAPACITY CURVE

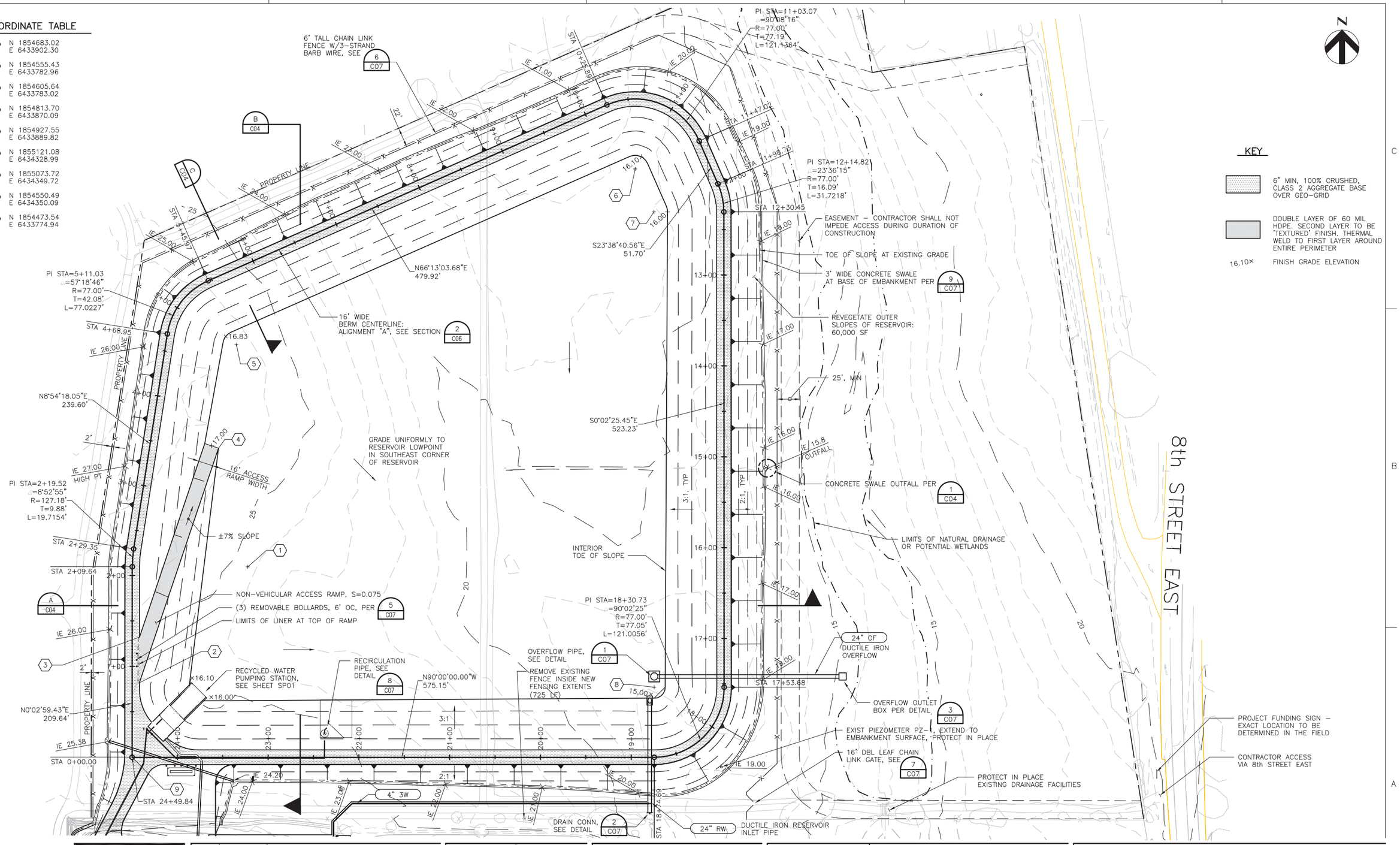
0 1" 2"

