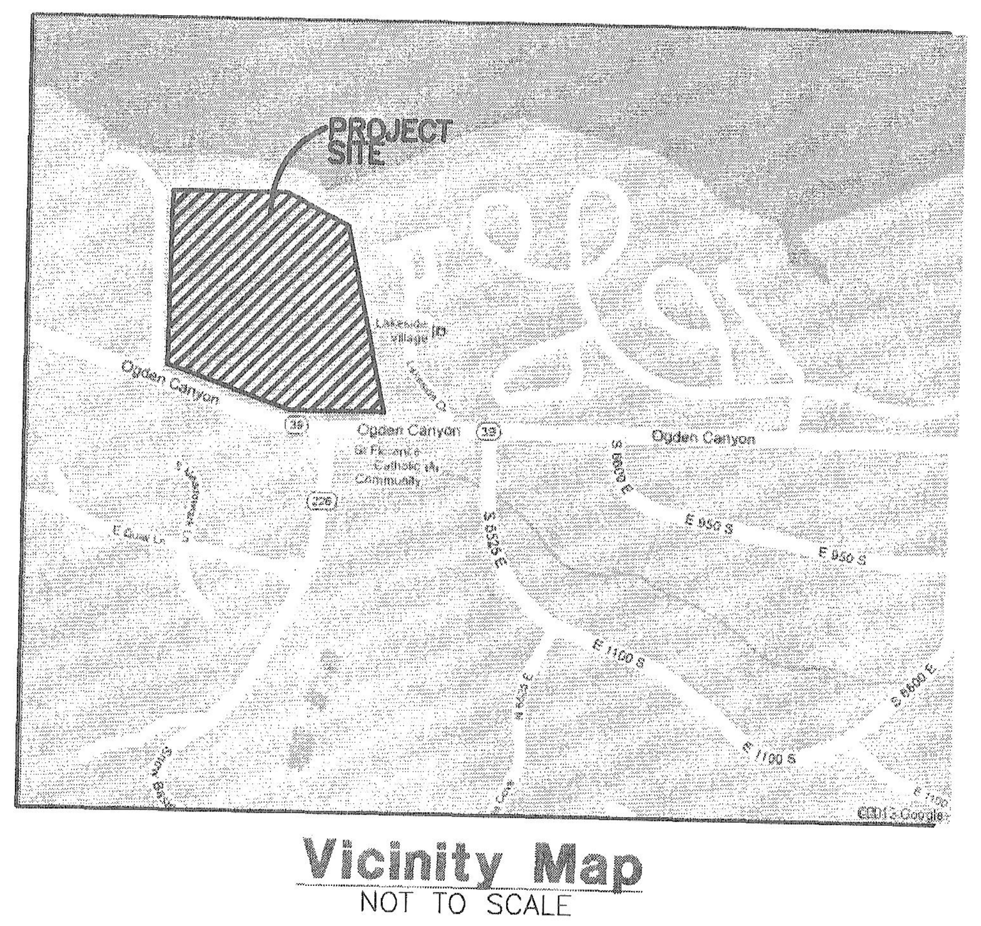
Project Narrative/Notes/Revisions

1) 3/18/13 CA – DESIGN CHANGES.
2) 6/24/13 CA – COUNTY ENGINEERS/ROAD WAY CHANGES.
3) 7/3/13 RH – COUNTY ENGINEERS/ROAD WAY CHANGES.
4) 8/16/13 RH – COUNTY ENGINEERS COMMENTS.
5) 9/19/13 RH – COUNTY ENGINEERS COMMENTS.
6) 10/21/13 RH – SEWER SYSTEM REVISIONS.
7) 11/22/13 RH – COUNTY COMMENTS.
8) 12/13/13 RH – COUNTY COMMENTS.

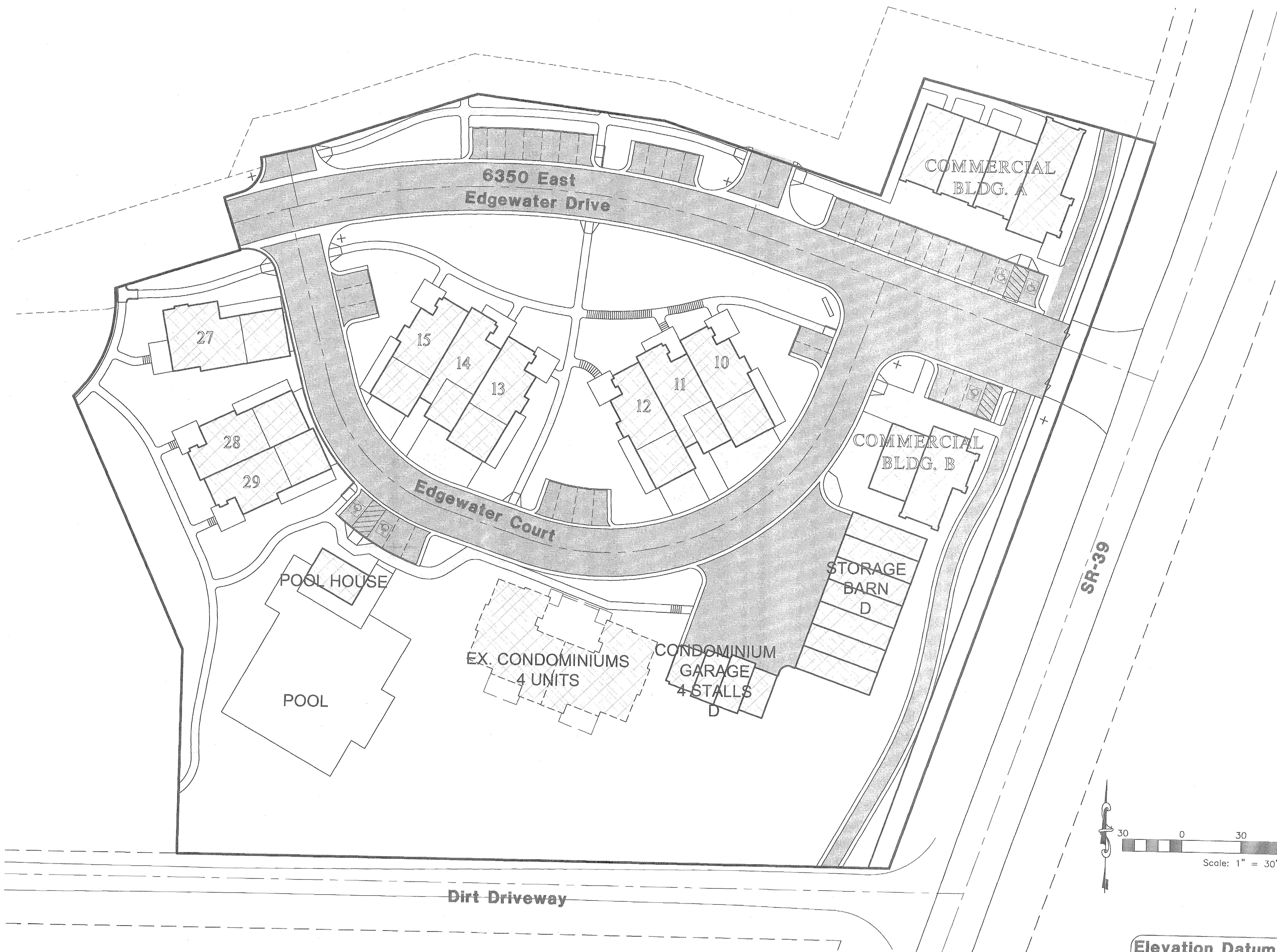
EDGEWATER ESTATES

Phase-1
Improvement Plans

WEBER COUNTY, UTAH
AUGUST 2013



Vicinity Map
NOT TO SCALE



Sheet Index

General Notes

1. **CONSTRUCTION STAKING TO BE PROVIDED BY REEVE & ASSOCIATES, INC.**
2. ANY MODIFICATION TO THIS CONSTRUCTION PACKAGE OR TO THE CONSTRUCTION SCHEDULE SHALL BE APPROVED BY THE ENGINEER. PRIOR TO SAID APPROVAL, ALL IMPROVEMENT DRAWINGS SHALL BE RESUBMITTED AND APPROVED BY THE ARCHITECT.
3. THE CONTRACTOR SHALL LOCATE, RETAIN AND PROTECT ALL EXISTING UTILITIES UNLESS OTHERWISE DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
4. THE CONTRACTOR SHALL MAINTAIN 10 FOOT HORIZONTAL AND 18 INCH VERTICAL SEPARATION, CULINARY WATER LINES, SANITARY SEWER, AND STORM DRAIN LINES.
5. THE CONTRACTOR SHALL INSTALL ALL SANITARY SEWER MAINS, SERVICE LINES AND STORM DRAIN LINES PRIOR TO INSTALLING ANY WATER SYSTEM IMPROVEMENTS. ADJUST WATER MAIN DEPTH PER JURISDICTION AS REQUIRED TO AVOID SANITARY SEWER SERVICE LINES.
6. CONTRACTOR SHALL NOTIFY ARCHITECT OF ALL UTILITY CONFLICTS UPON DISCOVERY.
7. CONTRACTOR SHALL COORDINATE CONSTRUCTION AND INSTALLATION OF ELECTRICAL, TELEPHONE, NATURAL GAS AND CABLE TV SERVICES WITH THE RESPECTIVE UTILITY COMPANY. OWNER SHALL PAY ALL ASSOCIATED UTILITY COMPANY FEES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SLOPE AND CONSTRUCTION OF CONNECTING SEWER PIPING.
9. CONTRACTOR SHALL BE RESPONSIBLE OF PROPER BACKFILLING, COMPACTING, AND PAVEMENT RESTORATION.
10. CONTRACTOR TO OBTAIN ALL NECESSARY PERMIT(S) AND COMPLY WITH ALL PERMITTING REQUIREMENTS.
11. ALL THRUST BLOCKS SHALL BE POURED IN PLACE AGAINST UNDISTURBED SOIL. ALL VALVES, FITTINGS, AND APPURTENANCES TO BE BLOCKED.
12. ALL EXPOSED NUTS AND BOLTS WILL BE COATED WITH A NON–OXIDE WASH AND WRAPPED IN 8–MIL POLYETHYLENE AS DIRECTED BY GEOTECHNICAL STUDY.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ACCORDING TO GOVERNING AGENTS STANDARDS. WET DOWN DRY MATERIALS AND RUBBISH TO PREVENT BLOWING.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT SURFACE IMPROVEMENTS DURING CONSTRUCTION.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY SETTLEMENT OF OR DAMAGE TO EXISTING UTILITIES FOR WARRANTY PERIOD.
16. ALL EXISTING ASPHALT SHALL BE SAW CUT IN NEAT STRAIGHT LINES BY THE CONTRACTOR PRIOR TO EXCAVATION.
17. CONTRACTOR TO INSTALL MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL PVC PIPING.
18. THE CONTRACTOR IS RESPONSIBLE TO FURNISH ALL MATERIALS TO COMPLETE PROJECT.
19. TRAFFIC CONTROL IS TO CONFORM TO THE CURRENT CITY AND/OR STATE TRANSPORTATION ENGINEERS' MANUAL.
20. A UPDES GENERAL CONSTRUCTION STORM WATER PERMIT MUST BE OBTAINED BY THE GENERAL CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.
21. ALL WORK SHALL CONFORM TO WEBER COUNTY STANDARD SPECIFICATIONS AND DRAWINGS.

Engineer's Notice To Contractors

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED FROM AVAILABLE INFORMATION PROVIDED BY OTHERS. THE LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO CONTACT THE UTILITY COMPANIES AND TAKE DUE PRECAUTIONARY MEASURE TO PROTECT ANY UTILITY LINES SHOWN, AND ANY OTHER LINES OBTAINED BY THE CONTRACTOR'S RESEARCH, AND OTHERS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

Elevation Datum

SITE BENCHMARK:
BENCH MARK MONUMENT NO. 3-JRH
ELEVATION 4969.025

Contact:

REESE HOWELL, JR.
CELTIC BANK 268 S. STATE
STREET, UT. 84111
PH: (801) 363-6500

Blue Stakes Location Center
Call: Toll Free
1-800-662-4111
Two Working Days Before You Dig

Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6–21–13 RH	Co. Eng. Review
7–3–13 RH	Co. Eng. Review
8–16–13 RH	Co. Eng. Review
9–19–13 RH	Co. Eng. Review
10–21–13 RH	Sewer Revisions
11–22–13 RH	County Comments
12–13–13 RH	County Comments

