

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.
- 9) 4/30/14 RH - SD OUTLET CHANGES.

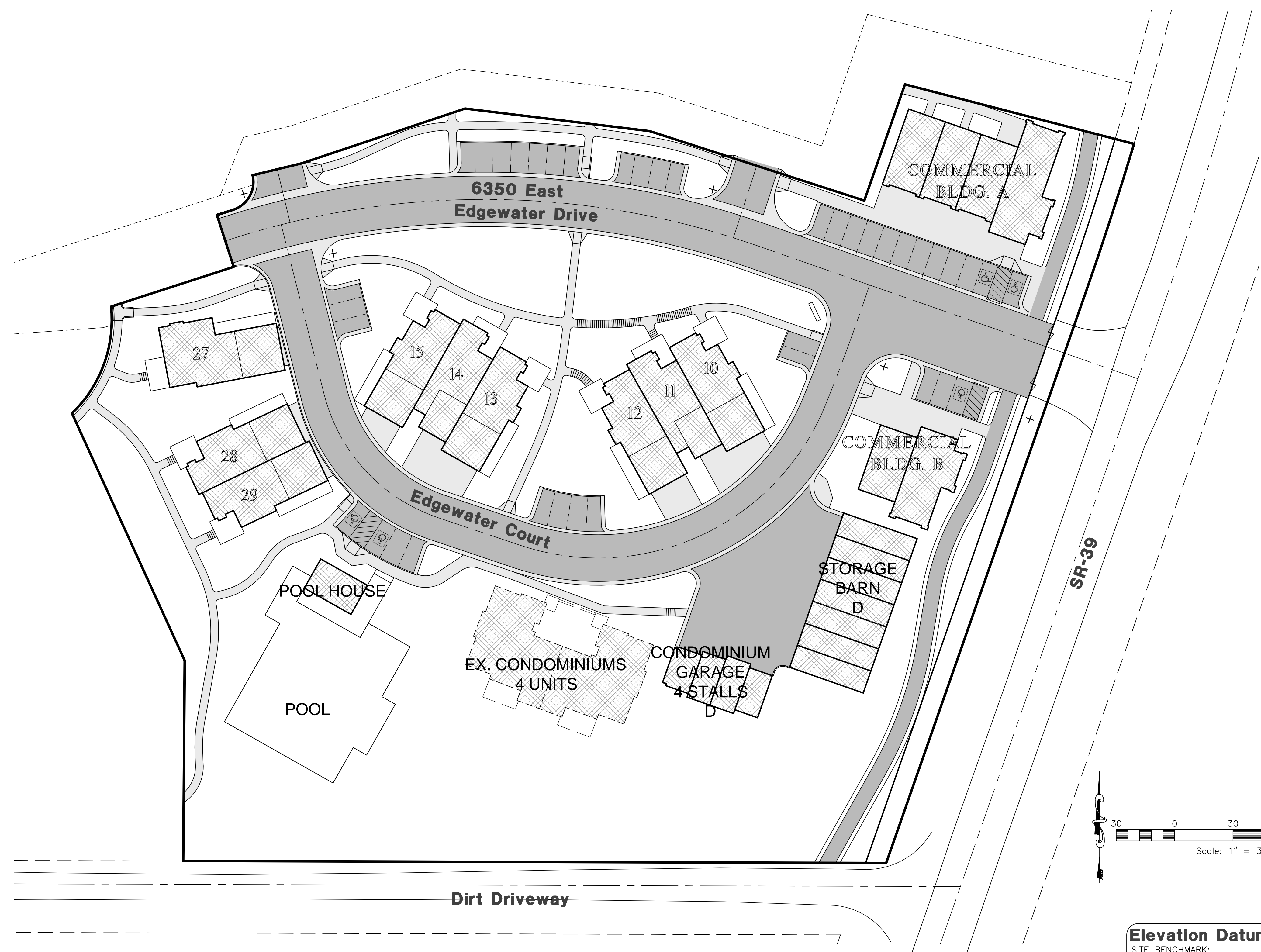
EDGEWATER ESTATES

Phase-1 Improvement Plans

WEBER COUNTY, UTAH
AUGUST 2013



Vicinity Map
NOT TO SCALE

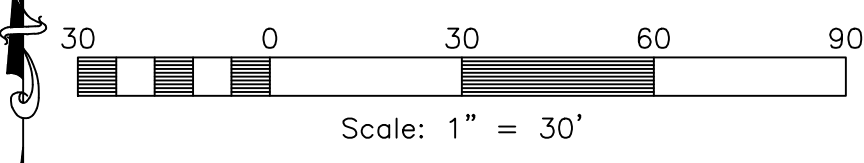


Sheet Index

- Sheet 1 - Cover/Index Sheet
- Sheet 2 - Demolition Plan
- Sheet 3 - Edgewater Drive 20+00.00 - 24+49.74
- Sheet 4 - Edgewater Drive 24+49.74 - 29+50.00
- Sheet 5 - Edgewater Court 15+00.00 - 21+00.00
- Sheet 6 - Drainage & Grading Plan
- Sheet 7 - Utility Plan
- Sheet 8 - SD Calculations
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- Sheet 9.1 - Details
- Sheet 10 - Sewer Lift Station
- Sheet 11 - Wiring/Electrical Diagram
- Sheet 12 - SWPPP
- Sheet 13 - SWPPP Details

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 AGENETS 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.



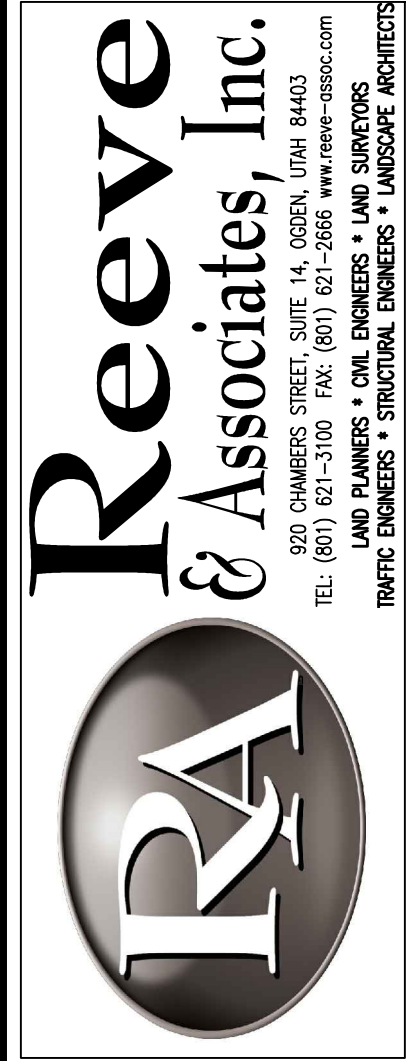
Elevation Datum
SITE BENCHMARK:
BENCH MARK MONUMENT NO. 3-JRH
ELEVATION 4969.025

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.

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



DATE	DESCRIPTION
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
4-30-14	RH SD Outlet Changes

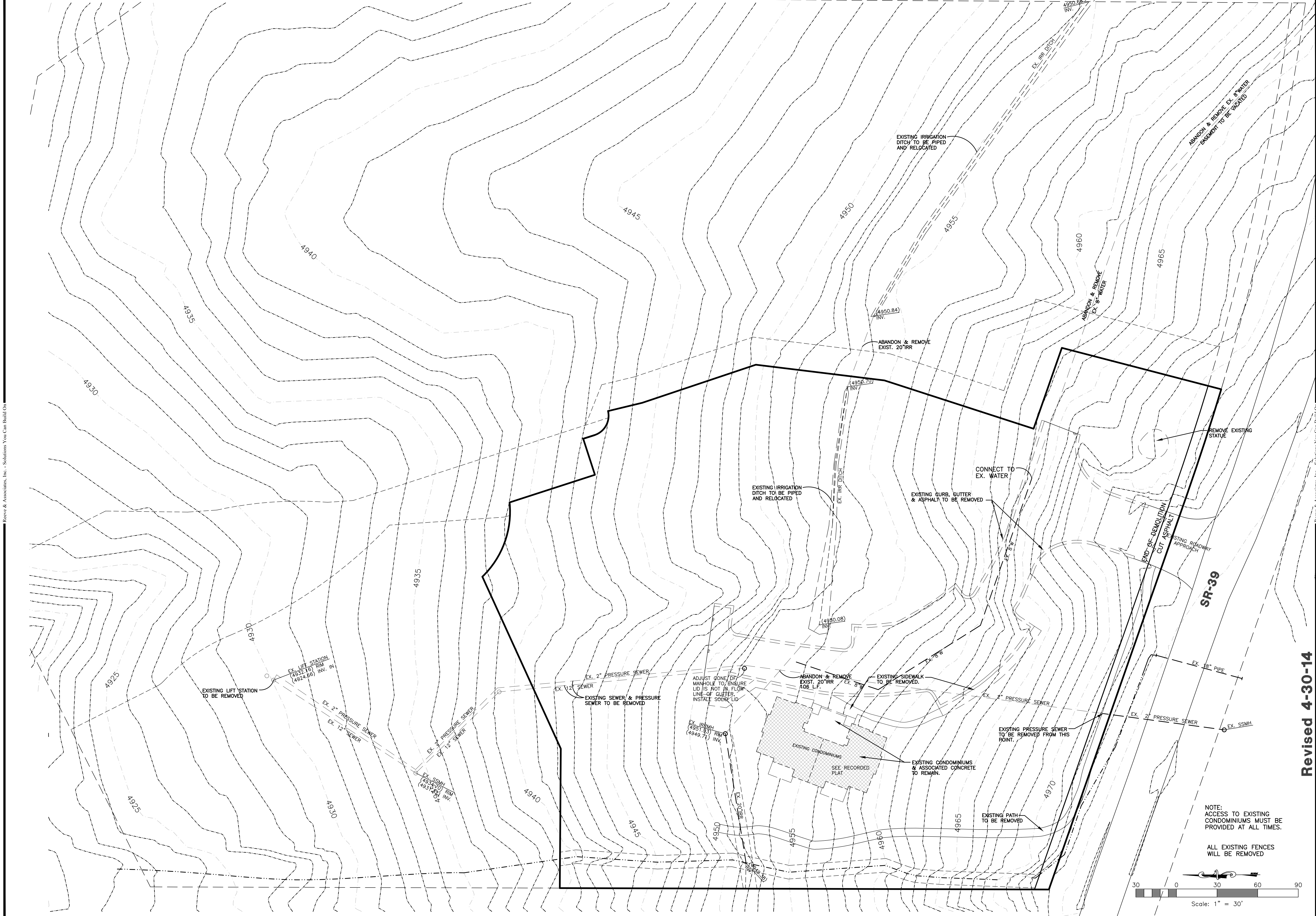
Edgewater Beach Resort
Phase-1
WEBER COUNTY, UTAH
Cover/Index Sheet