FILENAME	144993_C01.dwg
SCALE	AS NOTED

SHEET **C01**

COORDINATE TABLE

1	N 1854683.02	E 6433902.30
2	N 1854555.43	E 6433782.96
3	N 1854605.64	E 6433783.02
4	N 1854813.70	E 6433870.09
5	N 1854927.55	E 6433889.82
6	N 1855121.08	E 6434328.99
7	N 1855073.72	E 6434349.72
8	N 1854550.49	E 6434350.09
9	N 1854473.54	E 6433774.94



KEY

- 6" MIN, 100% CRUSHED, CLASS 2 AGGREGATE BASE OVER GEO-GRID
- DOUBLE LAYER OF 60 MIL HDPE. SECOND LAYER TO BE 'TEXTURED' FINISH. THERMAL WELD TO FIRST LAYER AROUND ENTIRE PERIMETER
- 16.10× FINISH GRADE ELEVATION

HDR
HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
	04/05/11	CONFORMED
0	1/20/2011	ISSUED FOR BID

PROJECT MANAGER	CRAIG OLSON, PE
DESIGNED	R. NATOLI
CHECKED	C. OLSON
DRAWN	P. VAN MEURS
PROJECT NUMBER	9240-144993
DISTRICT PROJECT	7487

REVIEWED

REVIEWED

REGISTERED PROFESSIONAL ENGINEER CRAIG A. OLSON NO. 39819 EXP. 12-31-11 CIVIL STATE OF CALIFORNIA 1/20/11

North Bay Water Reuse Program
Sonoma Valley Effluent Reservoir R5

Sonoma Valley County Sanitation District

CIVIL

EFFLUENT STORAGE RESERVOIR SITE PLAN

0 1" 2"

FILENAME	144993_C02.dwg
SCALE	1"=50'

SHEET **C02**

(3) REMOVABLE BOLLARDS PER DETAIL 5/C07

(2) FIXED BOLLARDS PER DETAIL 4/C07

INV EL 25.38

12" CMP

PROPERTY LINE

N 1854519.83
E 6433804.76

EXPORT PUMPING STATION, SEE SHEET SP01

N 1854503.21
E 6433821.38

(2) 2" ELEC CONDUITS (FUTURE CHEM), SEE SHT SP01 FOR STUB-UP LOCATION

MCC-R SLAB W/ METAL OVERHEAD CANOPY, SEE DETAIL 1/SP04

N 1854461.99
E 6433813.93

FG 34.0

20'

SWITCHGEAR

N 1854445.49
E 6433810.18

GRADE AREA TO UNIFORM SLOPE

(5) REMOVABLE BOLLARDS PER DETAIL 5/C07

GRADE UNIFORMLY TO CONNECTION W/ EXISTING ROAD, ±4.5%

18" RW
WATMAUGH EXPORT PIPE, SEE SHT C10

CONCRETE SWALE DETAIL 9/C07

INV EL 27.83

30'

N 1854392.15
E 6433793.19

N 1854363.98
E 6433843.72

YH-1

REMOVE EXIST AC CURB AT TIE-IN TO GRAVELLED ROAD, MATCH GRADES

SEE SHT C10 FOR CONTINUATION

DOUBLE LINER IN THIS AREA

35'

5'

5'

8" RW
RECIRCULATION

8/C07 RECIRCULATION PIPE LINER PENETRATION DETAIL

9/C07 CONCRETE SWALE DETAIL

INV EL 24.20

N 1854445.49
E 6433886.94

9/C07 CONCRETE SWALE DETAIL

INV EL 27.33

N 1854358.79
E 6433864.06

1/2" CHEM
AQUA-SHADE

CHEMICAL FEED AREA, PLACE BEHIND EXIST CURB, SEE SHT C08

1/2" CHEM
FUTURE AQUA-SHADE

ELEC PULLBOXES

4" 3W
RESERVOIR FILL

METERING/ CONTROL STATION

N 1854383.30
E 6434001.31

SEE ENLARGED PLAN, SHEET C08

SEE SHEET C09 FOR CONTINUATION

N

NOTES:

1. MINIMUM BURIAL DEPTH FOR 4" 3W PIPE IS 3'-6" COVER.

KEY

6" MIN. 100% CRUSHED CLASS 2 AGGREGATE BASE OVER GEO-GRID

HDR

HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
	04/05/11	CONFORMED
0	1/20/2011	ISSUED FOR BID

PROJECT MANAGER	CRAIG OLSON, PE
DESIGNED	R. NATOLI
CHECKED	C. OLSON
DRAWN	P. VAN MEURS
PROJECT NUMBER	9240-144993
DISTRICT PROJECT	7487

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REGISTERED PROFESSIONAL ENGINEER CRAIG A. OLSON NO. 39819 EXP. 12-31-11 CIVIL STATE OF CALIFORNIA

1/20/11

North Bay Water Reuse Program
Sonoma Valley Effluent Reservoir R5

Sonoma Valley County Sanitation District

CIVIL

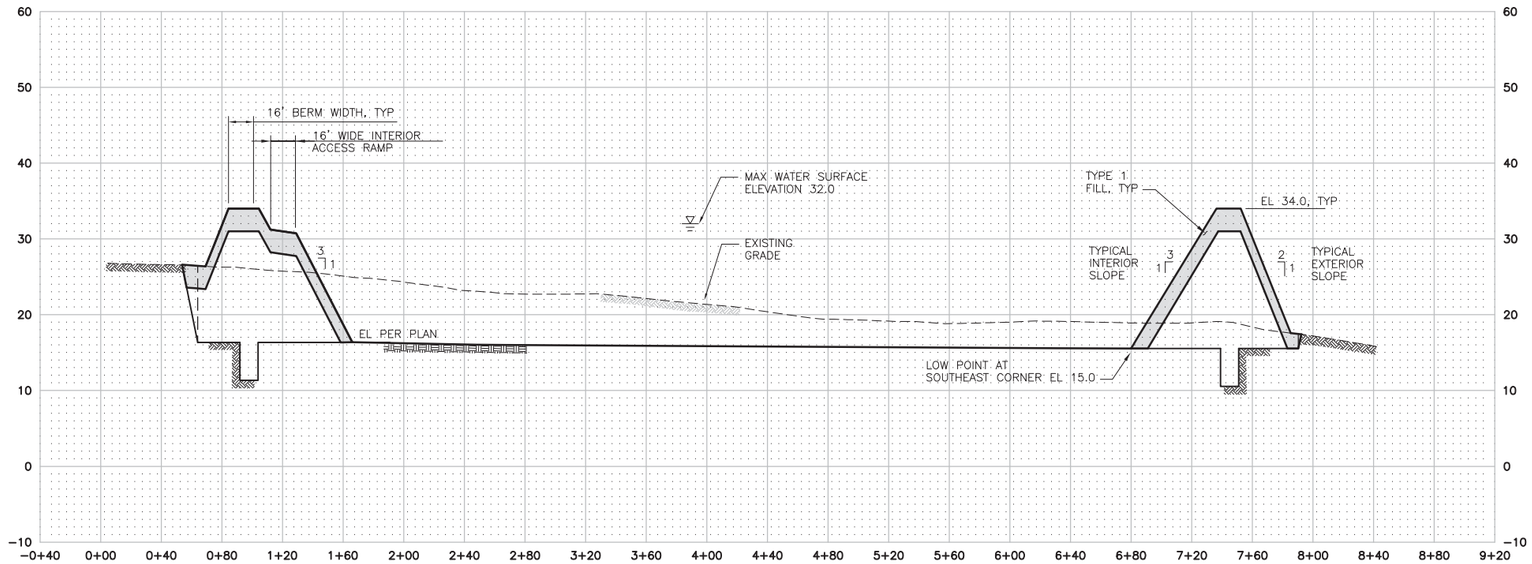
EFFLUENT STORAGE RESERVOIR ENLARGED AREA PLAN

0 1" 2"

FILENAME 144993_C03.dwg

SCALE 1"=20'