Edgewater Beach Resort Phase-1
WEBER COUNTY, UTAH

Cover/Index Sheet

Date should read 2014

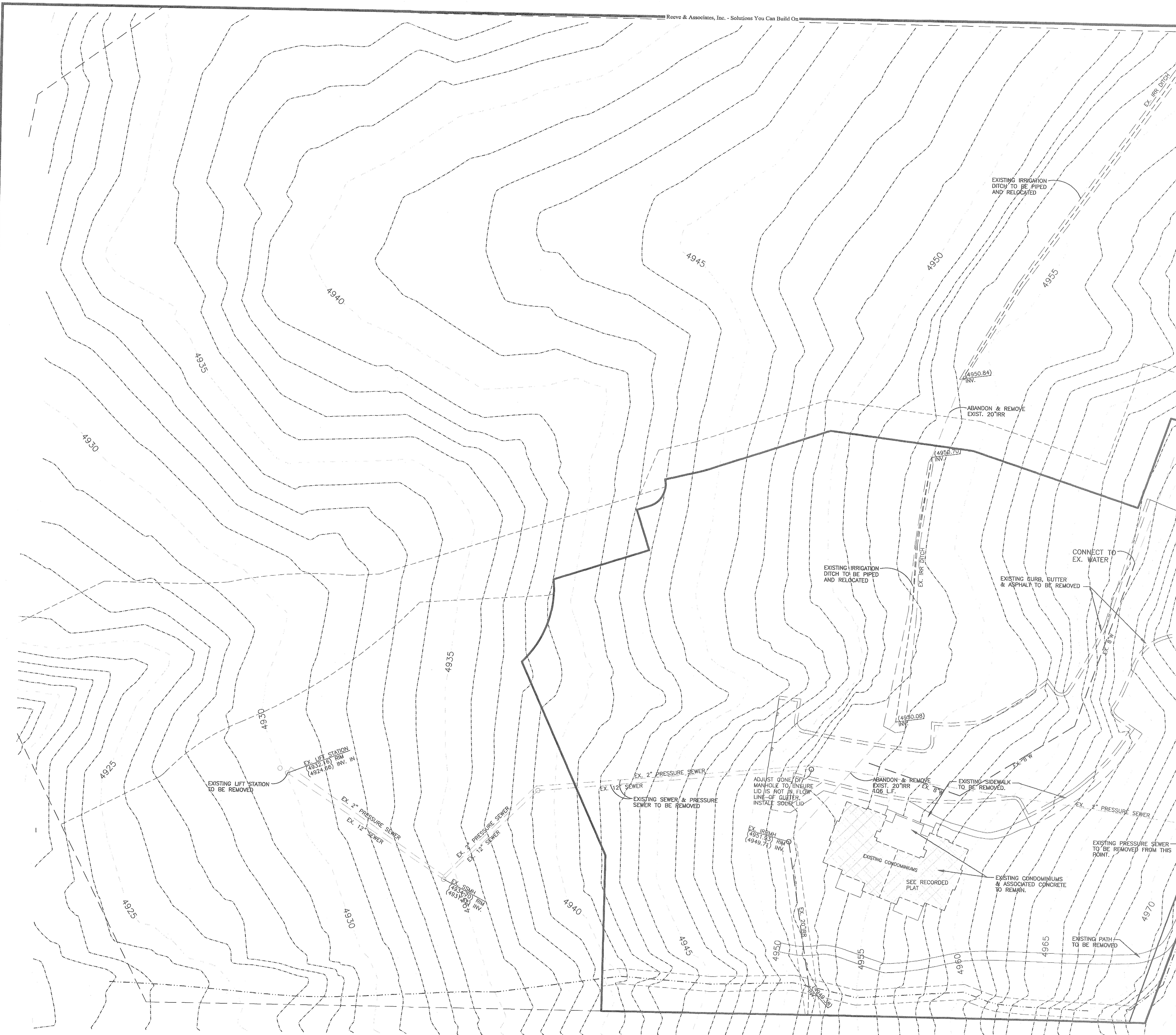
Revised 12-13-13

REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
1-7-13
STATE OF UTAH

Project Info.
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 1 of 13 Sheets

Reeve & Associates, Inc. - Solutions You Can Build On


EXISTING IRRIGATION DITCH TO BE PIPED AND RELOCATED
EX. IRR DITCH
(4950.68) INV.
ABANDON & REMOVE EX. 8"WATER EASEMENT TO BE VACATED
(4950.84) INV.
ABANDON & REMOVE EXIST. 20"IRR
ABANDON & REMOVE EX. 8" WATER
(4950.70) INV.
REMOVE EXISTING STATUE
CONNECT TO EX. WATER
EXISTING IRRIGATION DITCH TO BE PIPED AND RELOCATED
EXISTING CURB, GUTTER & ASPHALT TO BE REMOVED
END OF DEMOLITION CUT ASPHALT
EXISTING ROADWAY APPROACH
SR-39
(4950.08) INV.
EX. LIFT STATION (4932.16) RIM (4924.66) INV. IN
EXISTING LIFT STATION TO BE REMOVED
EX. 2" PRESSURE SEWER
EX. 12" SEWER
EXISTING SEWER & PRESSURE SEWER TO BE REMOVED
ADJUST CONE/DITCH MANHOLE TO ENSURE LID IS NOT IN FLOW LINE OF GUTTER, INSTALL SOLID LID
ABANDON & REMOVE EXIST. 20"IRR 406 L.F.
EXISTING SIDEWALK TO BE REMOVED
EX. 18" PIPE
EX. IRRMH (4951.93) RIM (4949.71) INV.
EX. SSMH
EXISTING PRESSURE SEWER TO BE REMOVED FROM THIS POINT.
EXISTING CONDOMINIUMS
SEE RECORDED PLAT
EXISTING CONDOMINIUMS & ASSOCIATED CONCRETE TO REMAIN.
EXISTING PATH TO BE REMOVED
EX. 20"IRR
4925
4930
4935
4940
4945
4950
4955
4960
4965
4970
NOTE:
ACCESS TO EXISTING CONDOMINIUMS MUST BE PROVIDED AT ALL TIMES.
ALL EXISTING FENCES WILL BE REMOVED
30 0 30 60 90
Scale: 1" = 30'

Reeve & Associates, Inc.

920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13 RH	Co. Eng. Review
7-3-13 RH	Co. Eng. Review
8-16-13 RH	Co. Eng. Review
9-19-13 RH	Co. Eng. Review
10-21-13 RH	Sewer Revisions
11-21-13 RH	County Comments
12-13-13 RH	County Comments

Edgewater Beach Resort Phase-1

WEBER COUNTY, UTAH

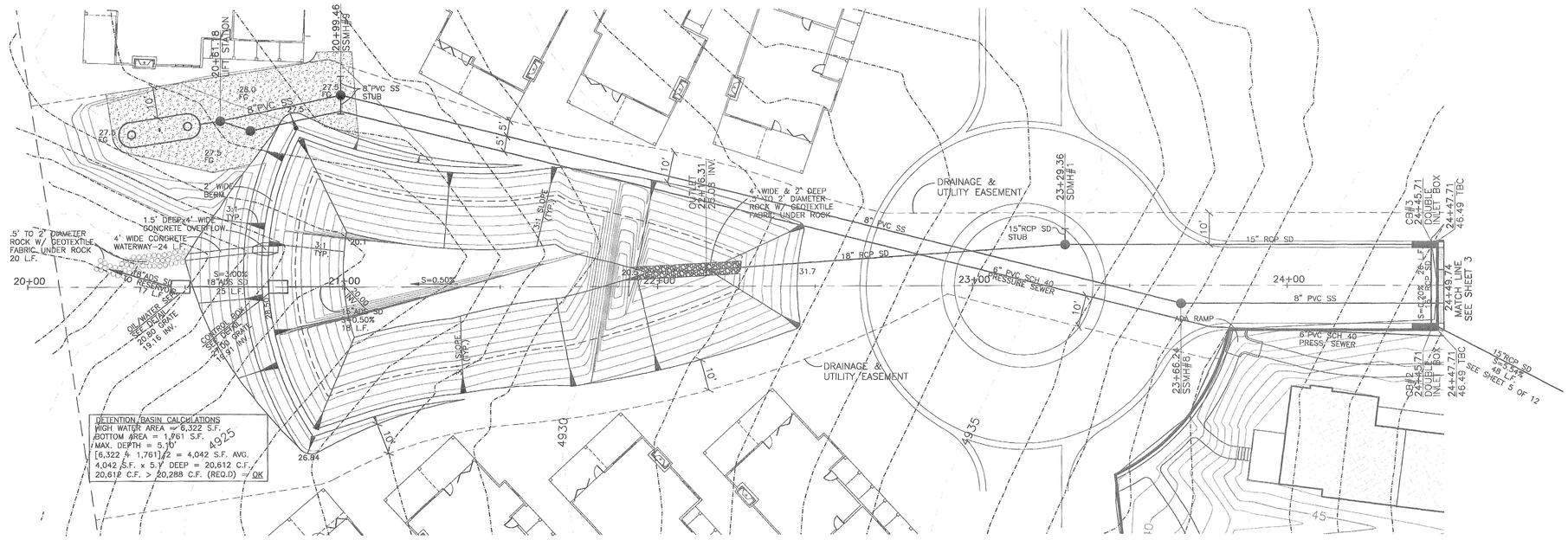
Demolition Plan

Revised 12-13-13

REGISTERED PROFESSIONAL ENGINEER 375328 J. NATE REEVE 1-7-13 STATE OF UTAH

Project Info.
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 2 of 13 Sheets



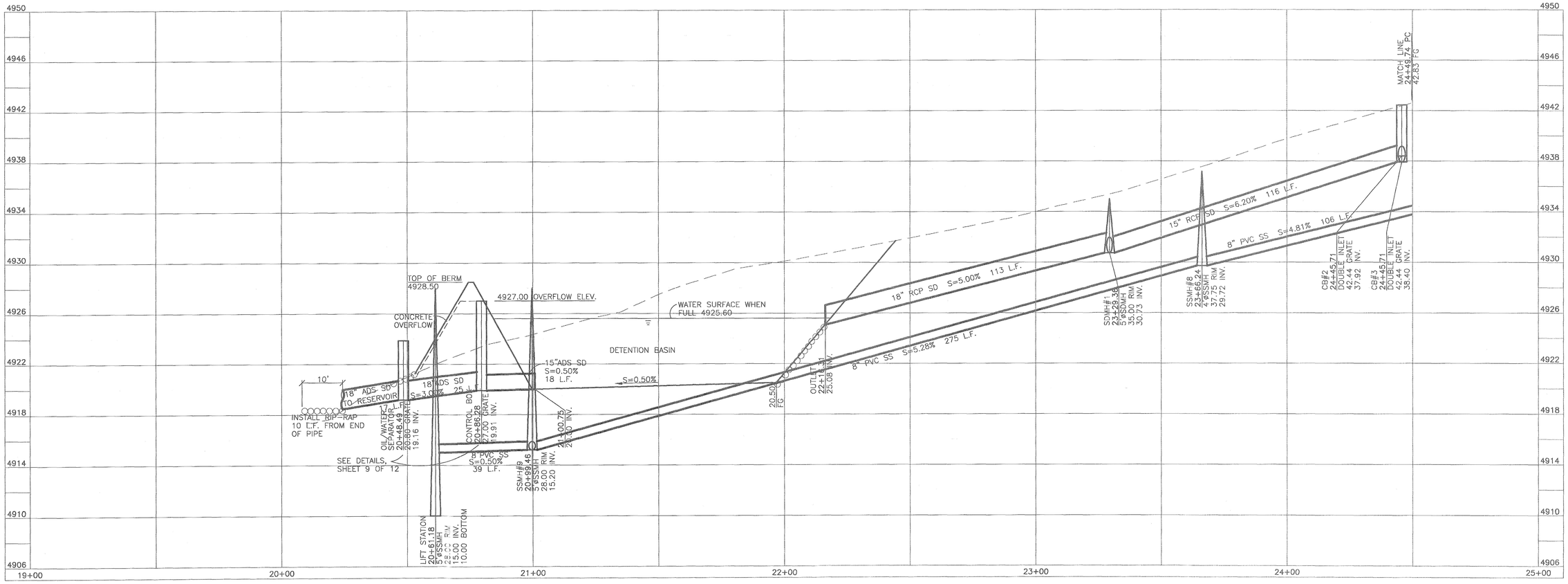
DETENTION BASIN CALCULATIONS
HIGH WATER AREA = 6,322 S.F.
BOTTOM AREA = 1,761 S.F.
MAX. DEPTH = 5.1'
[6,322 + 1,761]/2 = 4,042 S.F. AVG.
4,042 S.F. x 5.1' DEEP = 20,612 C.F.
20,612 C.F. > 20,288 C.F. (REQ.D) — OK

NOTE:
CONSTRUCTION OF DETENTION BASIN & BERM WILL COMPLY WITH 2007 EDITION APWA DIVISION 31 SPECIFICATIONS SECTION 23.

Edgewater Drive

20 0 20 40 60

Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 4'



Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13 RH	Co. Eng. Review
7-3-13 RH	Co. Eng. Review
8-16-13 RH	Co. Eng. Review
9-19-13 RH	Co. Eng. Review
10-21-13 RH	Sewer Revisions
11-22-13 RH	County Comments
12-13-13 RH	County Comments

Revised 12-13-13

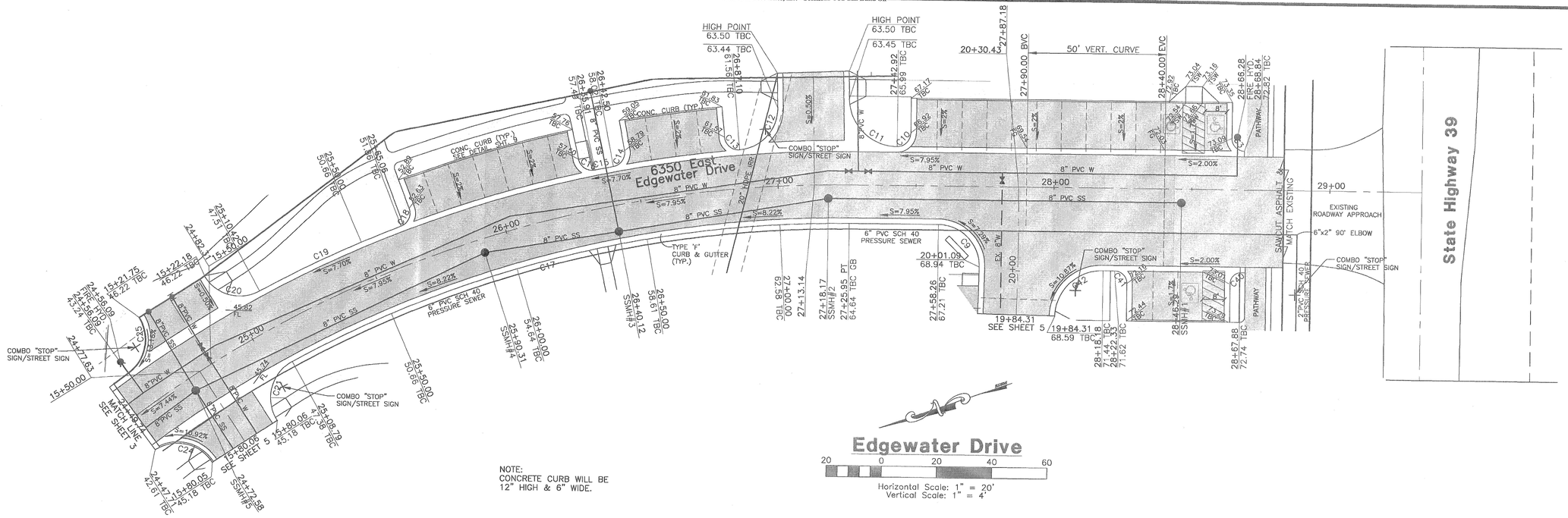
Edgewater Beach Resort
Phase-1
WEBER COUNTY, UTAH