Revised 4-30-14



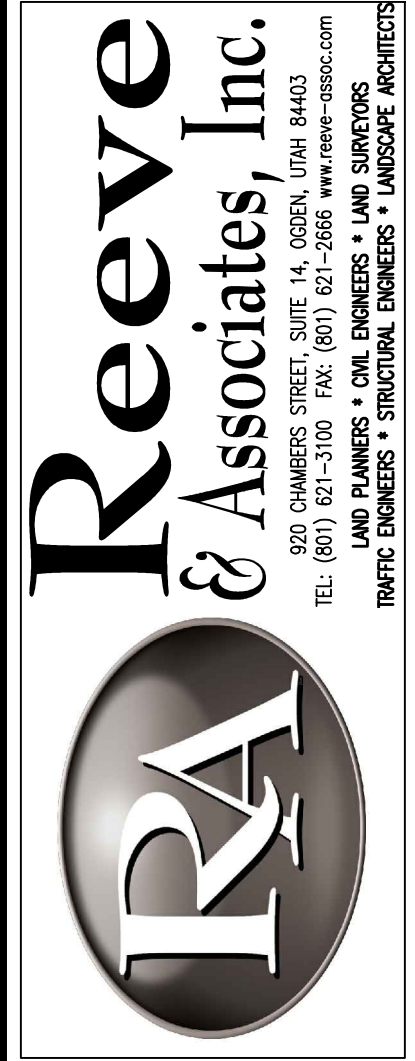
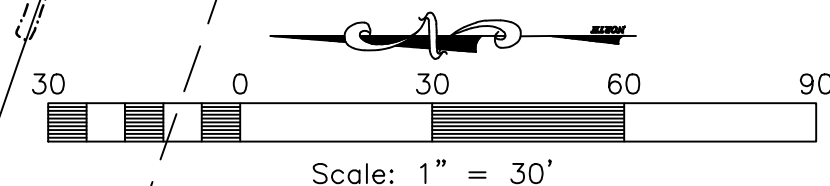
Project Info.
Engineer:
J. NATE REEVE, P.E.
Drafted:
R. HANSEN
Begin Date:
JULY 09, 2012
Name:
EDGEWATER BEACH
RESORT
PHASE-1
Number: 5917-15

Sheet **13**
1 Sheets



NOTE:
ACCESS TO EXISTING
CONDOMINIUMS MUST BE
PROVIDED AT ALL TIMES.

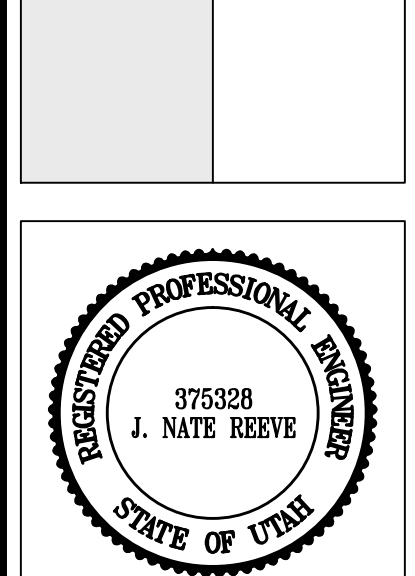
ALL EXISTING FENCES
WILL BE REMOVED



DATE	DESCRIPTION
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
4-30-14 RH	SD Outlet Changes

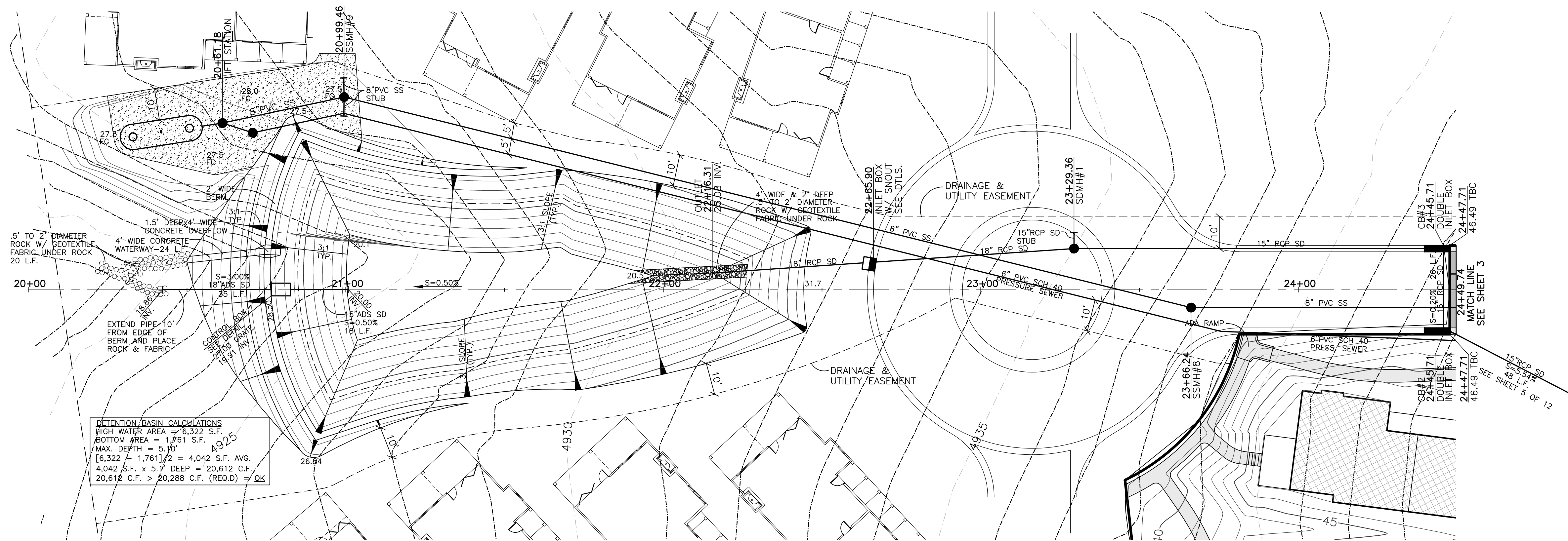
**Edgewater Beach Resort
Phase-1**
WEBER COUNTY, UTAH

Demolition Plan



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

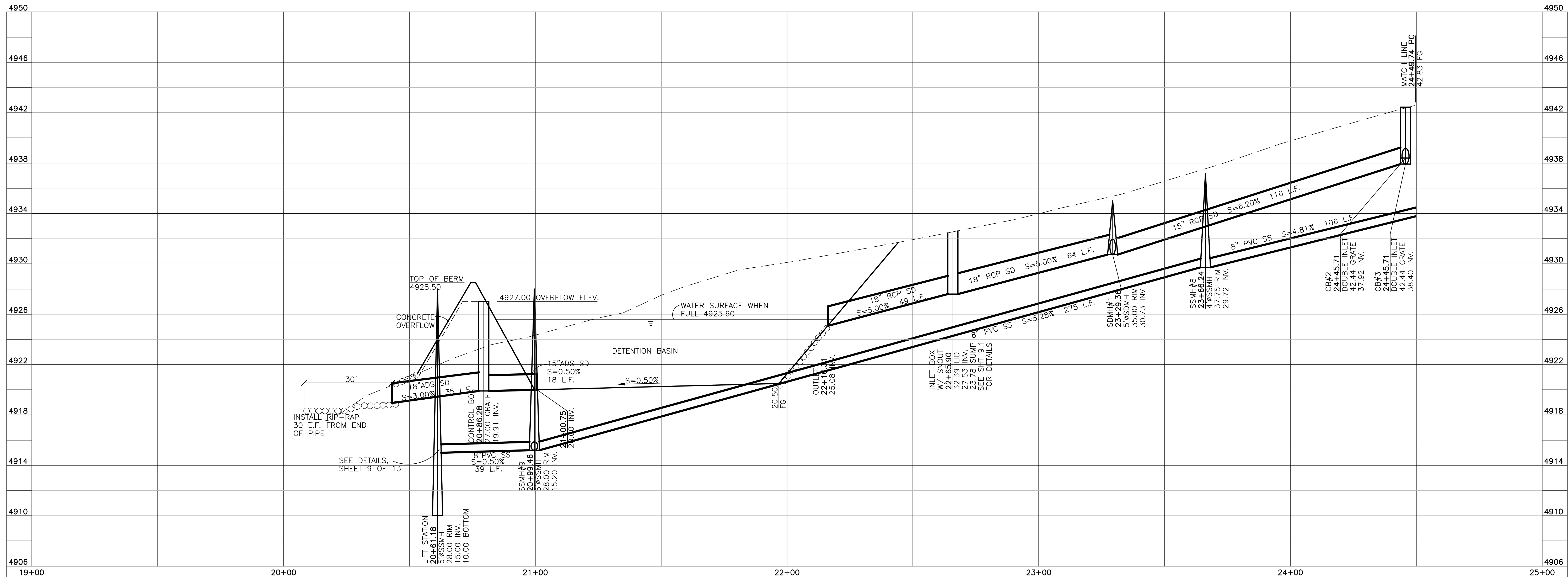
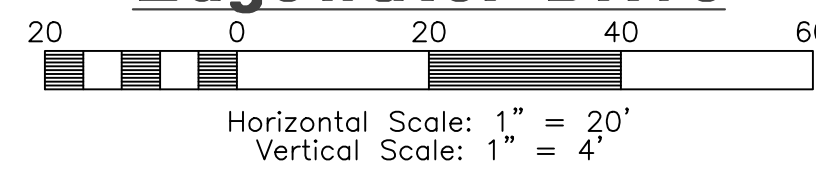
Sheet **13**
2 Sheets