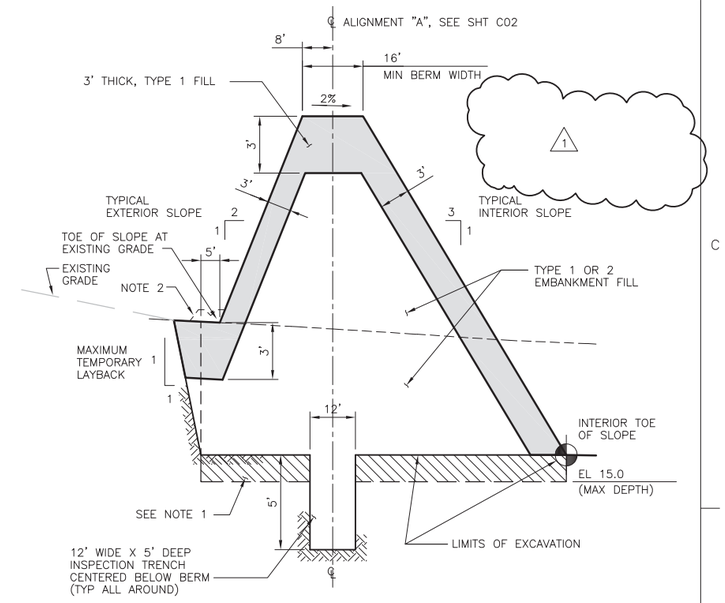
SHEET **C03**



SECTION THROUGH POND

A / C02

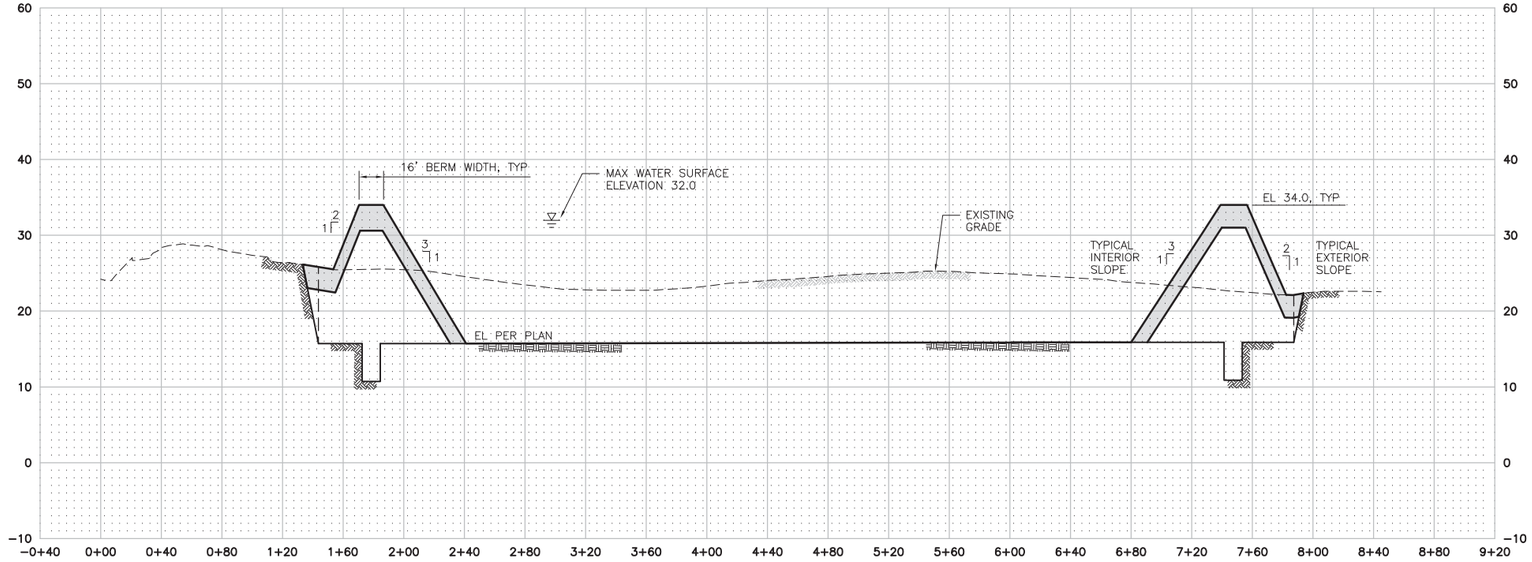
HORIZ: 1"=50'
VERT: 1"=10'