Edgewater Drive
20+00.00 - 24+49.74

REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
1-7-13
STATE OF UTAH

Project Info.
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

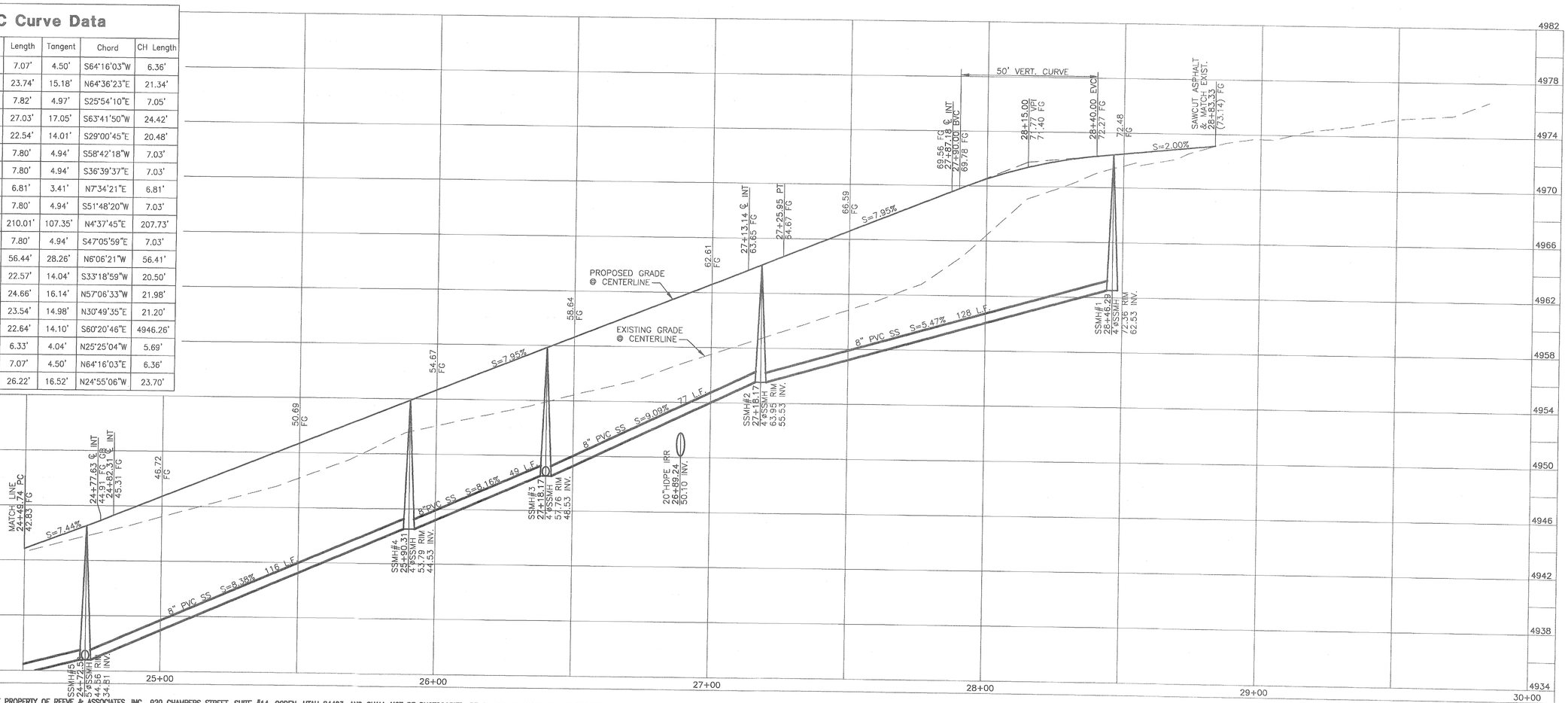
Sheet 3 of 13 Sheets



NOTE:
CONCRETE CURB WILL BE
12" HIGH & 6" WIDE.

TBC Curve Data

#	Delta	Radius	Length	Tangent	Chord	CH Length
C3	90°00'00"	4.50'	7.07'	4.50'	S64°16'03"W	6.36'
C9	90°40'40"	15.00'	23.74'	15.18'	N64°36'23"E	21.34'
C10	89°39'35"	5.00'	7.82'	4.97'	S25°54'10"E	7.05'
C11	88°29'45"	17.50'	27.03'	17.05'	S63°41'50"W	24.42'
C12	86°05'05"	15.00'	22.54'	14.01'	S29°00'45"E	20.48'
C13	89°21'17"	5.00'	7.80'	4.94'	S58°42'18"W	7.03'
C14	89°21'17"	5.00'	7.80'	4.94'	S36°39'37"E	7.03'
C15	0°53'21"	439.00'	6.81'	3.41'	N7°34'21"E	6.81'
C16	89°21'17"	5.00'	7.80'	4.94'	S51°48'20"W	7.03'
C17	29°16'37"	411.00'	210.01'	107.35'	N4°37'45"E	207.73'
C18	89°21'17"	5.00'	7.80'	4.94'	S47°05'59"E	7.03'
C19	7°22'01"	439.00'	56.44'	28.26'	N6°06'21"W	56.41'
C20	86°12'40"	15.00'	22.57'	14.04'	S33°18'59"W	20.50'
C21	94°11'59"	15.00'	24.66'	16.14'	N57°06'33"W	21.98'
C24	89°55'45"	15.00'	23.54'	14.98'	N30°49'35"E	21.20'
C25	86°27'51"	15.00'	22.64'	14.10'	S60°20'46"E	4946.26'
C40	90°37'47"	4.00'	6.33'	4.04'	N25°25'04"W	5.69'
C41	90°00'00"	4.50'	7.07'	4.50'	N64°16'03"E	6.36'
C42	88°22'18"	17.00'	26.22'	16.52'	N24°55'06"W	23.70'



Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13 RH	Co. Eng. Review
7-3-13 RH	Co. Eng. Review
8-16-13 RH	Co. Eng. Review
9-19-13 RH	Co. Eng. Review
10-21-13 RH	Sewer Revisions
11-22-13 RH	County Comments
12-13-13 RH	County Comments

Edgewater Beach Resort Phase-1

WEBER COUNTY, UTAH

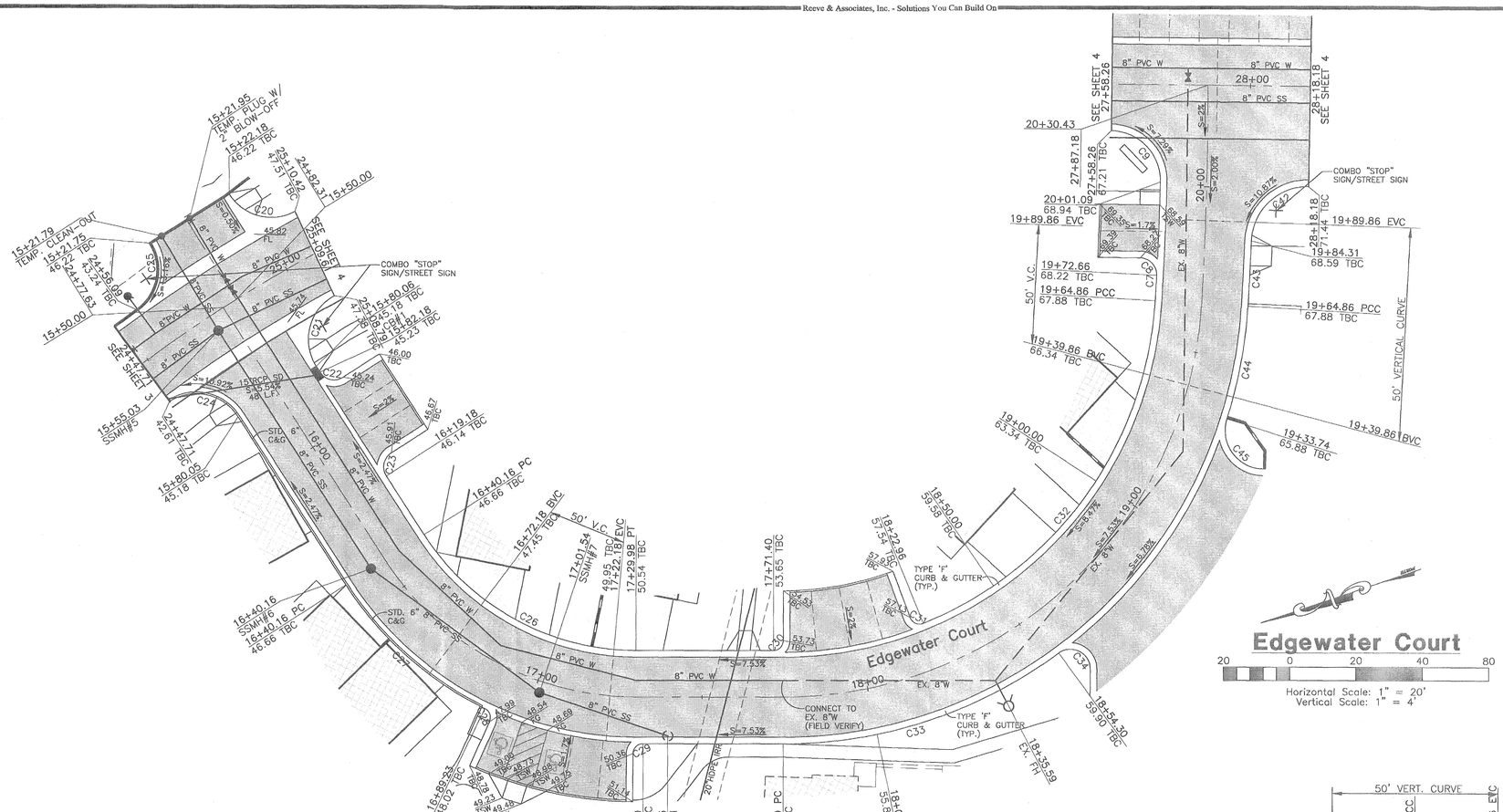
Edgewater Drive 24+49.74 - 30+00.00

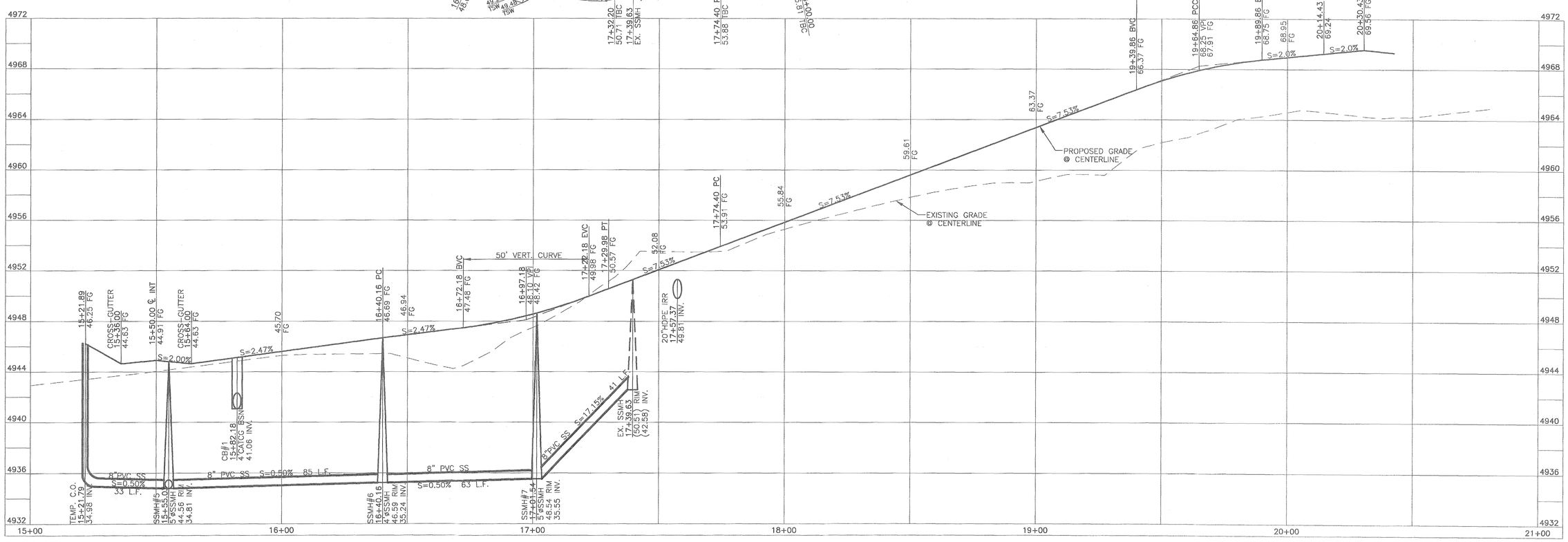
Revised 12-13-13

REGISTERED PROFESSIONAL ENGINEER
375326
J. NATE REEVE
1-7-13
STATE OF UTAH

Project Info.
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 4 of 13 Sheets





TBC Curve Data

#	Delta	Radius	Length	Tangent	Chord	CH Length
C7	0°26'31"	997.50'	7.69'	3.85'	S68°13'25"E	7.69'
C8	92°17'17"	5.00'	8.05'	5.20'	N65°24'41"E	7.21'
C9	90°40'40"	15.00'	23.74'	15.18'	N64°36'23"E	21.34'
C20	86°12'40"	15.00'	22.57'	14.04'	S33°18'59"W	20.50'
C21	94°11'59"	15.00'	24.66'	16.14'	N57°06'33"W	21.98'
C22	90°00'00"	5.00'	7.85'	5.00'	S30°47'27"W	7.07'
C23	90°00'00"	5.00'	7.85'	5.00'	N59°12'33"W	7.07'
C24	89°55'45"	15.00'	23.54'	14.98'	N30°49'35"E	21.20'
C25	86°27'51"	15.00'	22.64'	14.10'	S60°20'46"E	4946.26'
C26	57°11'04"	76.00'	75.85'	41.42'	S47°11'55"W	72.74'
C27	31°14'27"	104.00'	56.71'	29.08'	S60°10'14"W	56.01'
C28	88°23'36"	3.00'	4.63'	2.92'	N88°44'49"E	4.18'
C29	89°34'57"	3.00'	4.69'	2.98'	N26°11'05"W	4.23'
C30	90°00'00"	3.00'	4.71'	3.00'	S26°23'37"E	4.24'
C31	91°34'38"	3.00'	4.79'	3.08'	S42°18'43"W	4.30'
C32	64°31'34"	112.00'	126.13'	70.70'	S35°44'22"E	119.57'
C33	36°20'01"	140.00'	88.78'	45.94'	S0°26'23"W	87.30'
C34	126°59'59"	6.00'	13.30'	12.03'	N45°46'21"E	10.74'
C42	88°22'18"	17.00'	26.22'	16.52'	N24°55'06"W	23.70'
C43	1°06'06"	1025.50'	19.72'	9.86'	S68°33'12"E	19.72'
C44	14°08'58"	140.00'	34.57'	17.38'	S60°55'40"E	34.49'
C45	106°52'25"	11.50'	21.45'	15.51'	S72°42'37"W	18.47'

Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH, 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13	RH Co. Eng. Review
7-3-13	RH Co. Eng. Review
8-16-13	RH Co. Eng. Review
9-19-13	RH Co. Eng. Review
10-21-13	RH Sewer Revisions
11-22-13	RH County Comments
12-13-13	RH County Comments

Revised 12-13-13

Edgewater Beach Resort Phase-1

WEBER COUNTY, UTAH

Edgewater Court 15+00.00 - 21+00.00

J. NATE REEVE 375328 1-7-13 REGISTERED PROFESSIONAL ENGINEER STATE OF UTAH

Project Info.

Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 5 of 13 Sheets

Reeve & Associates, Inc. - Solutions You Can Build On

PROPOSED 10 FOOT IRRIGATION EASEMENT

20' SLOPE EASEMENT

SLOPE OUT AT 3:1 TO EXISTING (TYP.)

"STOP"/STREET SIGN

SEE SHEET 3 OF 12 FOR STORM DRAIN CONTINUATION

6350 East Edgewater Drive

Edgewater Court

TYPE 'F' CURB & GUTTER (TYP.)

27 47.50 FFE

28 48.30 FFE

29 49.00 FFE

15 49.00 FFE

14 51.20 FFE

13 52.50 FFE

12 62.00 FFE

11 65.00 FFE

10 66.60 FFE

71 70.00 FFE

72 71.50 FFE

73 73.00 FFE

74 73.50 FFE

COMMERCIAL BUILDING A

COMMERCIAL BUILDING B 72.25 FFE 73.75 FFE

MAILBOX LOCATION

H.C. RAMP (TYP.)

STEPS

DECK

DUMPSTER PAD

POOL HOUSE 49.50 FFE

POOL AREA 49.50 FFE

EXISTING CONDOMINIUMS BOTTOM FLOOR 59.0 FFE

SEE RECORDED PLAT

CONDOMINIUM GARAGE 64.0 FFE

STORAGE BARN 69.00 FFE

RETAINING WALL (TYP.) TO BE BUILT WITH UPPER UNITS. WALL TO EXTEND 6' ABOVE DRIVEWAY

CONSTRUCT A 6' TO 8' REINFORCED CONCRETE RETAINING WALL. SEE DETAILS, SHEET 9 OF 12

4' HIGH ROCK WALL (NON-RETAINING)

2' HIGH ROCK WALL

6' FOUNDATION WALL

8' FOUNDATION WALL

TAPERING FOUNDATION WALL

RETAINING/FOUNDATION WALLS TO BE DESIGNED BY STRUCTURAL ENGINEER AS PART OF BUILDING DESIGN

8' PAVED PATHWAY WITH 2' SOFT GRAVEL APRON ON BOTH SIDES 12' TOTAL WIDTH (SEE DETAIL)

EXISTING ROADWAY APPROACH

State Highway 39

EX. 18" PIPE

EX. SWALE

10' EASEMENT

18" ADS SD 26 L.F.

Scale: 1" = 20'

Note:

1) ALL RESIDENTIAL UNITS EXCEPT EXISTING CONDOMINIUMS HAVE A BASEMENT
2) ALL SIDEWALKS ARE 4' WIDE UNLESS OTHERWISE NOTES.
3) CROSS-SLOPE OF SIDEWALK TO BE A MAXIMUM OF 2.0%.
4) CONTRACTOR TO SLOPE GROUND AWAY FROM ALL BUILDINGS AT A MINIMUM SLOPE OF 2% FOR 10 FEET.

Legend

EXISTING CONTOURS

PROPOSED CONTOURS

Cross Section for Irregular Section - 1

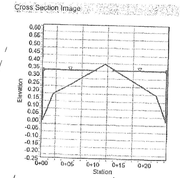
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.08000	ft/ft
Normal Depth	0.33	ft
Discharge	16.00	ft³/s

Cross Section Image



Cross Section for Irregular Section - 1

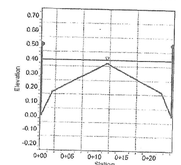
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.02470	ft/ft
Normal Depth	0.33	ft
Discharge	15.00	ft³/s

Cross Section Image



Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13 RH	Co. Eng. Review
7-3-13 RH	Co. Eng. Review
8-16-13 RH	Co. Eng. Review
9-19-13 RH	Co. Eng. Review
10-21-13 RH	Sewer Revisions
11-22-13 RH	County Comments
12-13-13 RH	County Comments

Revised 12-13-13

REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
1-7-13
STATE OF UTAH

Project Info.

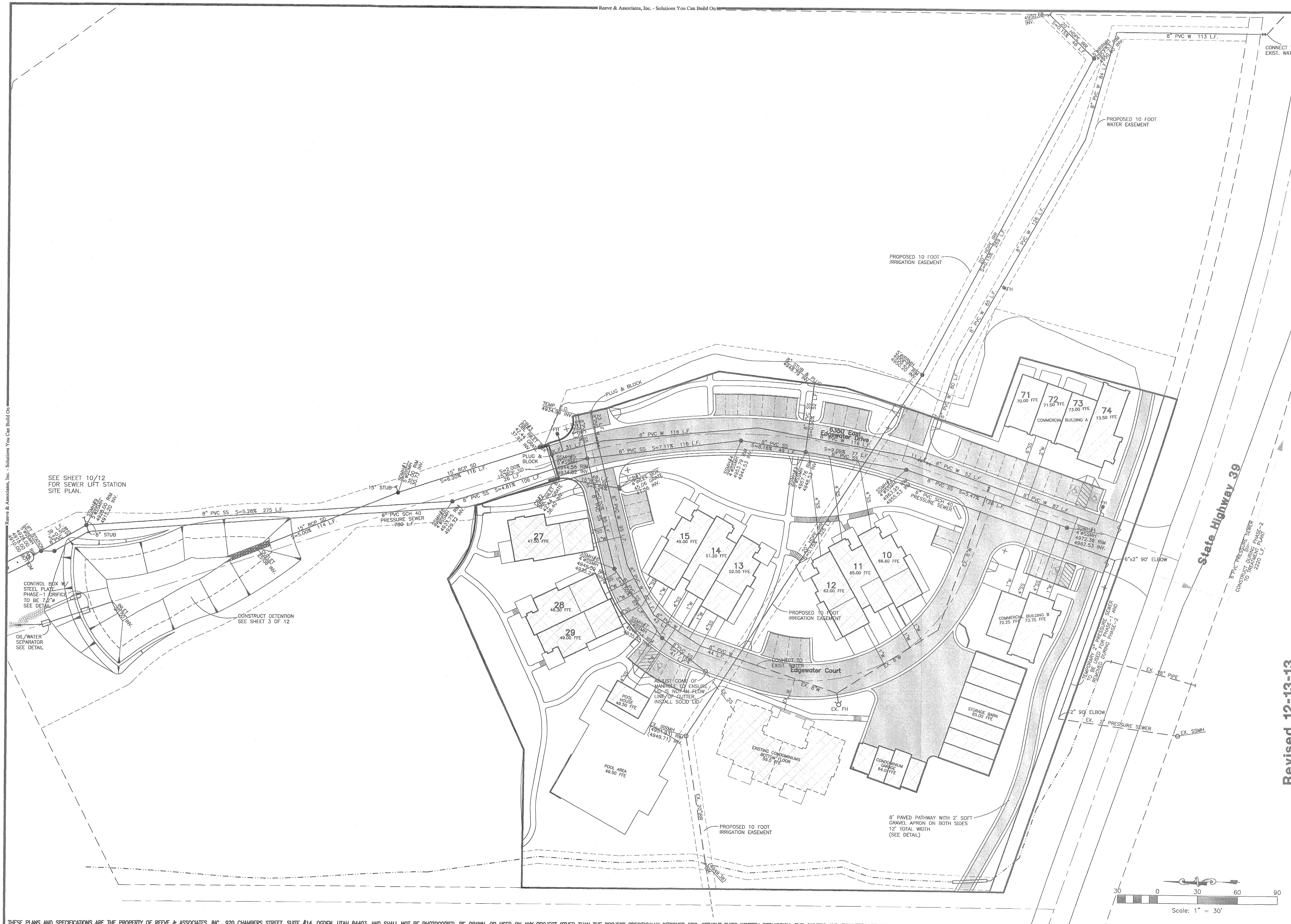
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 6 of 13 Sheets

Edgewater Beach Resort Phase-1

WEBER COUNTY, UTAH

Grading Plan



Edgewater Beach Resort Phase-1

WEBER COUNTY, UTAH

Utility Plan

Revised 12-13-13

Reeve & Associates, Inc.

920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL (801) 621-3100 FAX (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE		DESCRIPTION
6-21-13	RH	Co. Eng. Review
7-3-13	RH	Co. Eng. Review
8-16-13	RH	Co. Eng. Review
9-19-13	RH	Co. Eng. Review
10-21-13	RH	Sewer Revisions
11-22-13	RH	County Comments
12-13-13	RH	County Comments

REGISTERED PROFESSIONAL ENGINEER 373326 J. NATE REEVE 1-7-14 STATE OF UTAH

Project Info.

Engineer: J. NATE REEVE, P.E.

Drafter: R. HANSEN

Begin Date: JULY 09, 2012

Name: EDGEWATER BEACH RESORT PHASE-1

Number: 5917-15

Storm Runoff Calculations

Edgewater Estates-Phase 1

7/31/2012 sxr

The following runoff calculations are based on the Rainfall - Intensity - Duration Frequency Curve for the Huntsville, UT area taken from data compiled by NOAA Atlas14, using a 100 year storm.

Runoff storm water has been calculated for two different sets of conditions, one being the existing undeveloped land and the other with land fully improved. The difference between the two quantities will be detained in a holding pond. All water that runs off and over the property at present will be diverted into the holding pond and released at a reduced rate into the existing drainage system.

The calculations are as follows:

1. Runoff from the undeveloped existing land.

Runoff Coefficient	C =	0.2
Rainfall Intensity	i =	3.20 IN./HR.
Runoff Quantity	Q =	CiA
Acreage	A =	3.80 ACRES

Q(out) = C*i*A = 2.43 CFS

2. Runoff from developed land

Runoff Coefficients

Paved Area	39,774	C = 0.9
Landscaped Area	97,776	C = 0.2
Roof	28,173	C = 0.8

Weighted Runoff Coefficient C = 0.47

Rainfall Intensity i = varies with time

Runoff Quantity Q = CiA

3. Detention Basin

Volume in Q * t

Volume out 2.43 * t

The capacity of the detention basin is calculated as the maximum difference between the volume flowing in and the volume flowing out.

The outflow from the detention basin is limited to outflow if undeveloped.

Use 2.43 cfs for Q outflow

The required volume of the detention basin is 5,917 cubic feet

USE A 7.2 INCH DIAMETER ORIFICE AT OUTLET

DETENTION BASIN

Cumulative Volume For Detention Pond
Edgewater Estates-Phase 1

C = 0.47
A = 3.80
Q(out) = 2.43

time (min)	time (sec)	i (in./hr.)	Q (cfs)	Vol. in (cf)	Vol. out (cf)	Difference (cf)
0	0	0.00	0.00	0.00	0.00	0.00
5	300	7.55	13.50	4050.08	730.46	3319.62
10	600	5.75	10.28	6168.99	1460.92	4708.07
15	900	4.75	8.49	7644.18	2191.38	5452.80
30	1800	3.20	5.72	10299.53	4382.76	5916.77
60	3600	1.98	3.54	12745.67	8765.51	3980.16
120	7200	1.14	2.04	14676.83	17531.03	-2854.20
180	10800	0.79	1.41	15198.24	26288.54	-11098.30
360	21600	0.44	0.79	17110.10	52583.08	-35482.99
1440	86400	0.16	0.29	24718.87	210372.34	-185653.46

Huntsville, UT
NOAA Atlas 14

Storm Runoff Calculations

Edgewater Estates-Full

7/31/2012 sxr

The following runoff calculations are based on the Rainfall - Intensity - Duration Frequency Curve for the Huntsville, UT area taken from data compiled by NOAA Atlas14, using a 100 year storm.

Runoff storm water has been calculated for two different sets of conditions, one being the existing undeveloped land and the other with land fully improved. The difference between the two quantities will be detained in a holding pond. All water that runs off and over the property at present will be diverted into the holding pond and released at a reduced rate into the existing drainage system.

The calculations are as follows:

1. Runoff from the undeveloped existing land.

Runoff Coefficient	C =	0.2
Rainfall Intensity	i =	3.20 IN./HR.
Runoff Quantity	Q =	CiA
Acreage	A =	13.02 ACRES

Q(out) = C*i*A = 8.34 CFS

2. Runoff from developed land

Runoff Coefficients

Paved Area	135,807	C = 0.9
Landscaped Area	334,282	C = 0.2
Roof	97,276	C = 0.8

Weighted Runoff Coefficient C = 0.47

Rainfall Intensity i = varies with time

Runoff Quantity Q = CiA

3. Detention Basin

Volume in Q * t

Volume out 8.34 * t

The capacity of the detention basin is calculated as the maximum difference between the volume flowing in and the volume flowing out.

The outflow from the detention basin is limited to outflow if undeveloped.