DETENTION BASIN CALCULATIONS
 HIGH WATER AREA = 6,322 S.F.
 BOTTOM AREA = 1,761 S.F.
 MAX. DEPTH = 5.10'
 (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



Reeve & Associates, Inc.
 920 CHAMBERS STREET, SUITE #14, OGDEN, UTAH 84403
 TEL: (801) 621-3100 FAX: (801) 621-2668 WWW.REEVE-ASSOC.COM
 LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
 TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

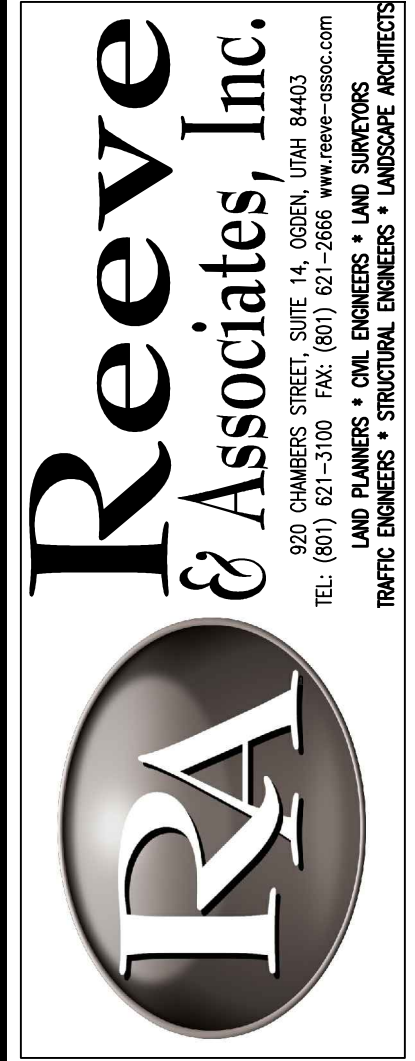
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8-1-13	RH. Co. Eng. Review
9-19-13	RH. Co. Eng. Review
10-21-13	RH. Sewer Revisions
11-22-13	RH. County Comments
12-13-13	RH. County Comments
4-30-13	RH. SD Outlet Changes

Edgewater Beach Resort
 Phase-1
 WEBER COUNTY, UTAH
Edgewater Drive
 20+00.00 - 24+49.74

Revised 4-30-14

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



REVISIONS

DATE	DESCRIPTION
7-3-13	RRH Co. Eng. Review
8-16-13	RRH Co. Eng. Review
9-19-13	RRH Co. Eng. Review
10-21-13	RRH Sewer Revisions
11-22-13	RRH County Comments
12-13-13	RRH County Comments
4-30-13	RRH SD Outlet Changes

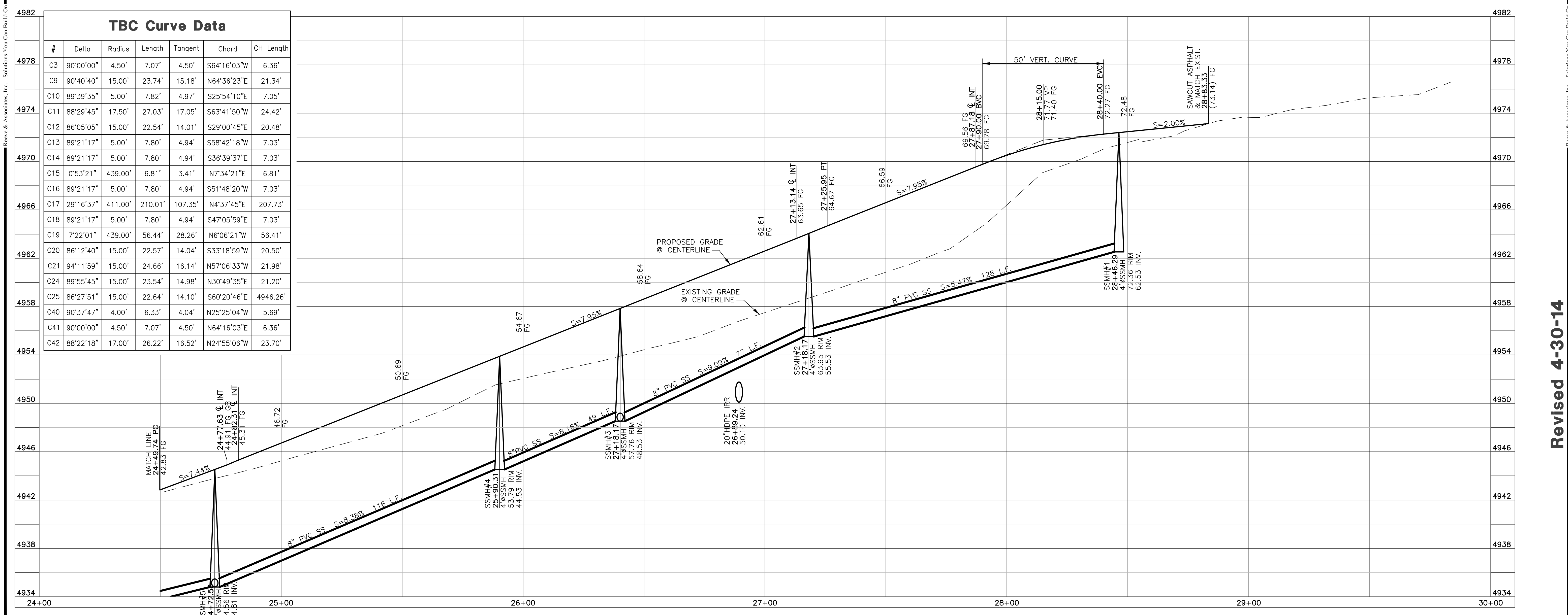
Edgewater Beach Resort
Phase-1
 WEBER COUNTY, UTAH
Edgewater Drive
24+49.74 - 30+00.00

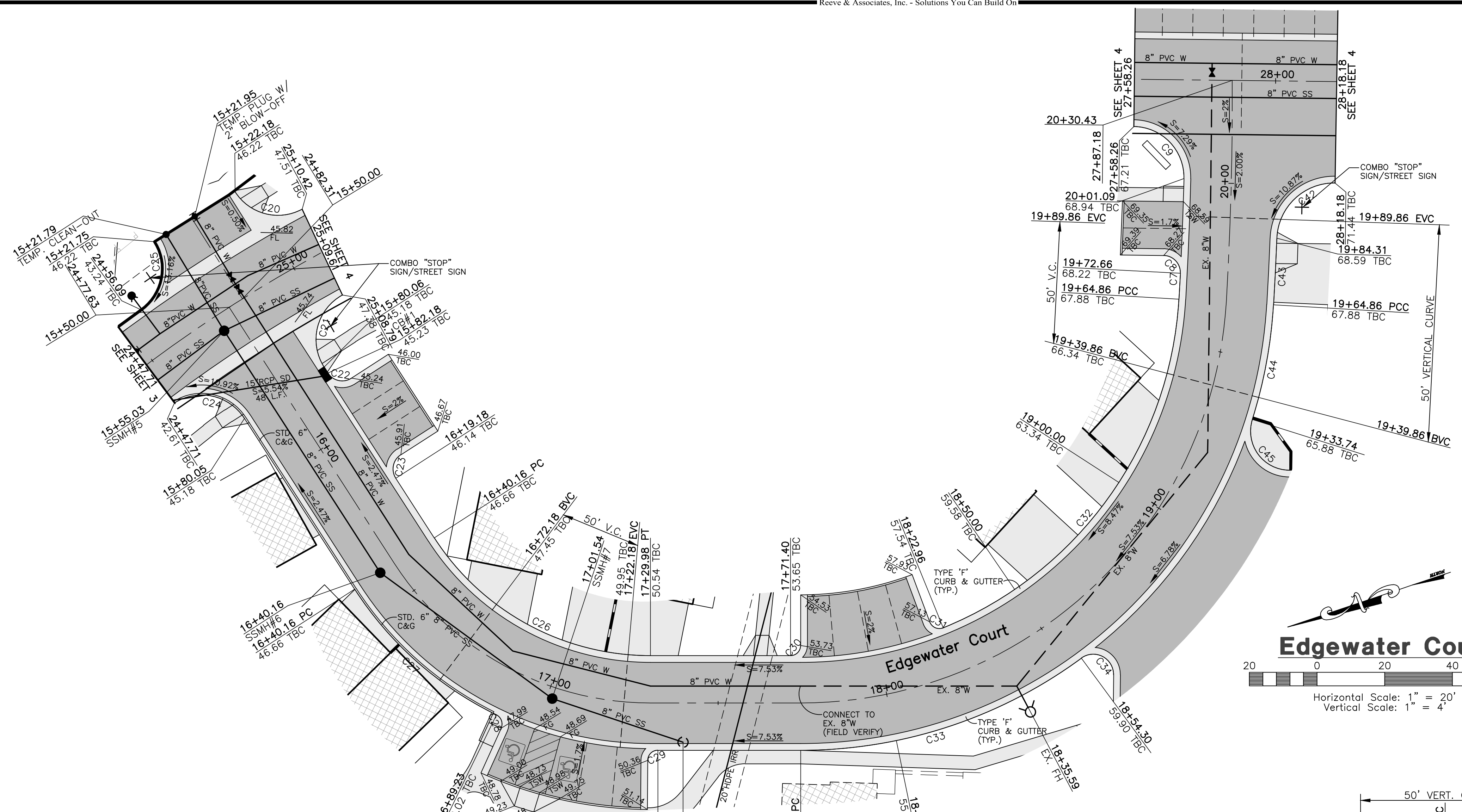
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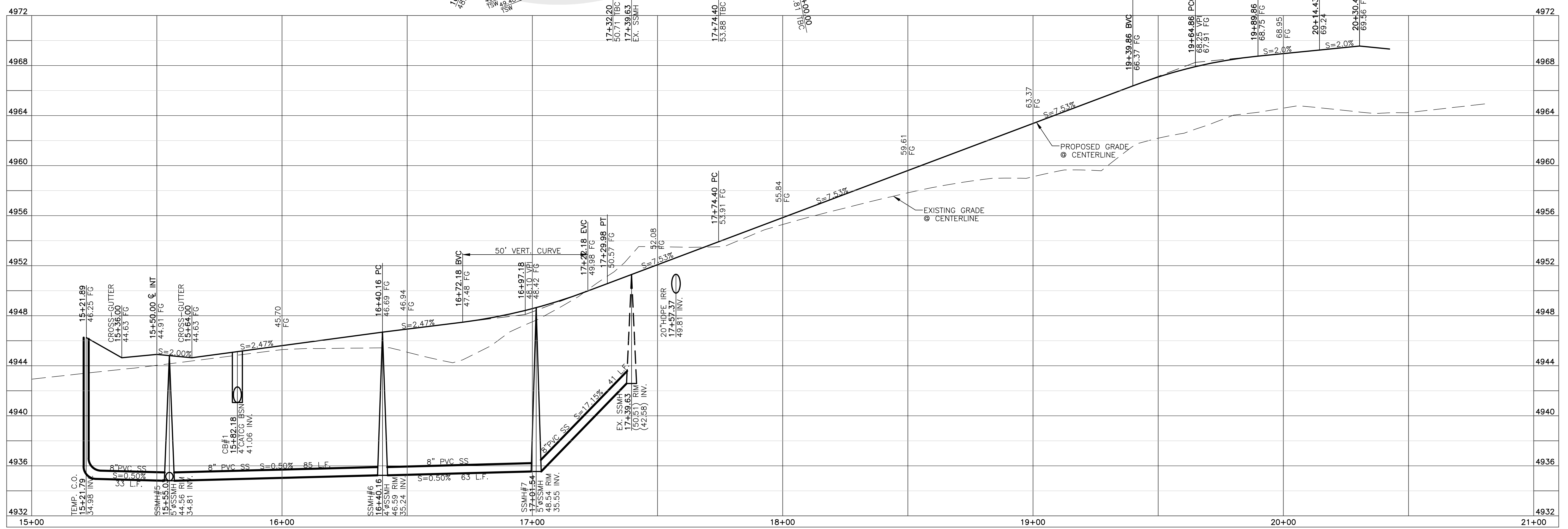
Reeve & Associates, Inc. - Solutions You Can Build On