TYPICAL CROSS–SECTION

C / C02

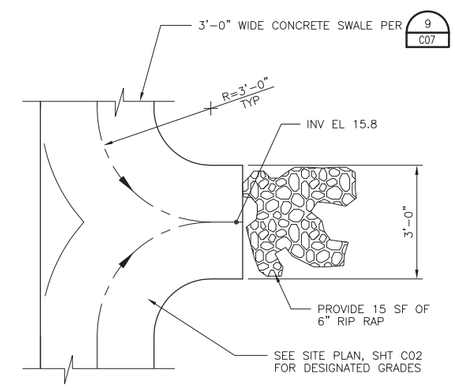
VERT: 1"=4', HORIZ: 1'=20'



SECTION THROUGH POND

B / C02

HORIZ: 1"=50'
VERT: 1"=10'



CONCRETE SWALE OUTFALL

1 / C02

NTS

NOTES:

1. LIMITS OF POTENTIAL OVEREXCAVATION. EXACT EXTENTS OF OVEREXCAVATION (IF REQUIRED) TO BE DETERMINED BY OWNER DURING GRADING OPERATION. OVEREXCAVATION IS REQUIRED FOR REMOVAL OF SURFICIAL CLAY OR LOOSE SOIL LAYER BENEATH RESERVOIR EMBANKMENTS.
2. PERIMETER CONCRETE SWALE NOT SHOWN FOR CLARITY. SWALE SHALL NOT IMPEDE TYPE I FILL ZONE AS DEFINED IN TYPICAL CROSS–SECTION.
3. BENCHING INTO THE RESERVOIR CORE, RESERVOIR EMBANKMENTS, OR OTHER EXISTING SLOPES IS REQUIRED FOR SLOPES STEEPER THAN 5:1 IN ORDER TO PLACE AND COMPACT THE FILL IN HORIZONTAL LAYERS. EACH BENCH SHALL EXTEND AT LEAST 3 HORIZONTAL FEET INTO THE EXISTING MATERIAL AND SHALL NOT EXCEED 12 INCHES IN HEIGHT. 1

HDR

HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
1	04/05/11	CONFORMED
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North Bay Water Reuse Program
Sonoma Valley Effluent Reservoir R5

Sonoma Valley County Sanitation District

CIVIL

EFFLUENT STORAGE RESERVOIR SECTIONS AND DETAILS I

0 1" 2"