Use 8.34 cfs for Q outflow

The required volume of the detention basin is 20,288 cubic feet

USE A 13.3 INCH DIAMETER ORIFICE AT OUTLET

DETENTION BASIN

Cumulative Volume For Detention Pond
Edgewater Estates-Full

C = 0.47
A = 13.02
Q(out) = 8.34

time (min)	time (sec)	i (in./hr.)	Q (cfs)	Vol. in (cf)	Vol. out (cf)	Difference (cf)
0	0	0.00	0.00	0.00	0.00	0.00
5	300	7.55	46.26	13878.25	2500.78	11377.46
10	600	5.75	35.23	21139.05	5001.56	16137.49
15	900	4.75	29.10	28194.04	7502.35	19691.69
30	1800	3.20	19.61	35293.02	15004.69	20288.33
60	3600	1.98	12.13	43675.12	30009.39	13665.73
120	7200	1.14	6.99	50292.56	60018.78	-9726.22
180	10800	0.79	4.82	52079.27	90028.17	-37948.90
360	21600	0.44	2.71	58630.54	180056.33	-121425.79
1440	86400	0.16	0.98	84703.26	720225.32	-635522.06

Huntsville, UT
NOAA Atlas 14

Worksheet for Irregular Section - 1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.05000	ft/ft
Discharge	5.72	ft³/s

Q=CiA
=(.047)(3.20)(3.80)
= 5.72 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	0.00
0+01	0.50
0+01	0.00
0+13	0.24

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 0.00)	(0+13, 0.24)	0.016

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.22	ft
Elevation Range	0.00 to 0.50	ft
Flow Area	1.23	ft²
Wetted Perimeter	11.73	ft
Hydraulic Radius	0.11	ft
Top Width	11.33	ft
Normal Depth	0.22	ft
Critical Depth	0.31	ft
Critical Slope	0.00698	ft/ft

Worksheet for Irregular Section - 1

Results

Velocity	4.64	ft/s
Velocity Head	0.33	ft
Specific Energy	0.55	ft
Froude Number	2.48	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.22	ft
Critical Depth	0.31	ft
Channel Slope	0.05000	ft/ft
Critical Slope	0.00698	ft/ft

Cross Section for Irregular Section - 1

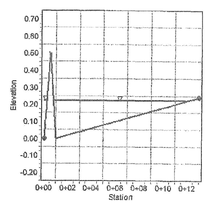
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.05000	ft/ft
Normal Depth	0.22	ft
Discharge	5.72	ft³/s

Cross Section Image



Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 / FAX: (801) 621-2666 / www.reeve-assoc.com
LAND PLANNERS * CIVIL ENGINEERS * LAND SURVEYORS
TRAFFIC ENGINEERS * STRUCTURAL ENGINEERS * LANDSCAPE ARCHITECTS

REVISIONS

DATE		DESCRIPTION
6-21-13	RH	Co. Eng. Review
7-3-13	RH	Co. Eng. Review
8-16-13	RH	Co. Eng. Review
9-19-13	RH	Co. Eng. Review
10-21-13	RH	Sewer Revisions
11-22-13	RH	County Comments
12-13-13	RH	County Comments

Revised 12-13-13

Edgewater Beach Resort Phase-1

WEBER COUNTY, UTAH

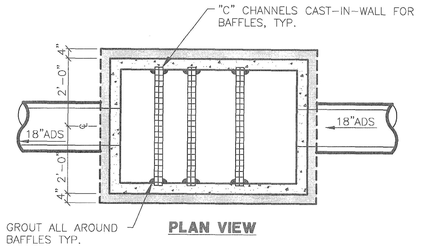
SD Calculations

REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
1-7-13
STATE OF UTAH

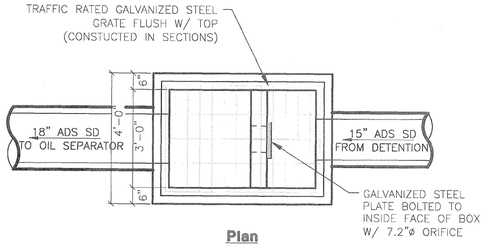
Project Info.

Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

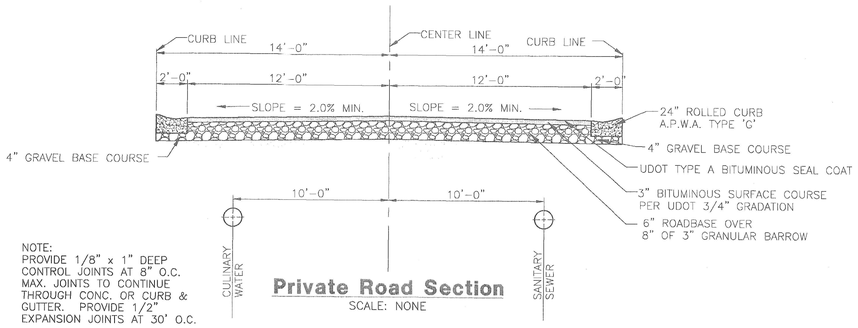
Sheet 8 of 13 Sheets



PLAN VIEW

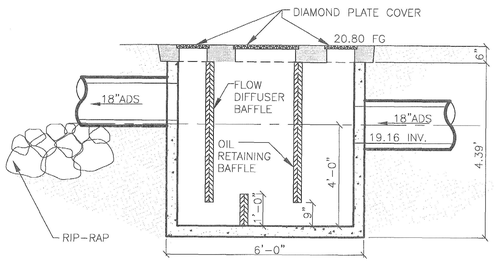


Plan

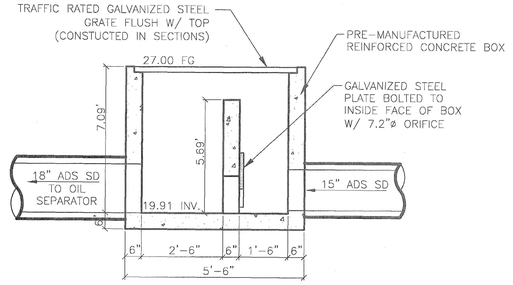


Private Road Section
SCALE: NONE

NOTE:
PROVIDE 1/8" x 1" DEEP CONTROL JOINTS AT 8" O.C. MAX. JOINTS TO CONTINUE THROUGH CONC. OR CURB & GUTTER. PROVIDE 1/2" EXPANSION JOINTS AT 30' O.C.

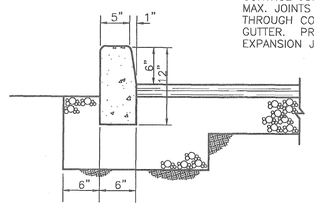


Oil Separator
SCALE: NONE

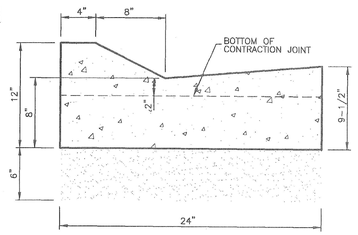


Section

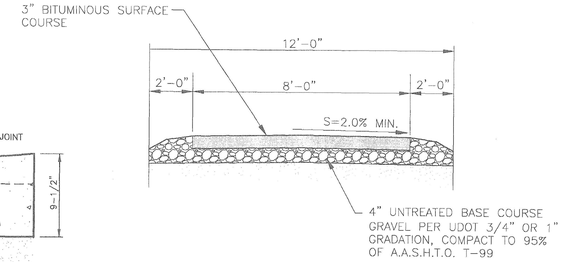
Detention Basin Control Box



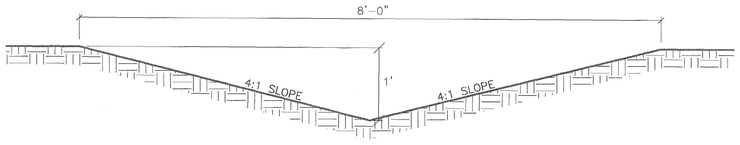
Curb Detail
SCALE: NONE



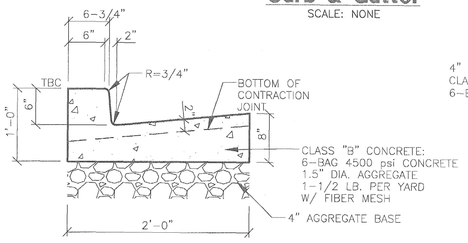
On-Site Type 'F' Curb & Gutter
SCALE: NONE



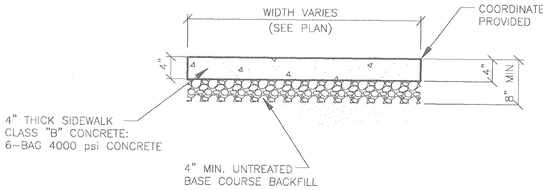
Pathway Detail
SCALE: NONE



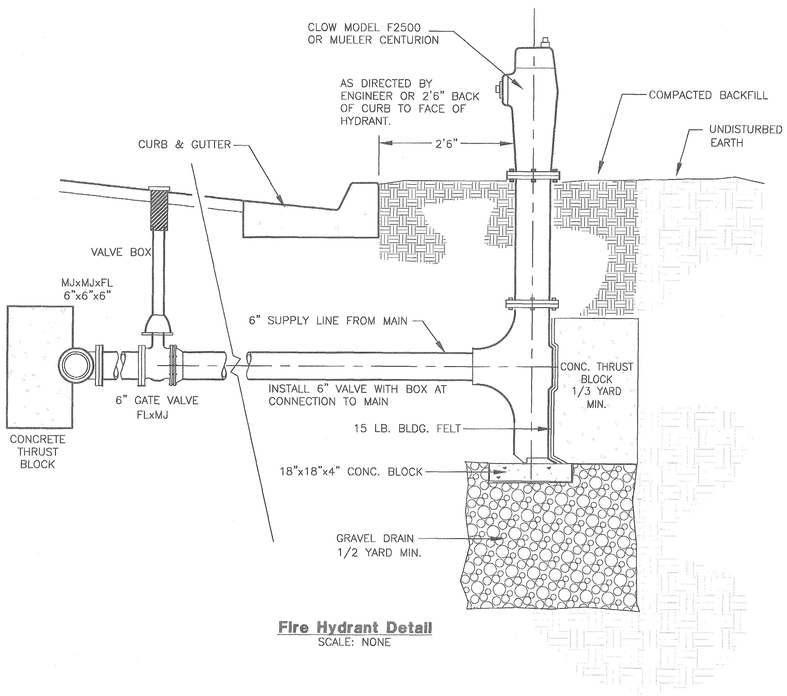
Swale Detail
SCALE: NONE



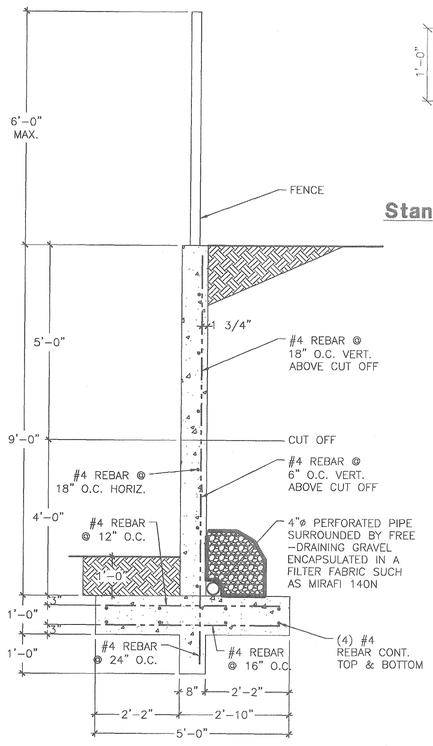
Standard 6" Curb & Gutter Detail
SCALE: NONE
FROM APPROXIMATELY 16+00 TO 17+00 ON EDGEWATER COURT, NORTHWEST SIDE.



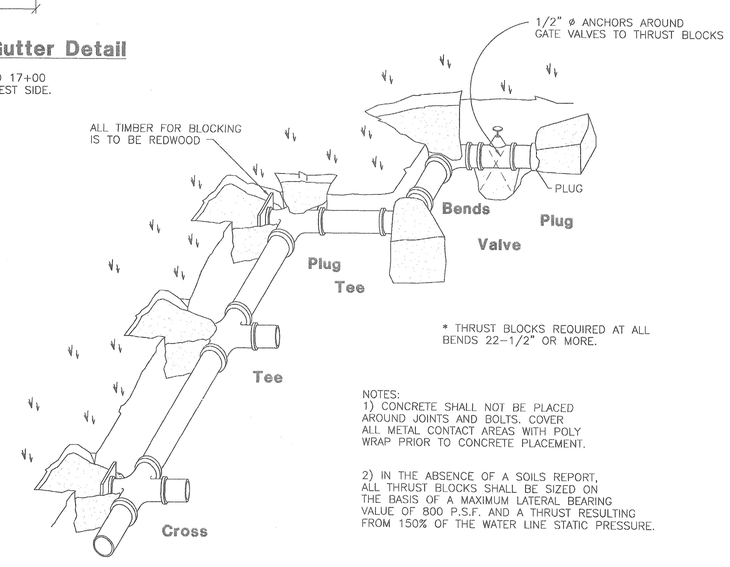
Walkway Detail
SCALE: NONE
(REFER TO SITE SPECIFIC GEOTECHNICAL REPORT)



Fire Hydrant Detail
SCALE: NONE



6' to 8' Concrete Retaining Wall
SCALE: NONE



* THRUST BLOCKS REQUIRED AT ALL BENDS 22-1/2° OR MORE.

NOTES:
1) CONCRETE SHALL NOT BE PLACED AROUND JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS WITH POLY WRAP PRIOR TO CONCRETE PLACEMENT.

2) IN THE ABSENCE OF A SOILS REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAXIMUM LATERAL BEARING VALUE OF 800 P.S.F. AND A THRUST RESULTING FROM 150% OF THE WATER LINE STATIC PRESSURE.