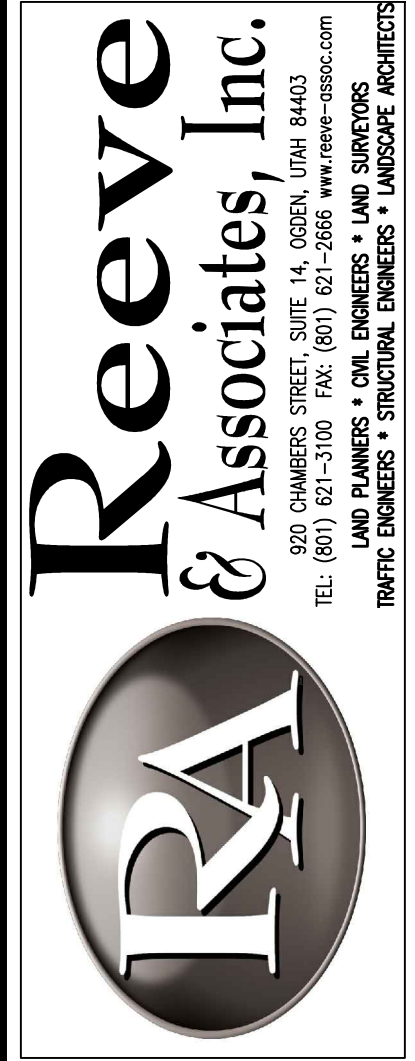


Edgewater Court
 Horizontal Scale: 1" = 20'
 Vertical Scale: 1" = 4'

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'



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9-19-13	RH Co. Eng. Review
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11-22-13	RH County Comments
12-13-13	RH County Comments
4-30-13	RH SD Outlet Changes

Edgewater Beach Resort
Phase-1
 WEBER COUNTY, UTAH
Edgewater Court
15+00.00 - 21+00.00

Revised 4-30-14



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**
 5 Sheets

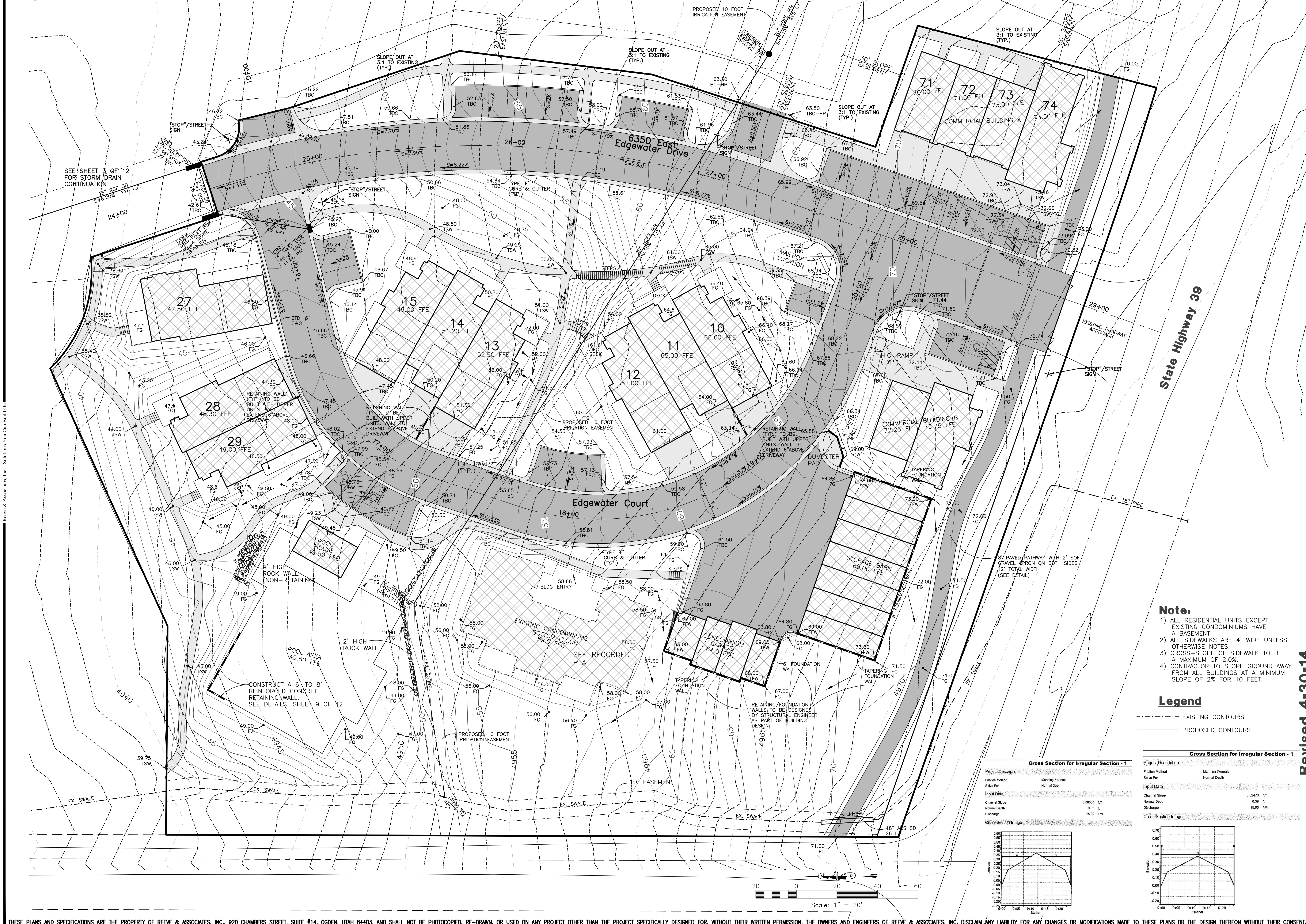
Table with 2 columns: DATE, DESCRIPTION. Lists revision dates and descriptions for the plan.

Edgewater Beach Resort Phase-1 Grading Plan
WEBER COUNTY, UTAH

Revised 4-30-14



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



- Note:
1) ALL RESIDENTIAL UNITS EXCEPT EXISTING CONDOMINIUMS HAVE A BASEMENT
2) ALL SIDEWALKS ARE 4' WIDE UNLESS OTHERWISE NOTED.
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

Table for Cross Section for Irregular Section - 1. Columns: Project Description, Friction Method, Manning Formula, Solve For, Input Data, Channel Slope, Normal Depth, Discharge, Cross Section Image.