FILENAME	144993_C04.dwg
SCALE	AS NOTED

SHEET **C04**

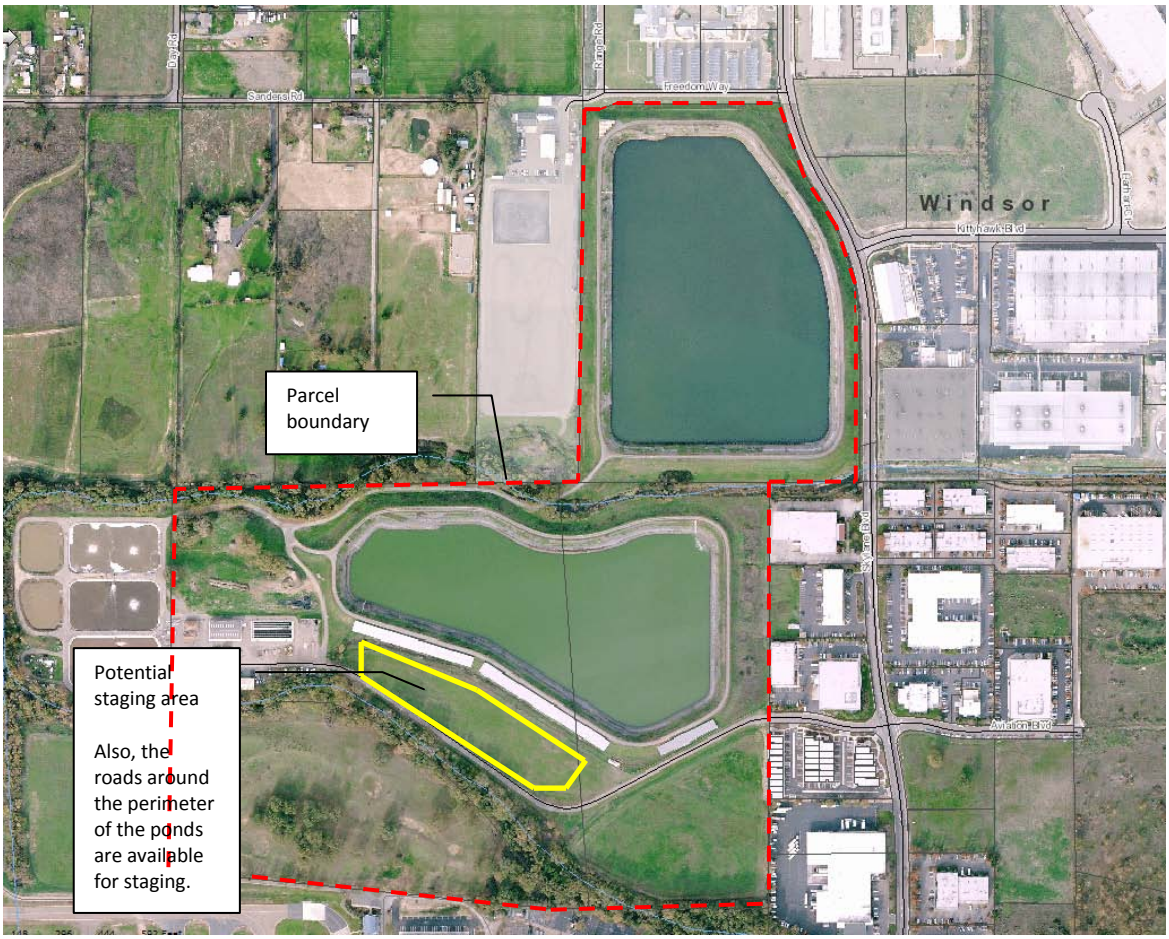
Added in Addendum 2

PARCEL BOUNDARIES AND POTENTIAL STAGING AREAS

ALWSZ- Oceanview Reservoir (Site D)