Thrust Block Detail
SCALE: NONE

Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13 RH	Co. Eng. Review
7-3-13 RH	Co. Eng. Review
8-16-13 RH	Co. Eng. Review
9-19-13 RH	Co. Eng. Review
10-21-13 RH	Sewer Revisions
11-22-13 RH	County Comments
12-13-13 RH	County Comments

Edgewater Beach Resort Phase-1

WEBER COUNTY, UTAH

Civil Details

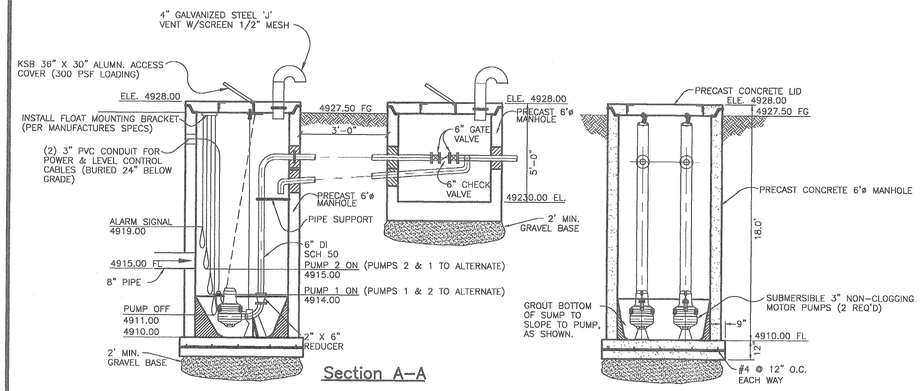
Revised 12-13-13

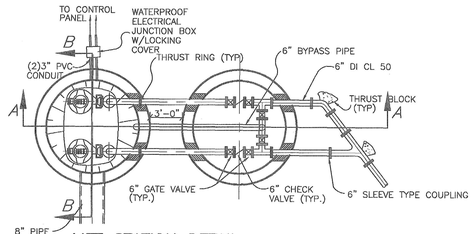
REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
1-7-14
STATE OF UTAH

Project Info.
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 9 of 13 Sheets

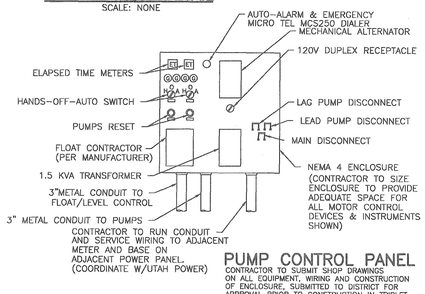
Reeve & Associates, Inc. - Solutions You Can Build On





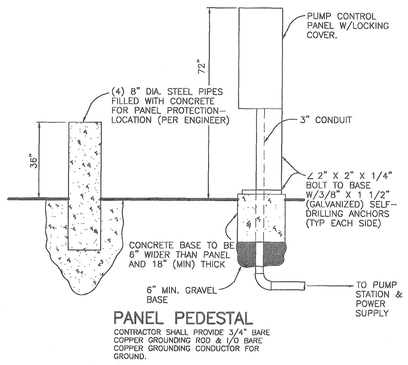
LIFT STATION DETAIL

SCALE: NONE



PUMP CONTROL PANEL

CONTRACTOR TO SUBMIT SHOP DRAWINGS ON ALL EQUIPMENT, WIRING AND CONSTRUCTION OF ENCLOSURE, SUBMITTED TO DISTRICT FOR APPROVAL PRIOR TO CONSTRUCTION IN TRIPLET.



PANEL PEDESTAL

CONTRACTOR SHALL PROVIDE 3/4" BARE COPPER GROUNDING ROD & I/O BARE COPPER GROUNDING CONDUCTOR FOR GROUND.

PUMP STATION SPECIFICATIONS

SCOPE
FURNISH AND INSTALL 2 SUBMERSIBLE KSB GRINDER PUMPS. EACH UNIT SHALL BE EQUIPPED WITH A 20.5 HP, SUBMERSIBLE ELECTRIC MOTOR FOR OPERATION ON 250 VOLTS, 3 PHASE 60 HERTZ SERVICE WITH 30 FEET OF CABLE. EACH PUMP SHALL HAVE A 2" DISCHARGE NOZZLE CONNECTED TO A 2" BY 3" BASE ELBOW AND BE CAPABLE OF DELIVERING 70 GPM AT 285 TDH. EACH UNIT SHALL BE FITTED WITH 20 FEET(20 FEET MINIMUM) OF LIFTING CHAIN OF ADEQUATE STRENGTH TO PERMIT RAISING AND LOWERING OF THE PUMP. FURNISH A STAINLESS STEEL GUIDE ROD SYSTEM WITH A TENSION DEVICE FOR DEEPER SUMPS.

DESIGN
EACH GRINDER SHALL BE CAPABLE OF PUMPING ALL MATERIAL IN DOMESTIC AND COMMERCIAL SEWAGE. THE DISCHARGE CONNECTION ELBOW SHALL BE PERMANENTLY INSTALLED IN THE WET WELL. THE GRINDER UNIT SHALL BE AUTOMATICALLY CONNECTED TO THE DISCHARGE CONNECTION ELBOW WHEN LOWERED INTO PLACE, AND SHALL BE EASILY REMOVED FOR INSPECTION OR SERVICE. THERE SHALL BE NO NEED FOR PERSONNEL TO ENTER THE WET WELL. SEATING OF THE GRINDER UNIT TO THE DISCHARGE CONNECTION ELBOW SHALL BE ACCOMPLISHED BY A SIMPLE DOWNWARD MOTION OF THE UNIT. A NITRILE RUBBER PROFILE GASKET SHALL BE MOUNTED SECURELY INSIDE THE DISCHARGE NOZZLE OF THE PUMP AND DISCHARGE ELBOW. NO PORTION OF THE GRINDER SHALL BEAR DIRECTLY ON THE FLOOR OF THE SUMP.

CONSTRUCTION
MAJOR PUMP COMPONENTS SHALL BE MADE OF CAST IRON, ASTM A 48, CLASS 40 B, WITH SMOOTH SURFACES DEVOID OF BLOW HOLES AND OTHER IRREGULARITIES. WHERE WATERTIGHT SEALING IS REQUIRED, O-RINGS MADE OF RUBBER SHALL BE USED. ALL EXPOSED SURFACES SHALL RECEIVE AN IRON-OXIDE PRIMER AND TWO TOP COATS OF CHLORINATED RUBBER FINISH.

CUTTERS
EACH GRINDER SHALL CONTAIN A STATIONARY AND A ROTATING CUTTER. FOR EXTENDED WARE EACH CUTTER SHALL CONSIST OF NORIHARD A MARTENSITIC CHROME-MOLYBDENUM ALLOY CAST IRON WITH A VICKERS HARDNESS RANGE OF 750 TO 1000

MECHANICAL SEALS
EACH GRINDER PUMP SHALL BE FURNISHED WITH EITHER TWO TANDEM MECHANICAL ROTATING SHAFT SEALS OR ONE LOWER MECHANICAL ROTATING SHAFT SEAL AND ONE UPPER LIP SEAL. EACH SEAL SHALL OPERATE INDEPENDENTLY AND BE OIL LUBRICATED IN A SEPARATE CHAMBER. THE LOWER MECHANICAL SEAL SHALL CONTAIN ONE STATIONARY AND ONE ROTATING TUNGSTEN CARBIDE RING. WHEN USED, THE UPPER MECHANICAL SEAL SHALL CONTAIN ONE STATIONARY CHROME STEEL RING AND ONE ROTATING CARBON RING.

SHAFT
THE SHAFT SHALL CONSIST OF 420 STAINLESS STEEL, ASTM A 276, DESIGNED TO WITHSTAND WEAR FROM HIGHLY CORROSIVE PUMPED MEDIA. THE PUMP SHAFT SHALL ROTATE ON TWO PERMANENTLY LUBRICATED BEARINGS. EACH BEARING SHALL BE SINGLE ROW AND RATED FOR A B-10 LIFE OF 40,000 HOURS.

IMPELLER
THE IMPELLER SHALL BE SEMI-OPEN AND CONSIST OF GRAY CAST IRON ASTM-A 48, CLASS 40 B, AND BE DYNAMICALLY BALANCED. THE IMPELLER SHALL BE CAPABLE OF PASSING ALL MATERIAL WHICH PASSES THROUGH THE CUTTERS.

MOTOR
THE MOTOR SHALL BE A SQUIRREL-CAGE, INDUCTION, SHELL TYPE DESIGN, HOUSED IN AN AIR-FILLED, WATERTIGHT CHAMBER. THE STATOR WINDING AND STATOR LEADS SHALL BE PROTECTED WITH MOISTURE RESISTANT CLASS F INSULATION TO WITHSTAND A TEMPERATURE OF 155 DEGREES C(311 DEGREES F). THE MOTOR SHALL BE DESIGNED FOR CONTINUOUS DUTY, CAPABLE OF SUSTAINING UP TO THIRTY (30) STARTS PER HOUR.

PROTECTION
THE MOTOR SHALL BE FURNISHED WITH THE FOLLOWING MEANS OF PROTECTION: A BIMETALLIC SENSOR SHALL BE PROVIDED IN THE MOTOR WINDING TO AUTOMATICALLY SWITCH OFF THE MOTOR IF THE WINDING TEMPERATURE REACHES 285 DEGREES F. THE GRINDER WILL RESTART AUTOMATICALLY AFTER THE MOTOR COOLS DOWN.
A MOISTURE SENSOR SHALL BE AVAILABLE IN THE STATOR CAVITY, WHICH WILL STOP THE GRINDER IF SUFFICIENT MOISTURE FORMED BY CONDENSATION TO AVOID FALSE SIGNALS TO THE MOISTURE SENSOR.

CABLE ENTRY
THE CABLE SHALL BE INSULATED BY A RUBBER BOOT INSERTED INTO THE LOWER PORTION OF THE PUMP TOP. THE RUBBER BOOT SHALL MATE TO A GASKET AND BE SEALED BY A TRUST-RING HELD TIGHTLY IN PLACE BY A PRESSURE SCREW. THE CABLE SHALL ENTER THE PUMP FROM THE SIDE OF THE MOTOR HOUSING FOR ADDITIONAL PROTECTION AND BETTER SUBMERGENCE OF THE CABLE GLAND.

WARRANTY:
THE PUMP MANUFACTURE SHALL WARRANT THE UNITS TO THE OWNER IN WRITING (PRINTED FORM) AGAINST DEFECTS IN WORKMANSHIP AND MATERIAL FOR A PERIOD OF 1 (ONE) YEAR NOT TO EXCEED 18 MONTHS FROM THE DATE OF SHIPMENT.

SEWER PUMP STATION DESIGN DATA

1. DESIGN FLOWS

5300 S.F. COMMERCIAL	2,400 GPD
3 3-PLEX COTTAGES	3,600 GPD
8 2-PLEX COTTAGES	6,400 GPD
28 SINGLE FAMILY COTTAGES	11,200 GPD
EXISTING 4-PLEX	1,600 GPD
TOTAL	42,800 GPD

2. ESTIMATED AVERAGE FLOW IS 30 GPM
   ESTIMATED PEAK FLOW RATE 120 GPM
   WITH A TDH OF 130 FT USING 6" PIPE

3. PUMP SELECTION:
   SINGLE VANE IMPELLER (144 MM DIA.)
   2" DISCHARGE
   3 PHASE MOTOR
   USE HOMA BARRACUDA GRP79/3
   SUBMERSIBLE PUMP W/ CUTTER SYSTEM

   MOTOR RATING 13 HP

   ELECTRICAL PANEL, MANHOLE ACCESS, & FLOATS FROM W-CUBED.

   PUMP OBTAINED FROM:
   DAVID C. MILLER
   TRIPLE "D" PUMP CO.
   301 COTTON, WACO, TEXAS, 76712
   (254) 772-7623

WET WELL DESIGN

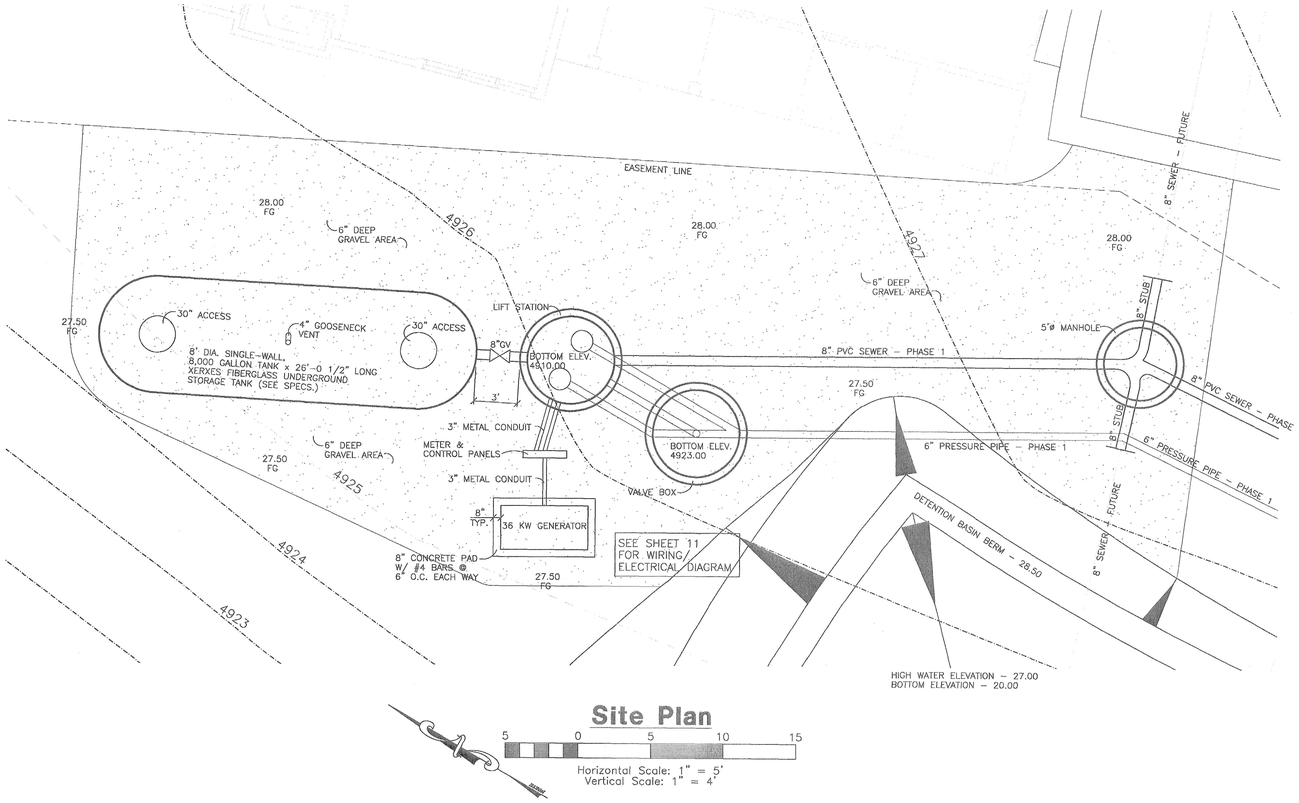
WET WELL VOLUME TO ALARM
$\pi(3)^2(9') = 1,900$ GALLONS PUMP CHAMBER
RESERVE TANK = 8,314 GALLONS
TOTAL WET WELL VOLUME
$\pi(3)^2(14.00) = 2,961 + 8,134 = 11,095$ GALLONS

CYCLING RATE OF PUMPS APPROXIMATELY 10 MINUTES
DUPLEX PUMPING SYSTEM IS CAPABLE OF PUMPING
1,240 GPM WITH BOTH PUMPS OPERATING.