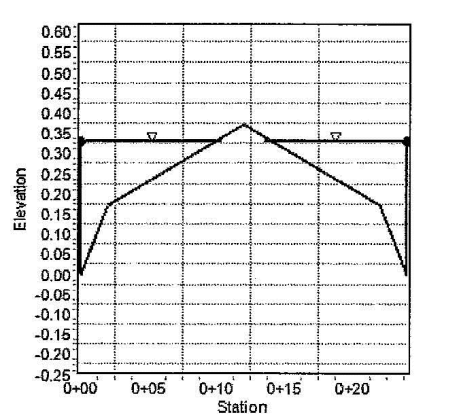
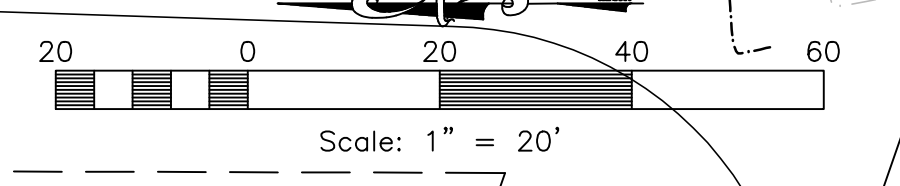
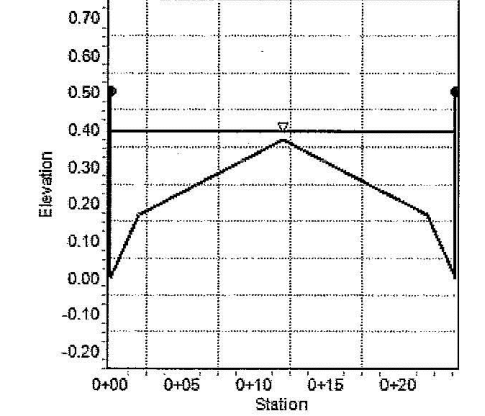
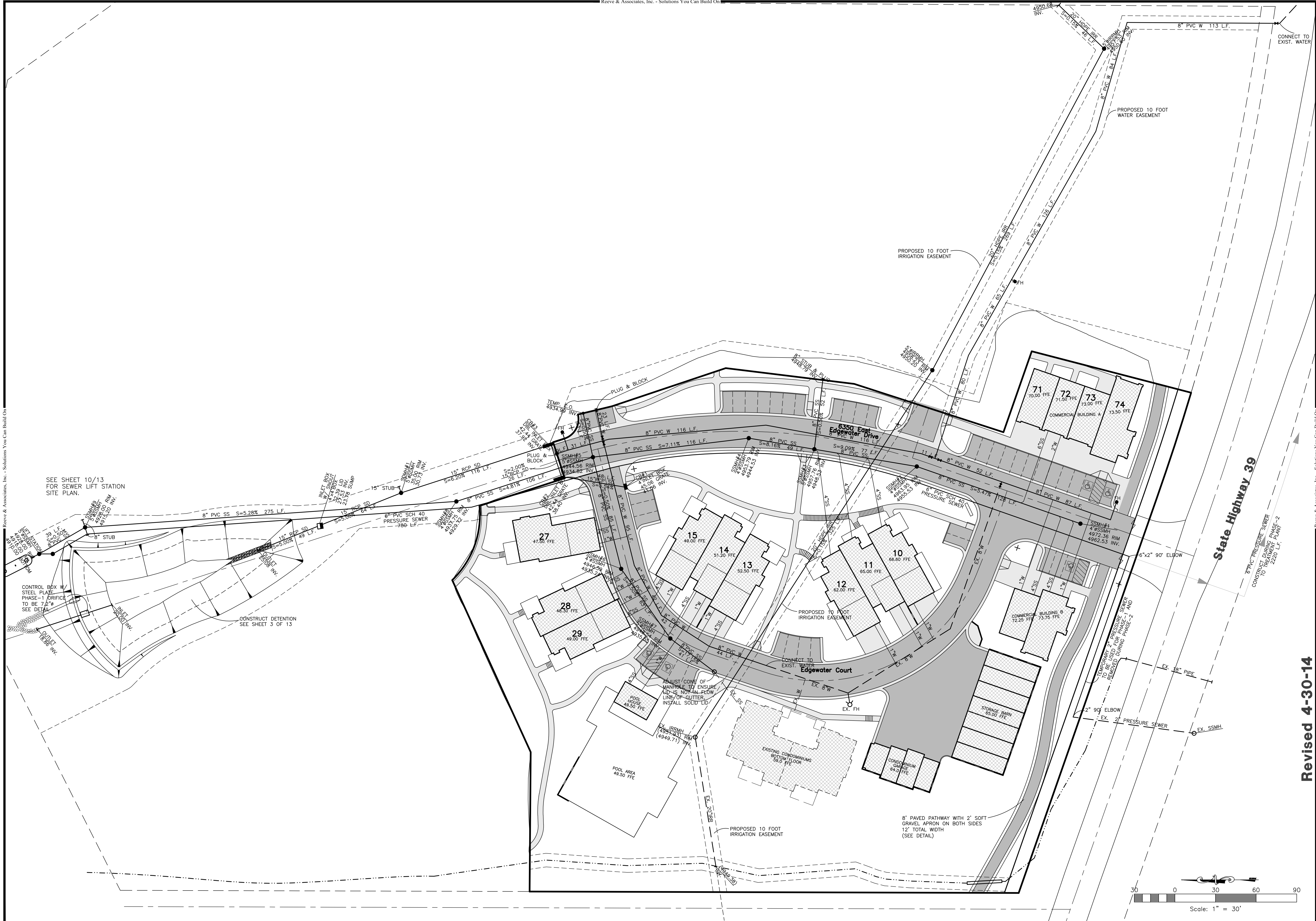


Table for Cross Section for Irregular Section - 1. Columns: Project Description, Friction Method, Manning Formula, Solve For, Input Data, Channel Slope, Normal Depth, Discharge, Cross Section Image.





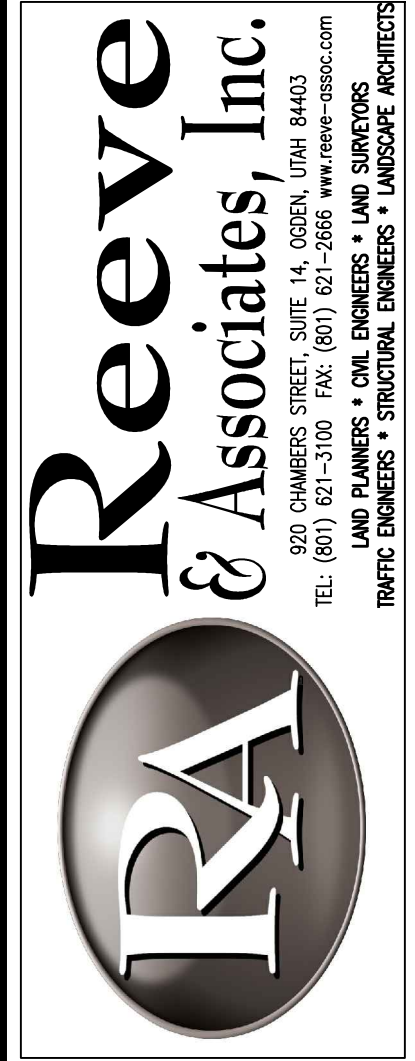
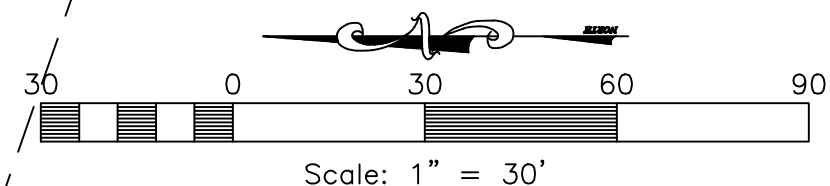
SEE SHEET 10/13 FOR SEWER LIFT STATION SITE PLAN.

CONTROL BOX W/ STEEL PLATE PHASE-1 ORIFICE TO BE 7.2\"/>

CONSTRUCT DETENTION SEE SHEET 3 OF 13

EX. IREMH (495.42) RIM (4949.71) INV.

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



DATE	DESCRIPTION
7-3-13	REVISION
8-16-13	REVISION
9-19-13	REVISION
10-21-13	REVISION
11-22-13	REVISION
12-13-13	REVISION
4-30-13	REVISION

Edgewater Beach Resort Phase-1
WEBER COUNTY, UTAH
Utility Plan

Revised 4-30-14



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
7	Sheets

Storm Runoff Calculations

Edgewater Estates-Phase 1

7/31/2012
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	
Acres	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	7844.18	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	14876.93	17531.03	-2854.20
180	10800	0.79	1.41	15198.24	26296.54	-11098.30
360	21600	0.44	0.79	17110.10	52593.08	-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
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	
Acres	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	26194.04	7502.35	18691.69
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 0.0500 ft/ft
Discharge 5.72 ft³/s

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 vvegnac Pavlovski's Method
Open Channel Weighting Method Pavlovski's Method
Closed Channel Weighting Method Pavlovski'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 0.00998 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

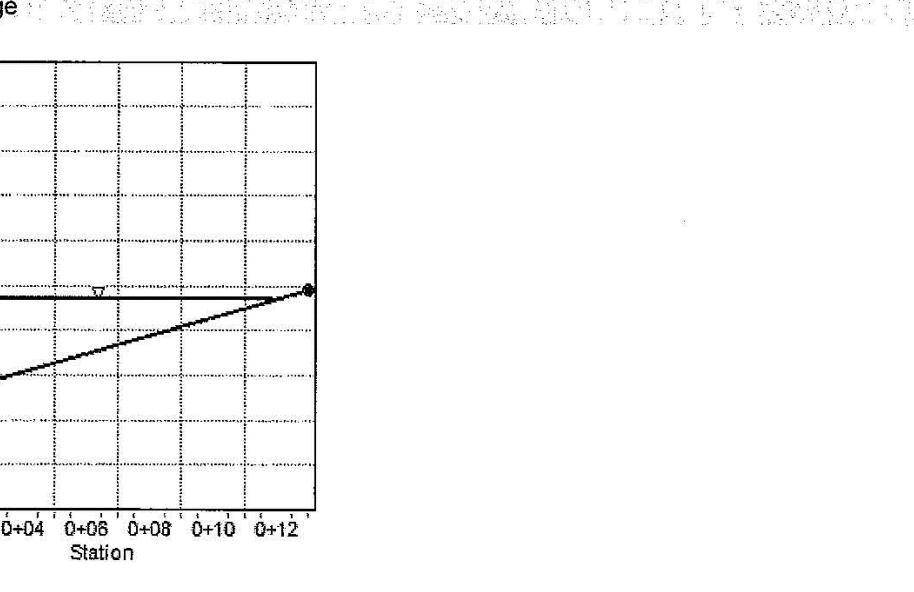
GVF Output Data
Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Downstream Velocity Infinity ft/s
Upstream Velocity Infinity ft/s
Normal Depth 0.22 ft
Critical Depth 0.31 ft
Channel Slope 0.05000 ft/ft
Critical Slope 0.00998 ft/ft

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
Elevation
Station



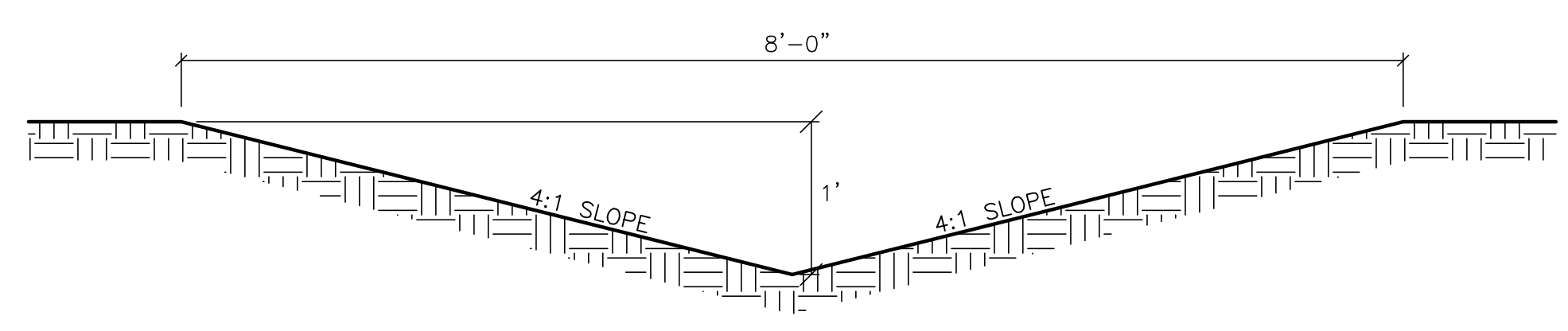
DATE	DESCRIPTION
7-3-13	RH Co. Eng. Review
8-16-13	RH Co. Eng. Review
9-19-13	RH Co. Eng. Review
10-21-13	RH Sewer Revisions
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12-13-13	RH County Comments
4-30-13	RH SD Outlet Changes