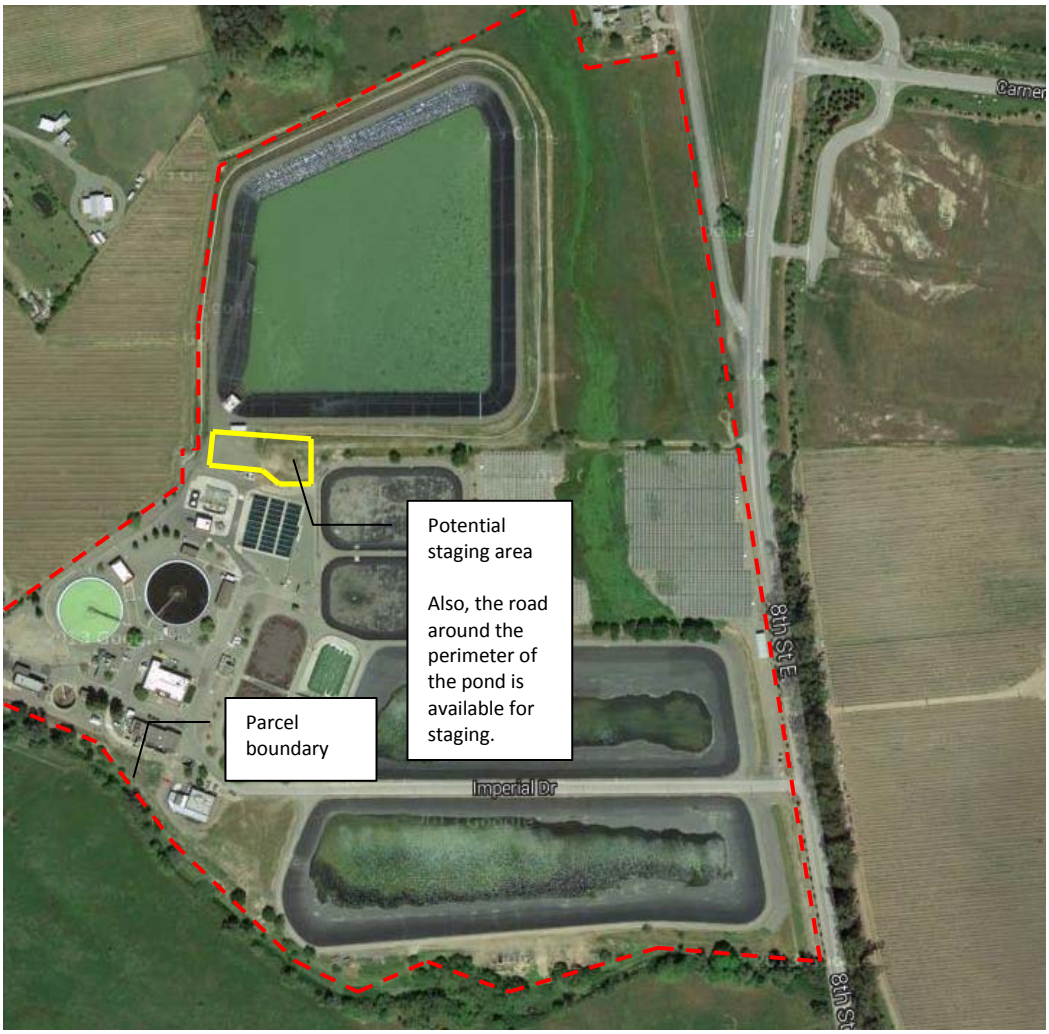
Added in Addendum 2

ALWSZ- North and South Ponds



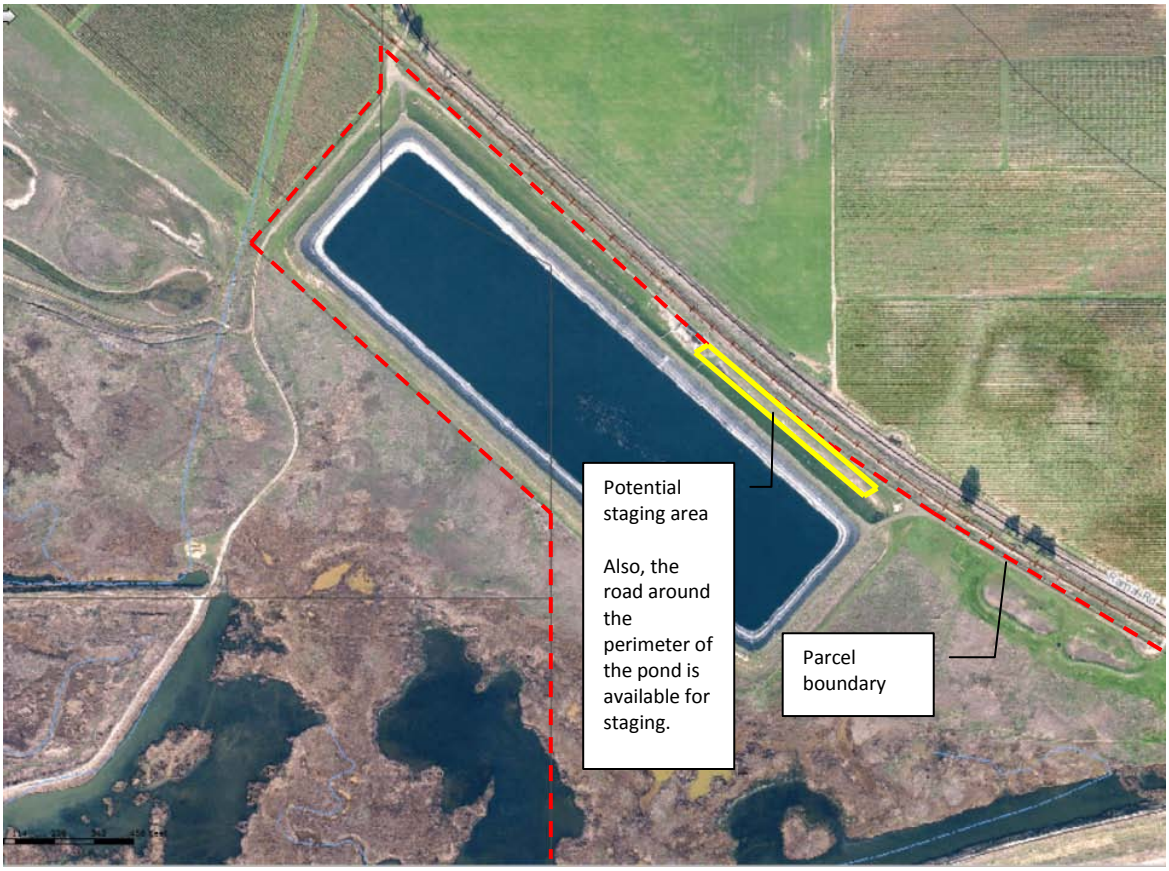