WET WELL SIZING TO AVOID HEAT BUILD UP IN THE PUMPS (FREQUENT STARTING AND SEPTIC CONDITIONS DUE TO EXCESSIVE DETENTION TIME.

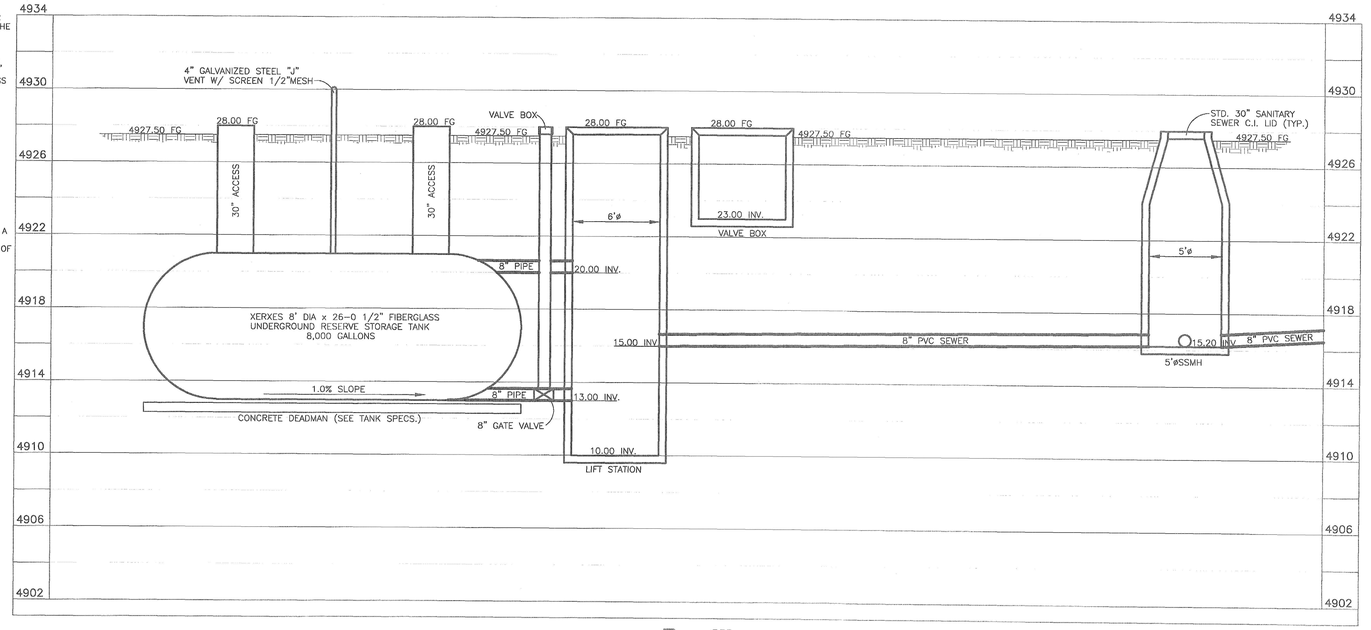
WET WELL AND RESERVE STORAGE CAPACITY WILL PROVIDE OVER 6 HOURS OF CAPACITY.

Lift Station Details



Site Plan

Horizontal Scale: 1" = 5'
Vertical Scale: 1" = 4'



Profile

Revised 12-13-13

Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13 RH	Co. Eng. Review
7-3-13 RH	Co. Eng. Review
8-16-13 RH	Co. Eng. Review
9-19-13 RH	Co. Eng. Review
10-21-13 RH	Sewer Revisions
11-22-13 RH	County Comments
12-13-13 RH	County Comments

Edgewater Beach Resort Phase-1

WEBER COUNTY, UTAH

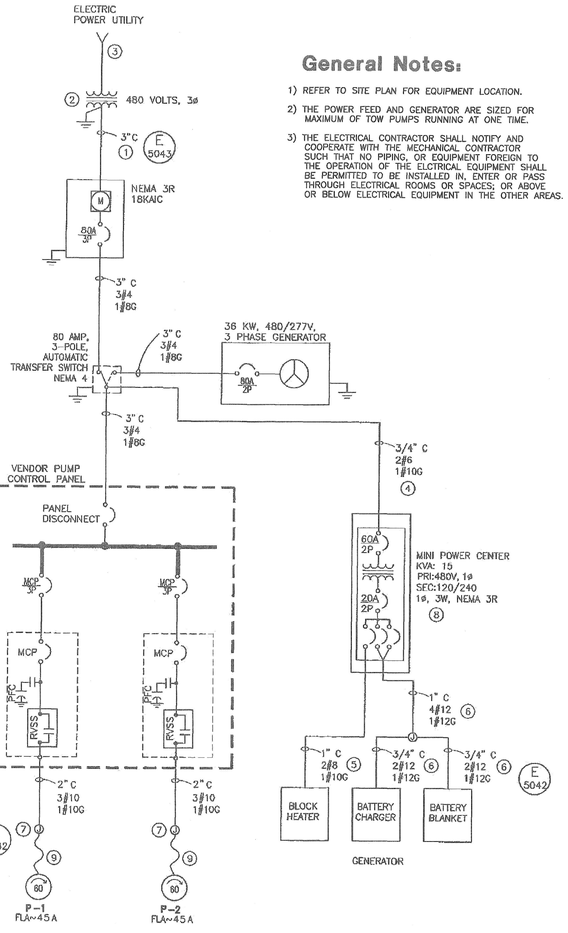
Sewer Lift Station

REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
1-7-13
STATE OF UTAH

Project Info.
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 10 of 13 Sheets

Reeve & Associates, Inc. - Solutions You Can Build On



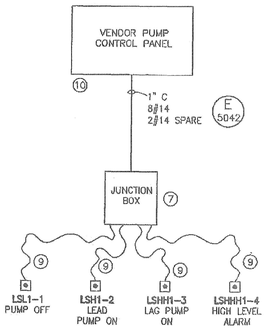
Power One-Line Diagram

General Notes:

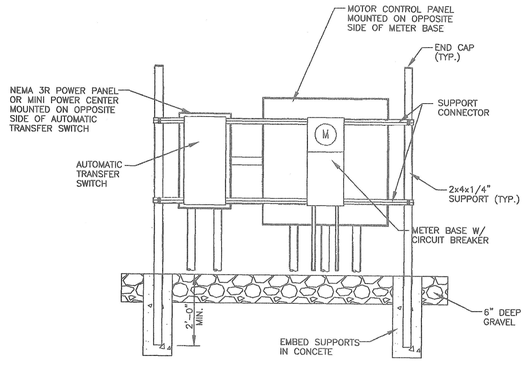
1) REFER TO SITE PLAN FOR EQUIPMENT LOCATION.
2) THE POWER FEED AND GENERATOR ARE SIZED FOR MAXIMUM OF TOW PUMPS RUNNING AT ONE TIME.
3) THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELCTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL ROOMS OR SPACES; OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN THE OTHER AREAS.

Key Notes:

1. CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT IN ACCORDANCE WITH PACIFICORP POWER REQUIREMENTS. CONDUCTORS SHALL BE INSTALLED BY PACIFICORP.
2. PROVIDED AND INSTALLED BY PACIFICORP.
3. PROVIDED AND INSTALLED BY DEVELOPER.
4. CONDUIT AND CONDUCTORS TO MIN POWER ZONE SHALL NOT EXCEED 10 FEET.
5. 1" CONDUIT FOR BLOCK HEATER WITH TWO #8 AND ONE #10 GROUND CONDUCTORS CONNECT TO A 40 AMP, 2-POLE CIRCUIT BREAKER IN MINI-POWER CENTER.
6. TWO CIRCUITS IN ONE 1" CONDUIT FOR BATTER CHARGER AND BATTERY BLANKET, CONNECT TO 20 AMP, SINGLE POLE CIRCUIT BREAKER IN MINI-POWER CNETER.
7. HAZARDOUS LOCATION JUNCTION BOX AND CONDUIT SEAL.
8. SINGLE PHASE TRANSFORMER, COPPER WINDINGS IN A NEMA 3R PAD LOCKABLE ENCLOSURE, EATON MINI-POWER CENTER OR EQUAL.
9. MANUFACTURER'S CABLE.
10. PROVIDE AND INSTALL AN INTRINSICALLY SAFE BARRIER FOR EACH LEVEL SWITCH. THE LEVEL SWITCHES SHALL BE MADE FOR LOW ENERGY CIRCUITS TO BE USED IN HAZARDOUS LOCATION, ANCHOR SCIENTIFIC TYPE GSI – GOLD OR EQUAL.



Control Block Diagram



Meter Enclosure and Panel Elevation

Revised 12-13-13

Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13 RH	Co. Eng. Review
7-3-13 RH	Co. Eng. Review
8-16-13 RH	Co. Eng. Review
9-19-13 RH	Co. Eng. Review
10-21-13 RH	Sewer Revisions
11-22-13 RH	County Comments
12-13-13 RH	County Comments

Edgewater Beach Resort Phase-1

WEBER COUNTY, UTAH

Wiring/Electrical Diagram

REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
1-7-13
STATE OF UTAH

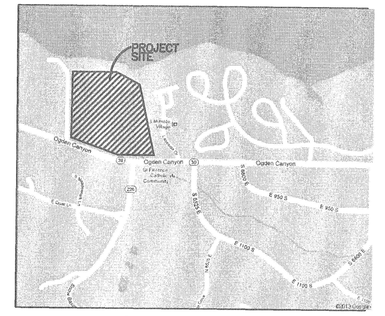
Project Info.
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 11 of 13 Sheets

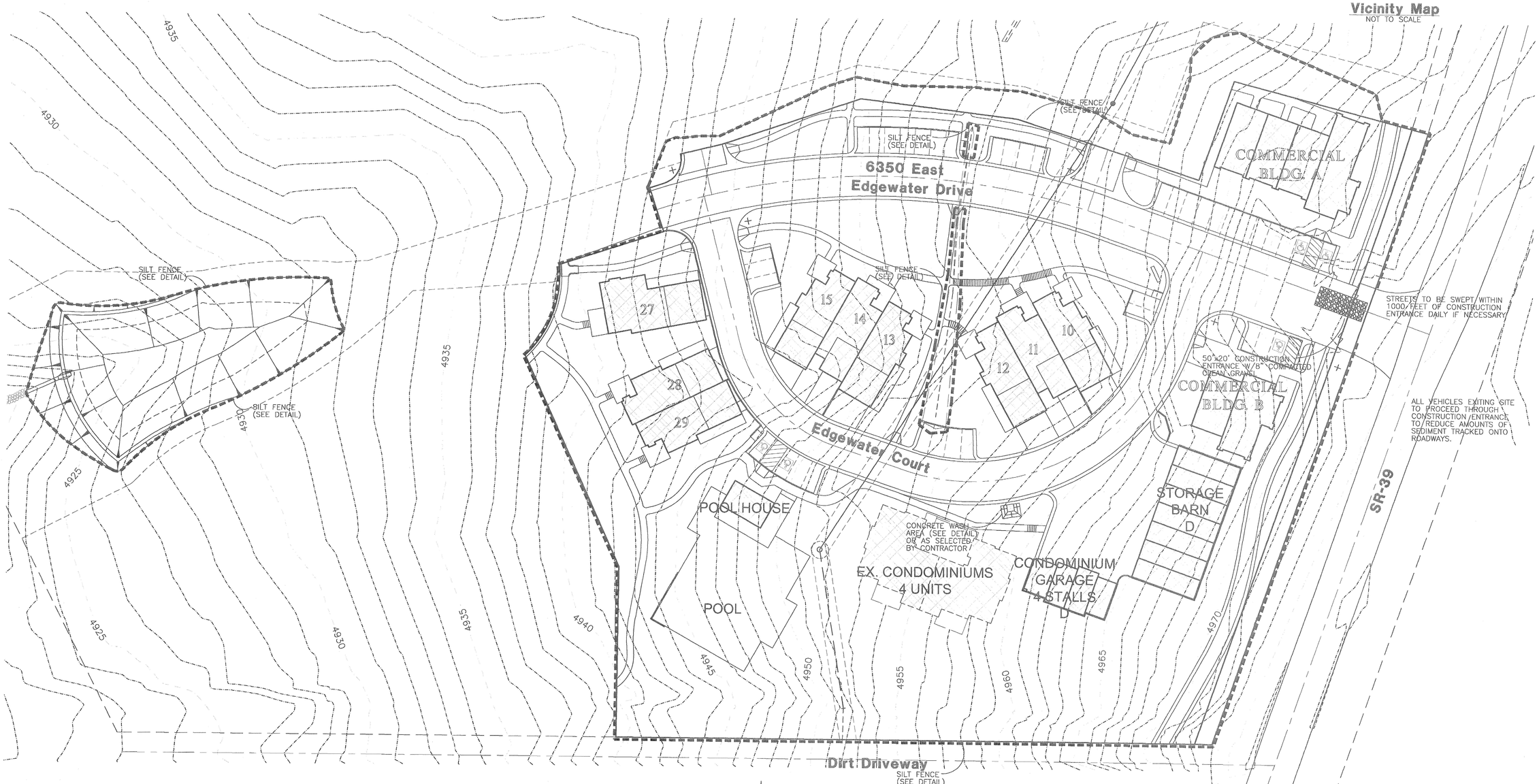
Reeve & Associates, Inc. - Solutions You Can Build On

EDGEWATER ESTATES
Phase-1
Storm Water Pollution Prevention Plan Exhibit

WEBER COUNTY, UTAH
AUGUST 2013



Vicinity Map
NOT TO SCALE



30 0 30 60 90
Scale: 1" = 30'

Construction Activity Schedule

- PROJECT LOCATION.....WEBER COUNTY, UTAH
- PROJECT BEGINNING DATE.....AUGUST 2013
- BMP'S DEPLOYMENT DATE.....AUGUST 2013
- STORM WATER MANAGEMENT CONTACT / INSPECTOR.....REESE HOWELL, JR. (801) 363-6500
- SPECIFIC CONSTRUCTION SCHEDULE INCLUDING BMP CONSTRUCTION SCHEDULE TO BE INCLUDED WITH SWPPP BY OWNER/DEVELOPER

Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13 RH	Co. Eng. Review
7-3-13 RH	Co. Eng. Review
8-16-13 RH	Co. Eng. Review
9-19-13 RH	Co. Eng. Review
10-21-13 RH	Sewer Revisions
11-22-13 RH	County Comments
12-13-13 RH	County Comments

Revised 12-13-13

Edgewater Beach Resort
Phase-1
WEBER COUNTY, UTAH

Storm Water Pollution Prevention Plan Exhibit

REGISTERED PROFESSIONAL ENGINEER
175328
J. NATE REEVE
1-7-13
STATE OF UTAH

Project Info.
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 12 of 13 Sheets

Notes:

1. Describe all BMP's to protect storm water inlets:
   All storm water inlets to be protected by straw wattle barriers, or gravel bags (see detail).