Edgewater Beach Resort
Phase-1
WEBER COUNTY, UTAH
SD Calculations

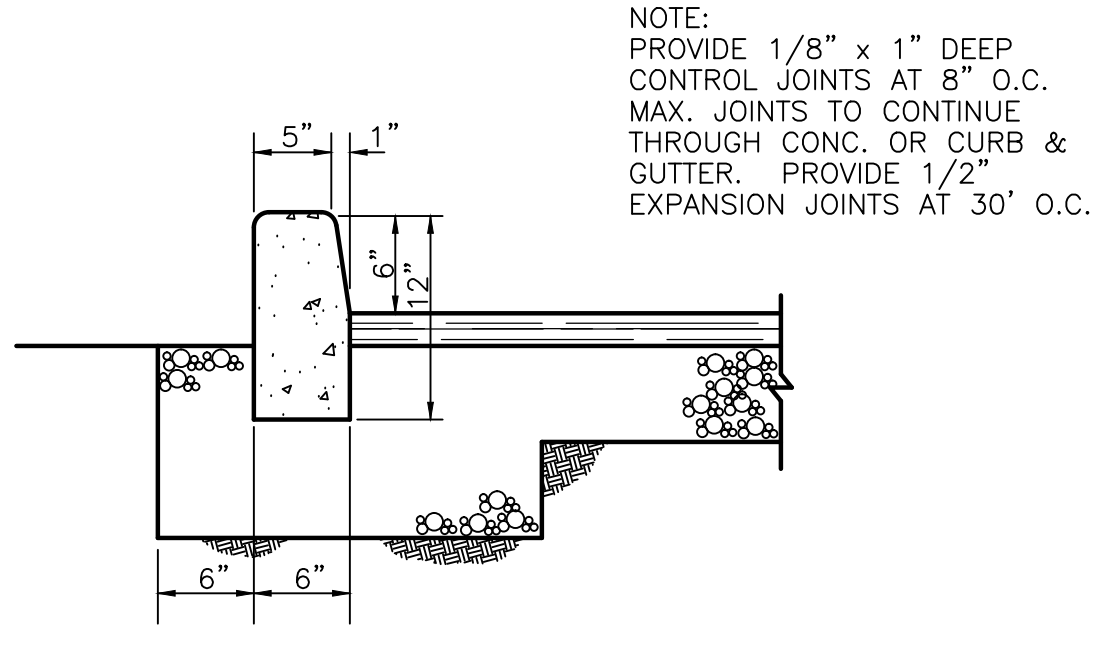
Revised 4-30-14
REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
STATE OF UTAH

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

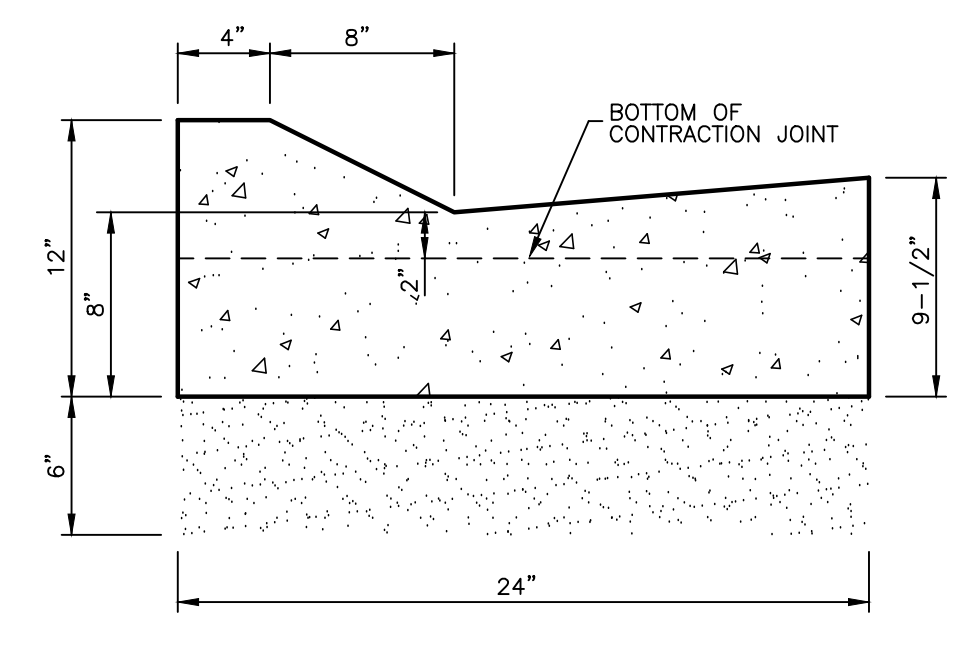


Swale Detail
SCALE: NONE

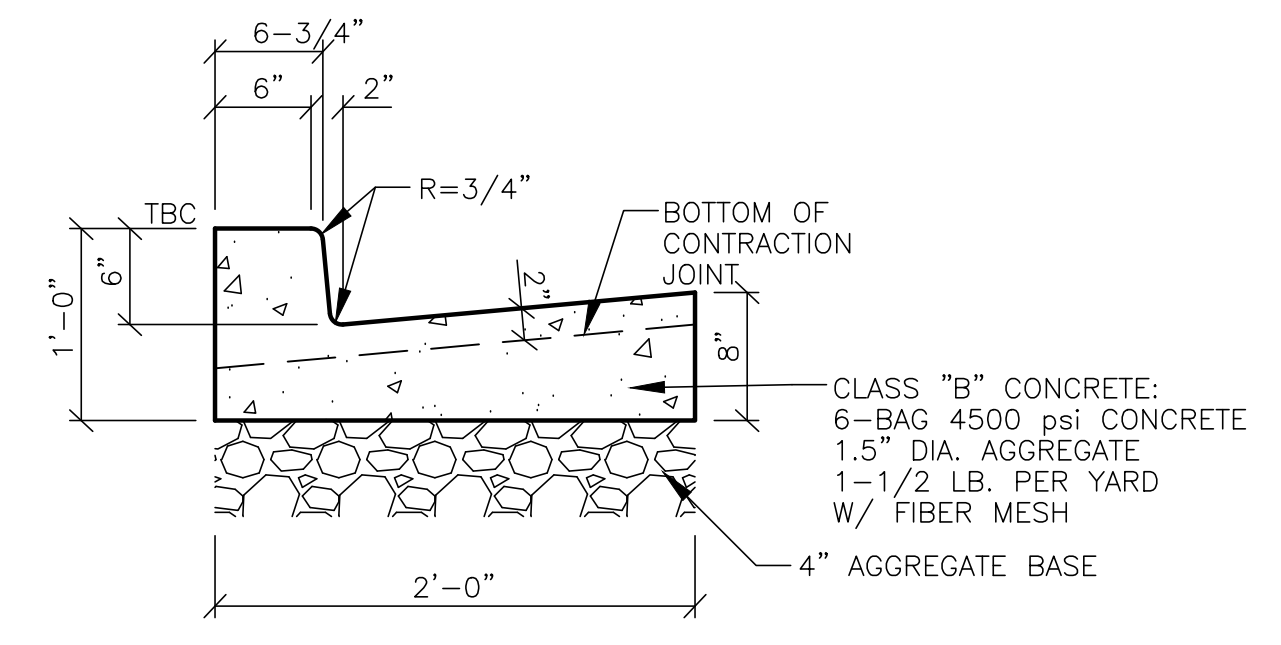


Curb Detail
SCALE: NONE

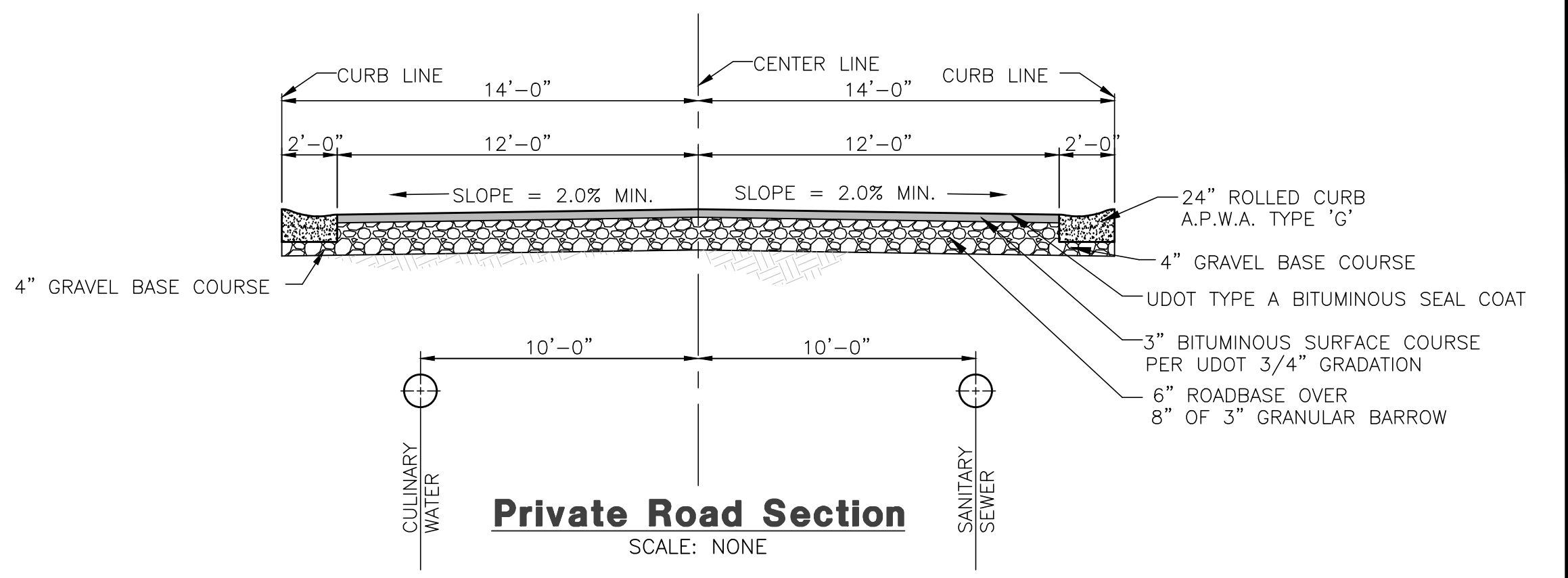
NOTE:
PROVIDE 1/8" x 1" DEEP CONTROL JOINTS AT 8" O.C. MAX. JOINTS TO CONTINUE THROUGH CONC. OR CURB & GUTTER. PROVIDE 1/2" EXPANSION JOINTS AT 30" O.C.