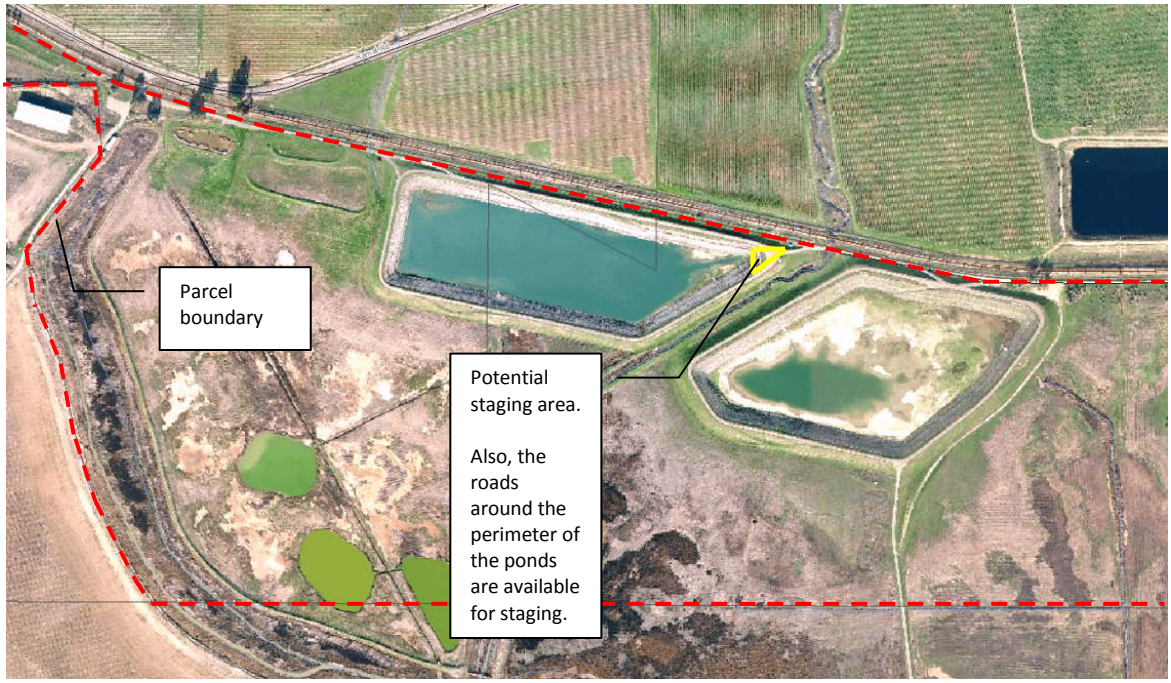
Added in Addendum 2

SVCSD- R5



Added in Addendum 2

SVCSD- R4



SVCSD- R1 and R2