2. Describe BMP's to eliminate/reduce contamination of storm water from:
   a. Equipment / building / concrete wash areas:
      To be performed in designated areas only and surrounded with silt fence barriers.
   b. Soil contaminated by soil amendments:
      If any contaminates are found or generated, contact environmental engineer and contacts listed.
   c. Areas of contaminated soil:
      If any contaminates are found or generated, contact environmental engineer and contacts listed.
   d. Fueling area:
      To be performed in designated areas only and surrounded with silt fence.
   a. Vehicle maintenance areas:
      To be performed in designated areas only and surrounded with silt fence.
   b. Vehicle parking areas:
      To be performed in designated areas only and surrounded with silt fence.
   c. Equipment storage areas:
      To be performed in designated areas only and surrounded with silt fence.
   d. Materials storage areas:
      To be performed in designated areas only and surrounded with silt fence.
   e. Waste containment areas:
      To be performed in designated areas only and surrounded with silt fence.
   f. Service areas:
      To be performed in designated areas only and surrounded with silt fence.

3. BMP's for wind erosion:
   Stockpiles and site as needed to be watered regularly to eliminate / control wind erosion

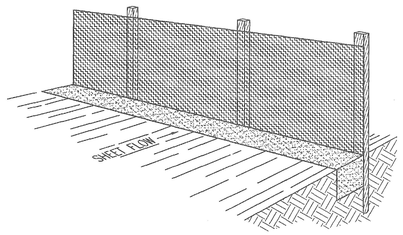
4. Construction Vehicles and Equipment:
   a. Maintenance
      - Maintain all construction equipment to prevent oil or other fluid leaks.
      - Keep vehicles and equipment clean, prevent excessive build-up of oil and grease.
      - Regularly inspect on-site vehicles and equipment for leaks, and repair immediately.
      - Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment on-site.
      - Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic, and transmission fluids.
   b. Fueling
      - If fueling must occur on-site, use designated areas away from drainage.
      - Locate on-site fuel storage tanks within a bermed area designed to hold the tank volume.
      - Cover retention area with an impervious material and install in in a manner to ensure that any spills will be contained in the retention area. To catch spills or leaks when removing or changing fluids.
      - Use drip pans for any oil or fluid changes.
   c. Washing
      - Use as little water as possible to avoid installing erosion and sediment controls for the wash area.
      - If washing must occur on-site, use designated, bermed wash areas to prevent waste water discharge into storm water, creaks, rivers, and other water bodies.
      - Use phosphate-free, biodegradable soaps.
      - Do not permit steam cleaning on-site.

5. Spill Prevention and Control
   a. Minor Spills:
      Minor spills are those which are likely to be controlled by on-site personnel. After contacting local emergency response agencies, the following actions should occur upon discovery of a minor spill:
      - Contain the spread of the spill.
      - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (i.e. absorbent materials, cat litter, and / or rags).
      - If the spill occurs in dirt areas, immediately contain the spill by constructing an earth dike. Dig up property dispose of contaminated soil.
      - If the spill occurs during rain, cover the impacted area to avoid runoff.
      - Record all steps taken to report and contain spill.
   b. Major Spills:
      On-site personnel should not attempt to control major spills until the appropriate and qualified emergency response staff have arrived at the site. For spills of federal reportable quantities, also notify the National Response Center at (800) 424-8802. A written report should be sent to all notified authorities. Failure to report major spills can result in significant fines and penalties.

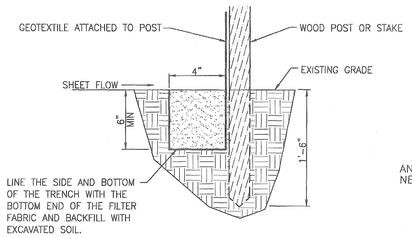
6. Post Roadway / Utility Construction
   a. Maintain good housekeeping practices.
   b. Enclose or cover building material storage areas.
   c. Properly store materials such as paints and solvents.
   d. Store dry and wet materials under cover, away from drainage areas.
   e. Avoid mixing excess amounts of fresh concrete or cement on-site.
   f. Perform washout of concrete trucks offsite or in designated areas only.
   g. Do not wash out concrete trucks into storm drains, open ditches, streets or streams.
   h. Do not place material or debris into streams, gutters or catch basins that stop or reduce the flow of runoff water.
   i. All public streets and storm drain facilities shall be maintained free of building materials, mud and debris caused by grading or construction operations. Roads will be swept within 1000' of construction entrance daily, if necessary.
   j. Install straw wattle around all inlets contained within the development and all others that receive runoff from the development.

7. Erosion Control Plan Notes
   a. The contractor will designate an emergency contact that can be reached 24 hours a day 7 days a week.
   b. A stand-by crew for emergency work shall be available at all times during potential rain or snow runoff events. Necessary materials shall be available on site and stockpiled at convenient locations to facilitate rapid construction of emergency devices when rain or runoff is eminent.
   c. Erosion control devices shown on the plans and approved for the project may not be removed without approval of the engineer of record. If devices are removed, no work may continue that have the potential of erosion without consulting the engineer of record. If deemed necessary erosion control should be reestablished before this work begins.
   d. Graded areas adjacent to fill slopes located at the site perimeter must drain away from the top of the slope at the conclusion of each working day. this should be confirmed by survey or other means acceptable to the engineer of record.
   e. All silt and debris shall be removed from all devices within 24 hours after each rain or runoff event.
   f. Except as otherwise approved by the inspector, all removable protective devices shown shall be in place at the end of each working day and through weekends until removal of the system is approved.
   g. All loose soil and debris, which may create a potential hazard to offsite property, shall be removed from the site as directed by the Engineer of record of the governing agency.
   h. The placement of additional devices to reduce erosion damage within the site is left to the discretion of the Engineer of record.
   i. Desilting basins may not be removed or made inoperable without the approval of the engineer of record and the governing agency.
   j. Erosion control devices will be modified as need as the project progresses, and plans of these changes submitted for approval by the engineer of record and the governing agency.

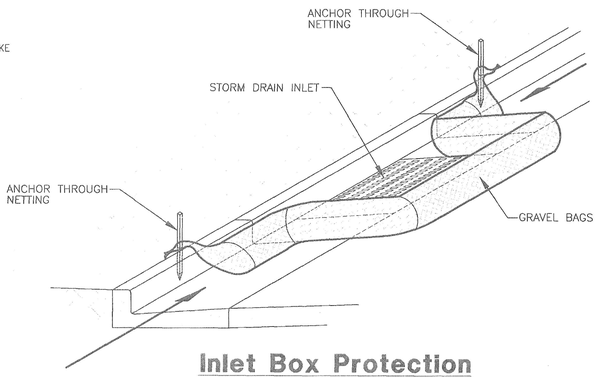
8. Conduct a minimum of one inspection of the erosion and sediment controls every two weeks. Maintain documentation on site.
   a. Part III.D.4 of general permit UTR300000 identifies the minimum inspection requirements.
   b. Part II.D.4.C identifies the minimum inspection report requirements.
   c. failure to complete and/or document storm water inspections is a violation of part III.D.4 of Utah General Permit UTR 300000.



Perspective View



Section



Inlet Box Protection

INSTALLATION
The silt fence should be installed prior to major soil disturbances in the drainage area. The fence should be placed across the slope along a line of uniform elevation wherever flow of sediment is anticipated. Table 1 shows generally-recommended maximum slope lengths (slope spacing between fences) at various site grades for most silt fence applications.

TABLE 1:
Recommended Maximum Slope Lengths for Silt Fence
(Richardson & Middlebrooks, 1991)

Slope Steepness (%)	Max. Slope Length m (ft)
<2%	30.5m (100ft)
2-5%	22.9m (75ft)
5-10%	15.2m (50ft)
10-20%	7.6m (25ft)
>20%	4.5m (15ft)

PREFABRICATED SILT FENCE ROLLS
*Excavate a minimum 15.2cm x 15.2cm (6"x6") trench at the desired location.
*Unroll the silt fence, positioning the post against the downstream wall of the trench.
*Adjacent rolls of silt fence should be joined be nesting the end post of one fence into the other. Before nesting the end posts, rotate each post until the geotextile is wrapped completely around the post, then abut the end posts to create a tight seal as shown in Figure 1.
*Drive posts into the ground until the required fence height and/or anchorage depth is obtained.
*Bury the loose geotextile at the bottom of the fence in the upstream trench and backfill with natural soil, tamping the backfill to provide good compaction and anchorage. Figure 2 illustrates a typical silt fence installation and anchor trench placement.

FIELD ASSEMBLY:
*Excavate a minimum 15.2cm x 15.2cm (6"x6") trench at the desired location.
*Drive wooden posts, or steel posts with fastening projections, against the downstream wall of the trench. Maximum post spacing should be 2.4-3.0m (8-10ft). Post spacing should generally be less than three (3) times the height of the fence.
*If a steel or plastic mesh is required to reinforce the geotextile, it shall have a minimum mesh opening of 15.2cm (6").
*Fasten the mesh to the upslope side of the posts using heavy duty wire staples, tie wires or hog strings. Extend the mesh into the bottom of the trench.
*The geotextile shall then be stapled or wired to the posts. An extra 20-50cm (8-20") of geotextile shall extend into the trench.

INSPECTION
*Inspect the silt fence daily during periods of rainfall, immediately after significant rainfall event and weekly during periods of no rainfall. Make any repairs immediately.
*When sediment deposits behind the silt fence are one-third of the fence height, remove and properly dispose of the silt accumulations. Avoid damage to the fabric during cleanout.

REMOVAL
*Silt fence should not be removed until construction ceases and the upslope area has been properly stablized and/or revegetated.

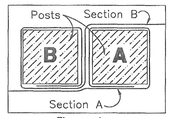
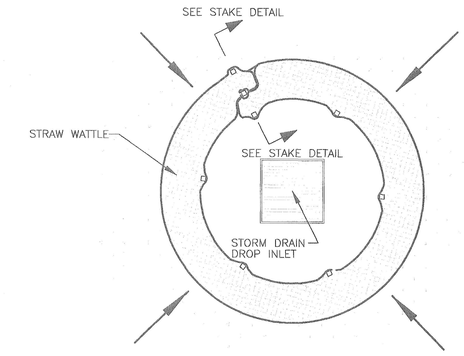


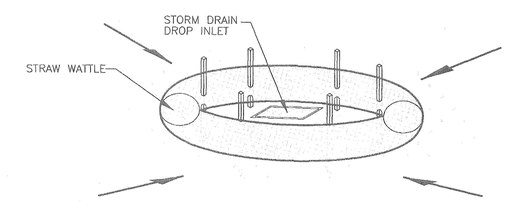
Figure 1:
Top View of
Roll-to-Roll Connection

Silt Fence Detail

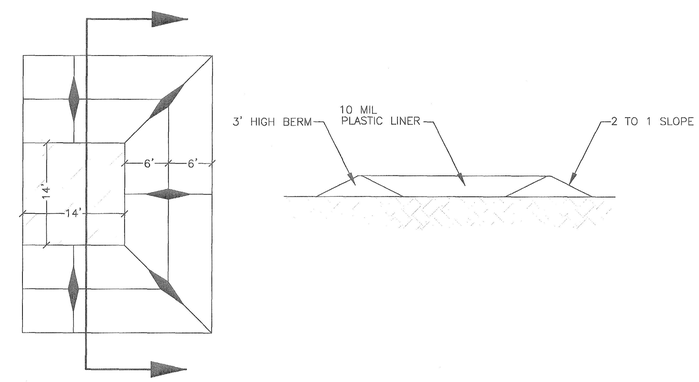
SCALE: NONE



Plan View

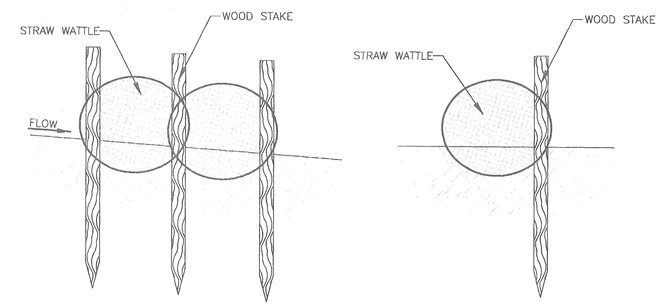


Drop Inlet Protection

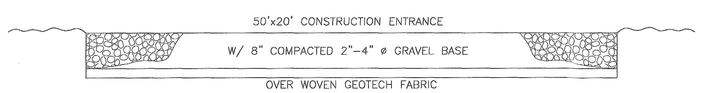


Concrete Washout Area w/ 10 mil Plastic Liner

SCALE: NONE



Stake Detail



Cross Section 50' x 20' Construction Entrance

Revised 12-13-13

Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-3100 FAX: (801) 621-2666 www.reeve-assoc.com
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
6-21-13 RH	Co. Eng. Review
7-3-13 RH	Co. Eng. Review
8-16-13 RH	Co. Eng. Review
9-19-13 RH	Co. Eng. Review
10-21-13 RH	Sewer Revisions
11-22-13 RH	County Comments
12-13-13 RH	County Comments

Edgewater Beach Resort Phase-1
WEBER COUNTY, UTAH

Storm Water Pollution Prevention Plan Details

REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
12-7-13
STATE OF UTAH

Project Info.
Engineer: J. NATE REEVE, P.E.
Drafter: R. HANSEN
Begin Date: JULY 09, 2012
Name: EDGEWATER BEACH RESORT PHASE-1
Number: 5917-15

Sheet 13 of 13 Sheets

Reeve & Associates, Inc. - Solutions You Can Build On