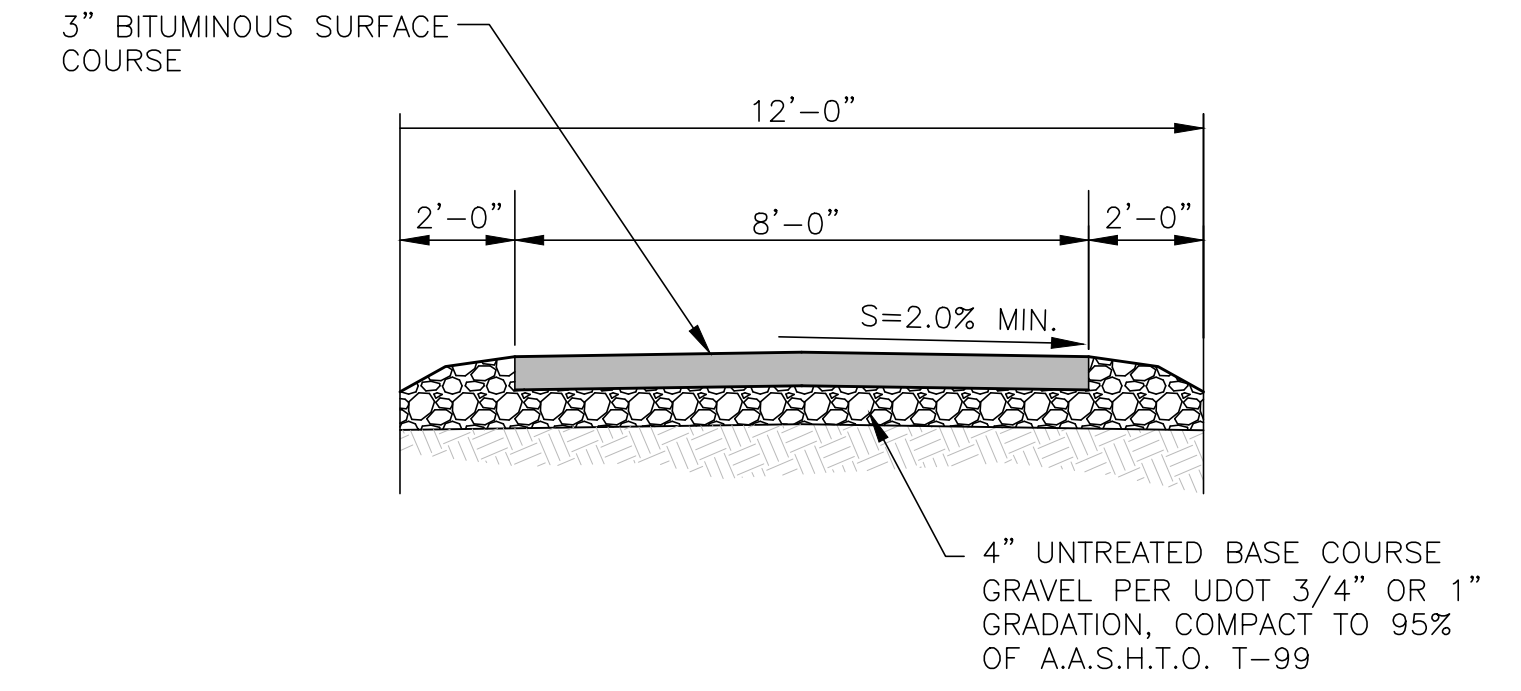
On-Site Type 'F' Curb & Gutter
SCALE: NONE



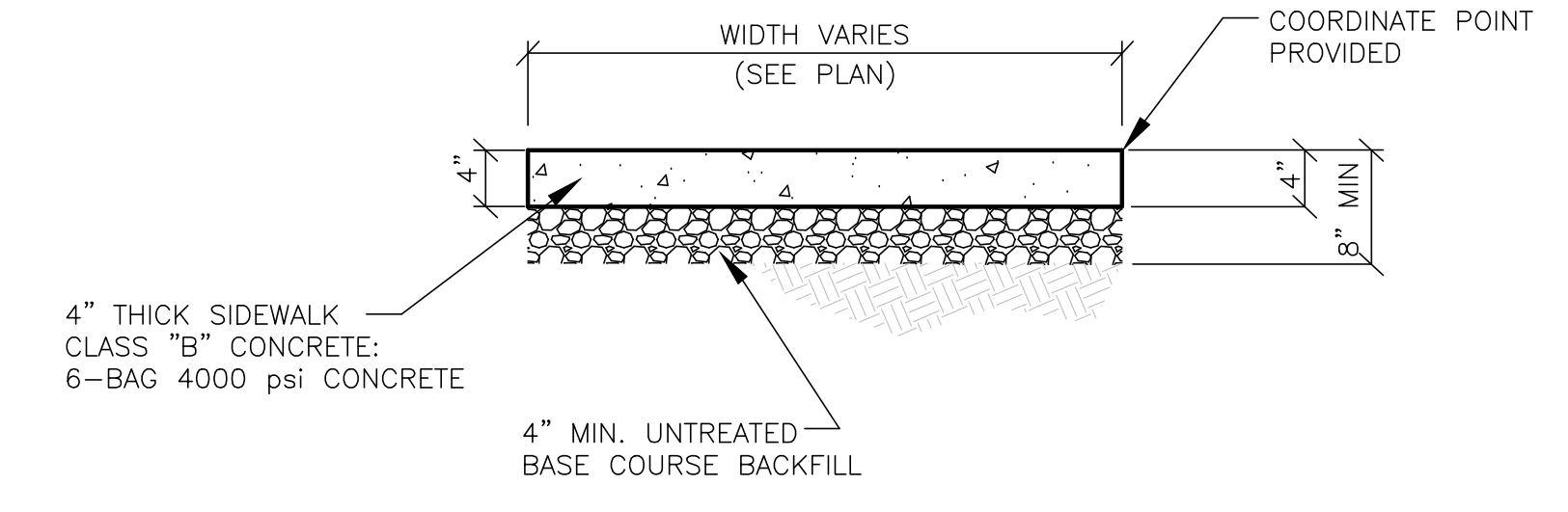
Standard 6' Curb & Gutter Detail
SCALE: NONE
FROM APPROXIMATELY 16+00 TO 17+00 ON EDGEWATER COURT, NORTHWEST SIDE.



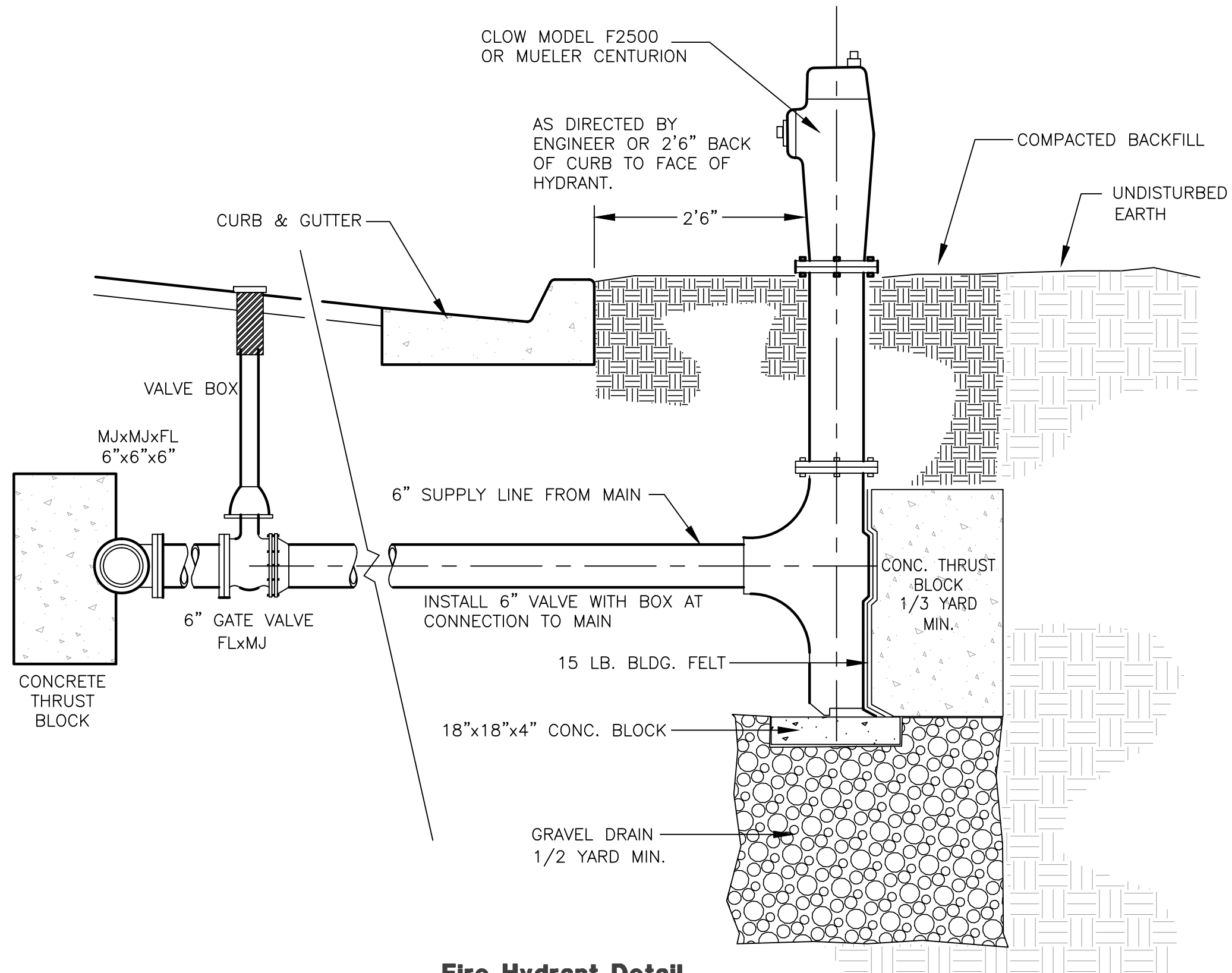
Private Road Section
SCALE: NONE



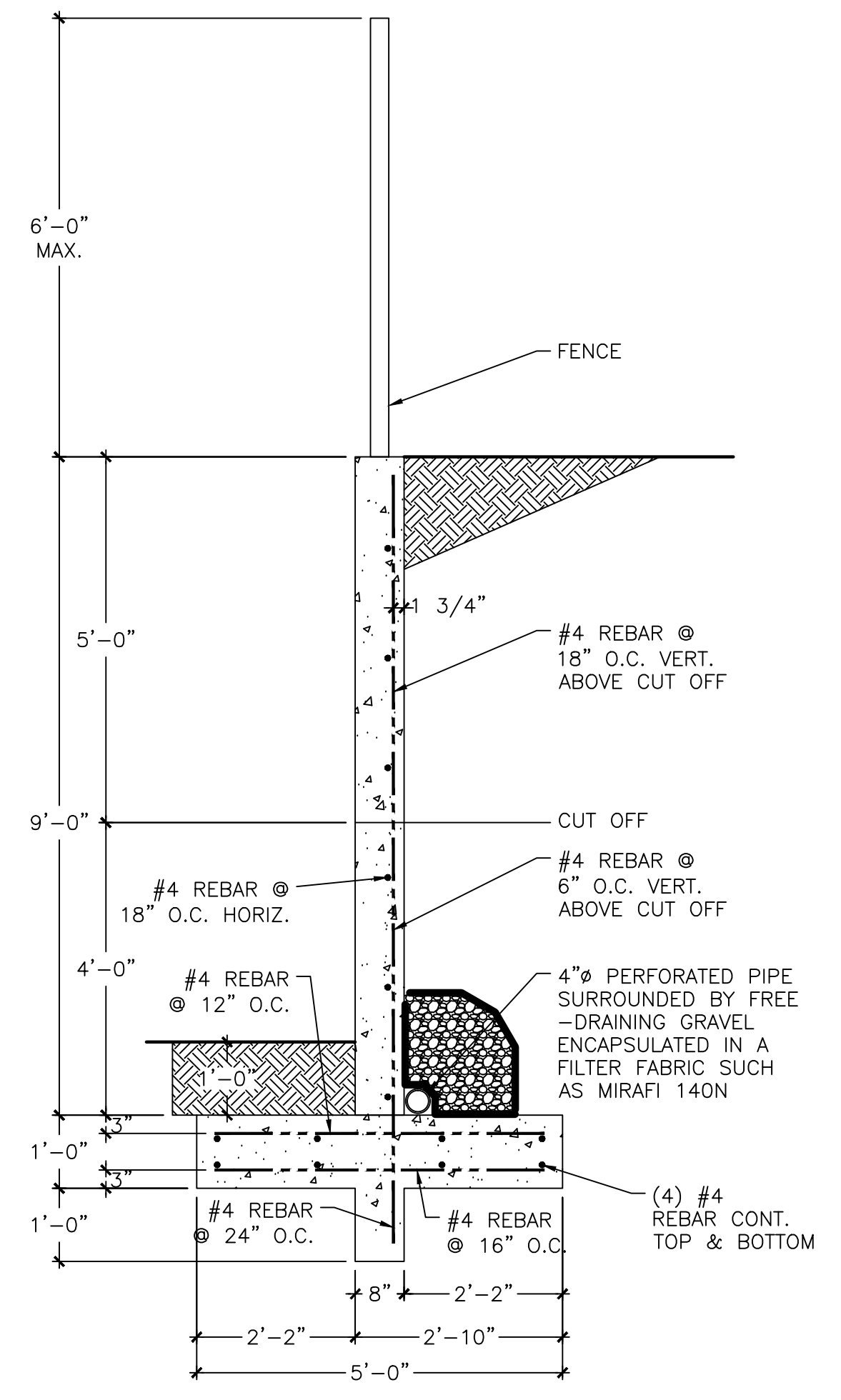
Pathway Detail
SCALE: NONE



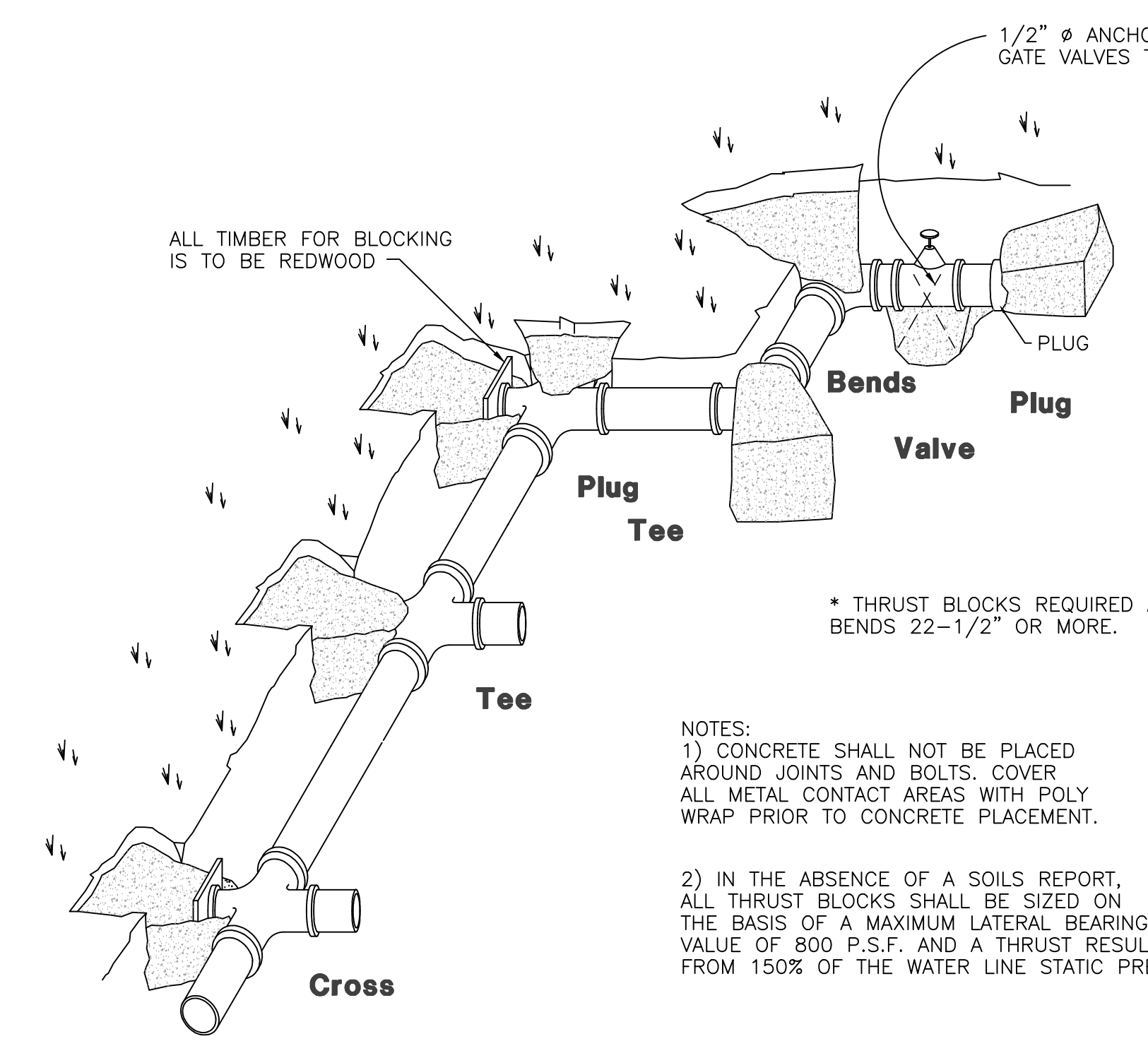
Walkway Detail
SCALE: NONE
(REFER TO SITE SPECIFIC GEOTECHNICAL REPORT)



Fire Hydrant Detail
SCALE: NONE



6' to 8' Concrete Retaining Wall
SCALE: NONE



Thrust Block Detail
SCALE: NONE

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.

Reeve & Associates, Inc.
920 CHAMBERS STREET, SUITE 14, OGDEN, UTAH 84403
TEL: (801) 621-2100 FAX: (801) 621-2666 www.reeve-assoc.com
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TRA ARCHITECTS

DATE	DESCRIPTION
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4-30-13	RH SD Outlet Changes

Edgewater Beach Resort Phase-1
WEBER COUNTY, UTAH
Civil Details

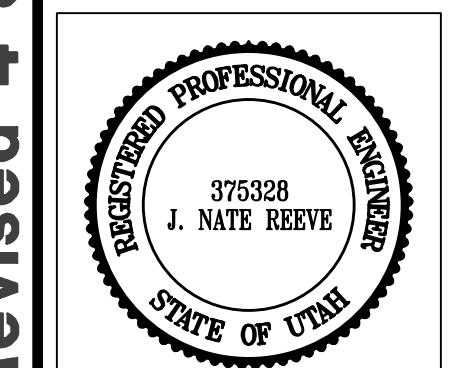
Revised 4-30-14

REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
STATE OF UTAH

Project Info.

Engineer:	J. NATE REEVE, P.E.
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Number:	5917-15

DATE	DESCRIPTION
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11-22-13 RH	County Comments
12-13-13 RH	County Comments
4-30-13 RH	SD Outlet Changes

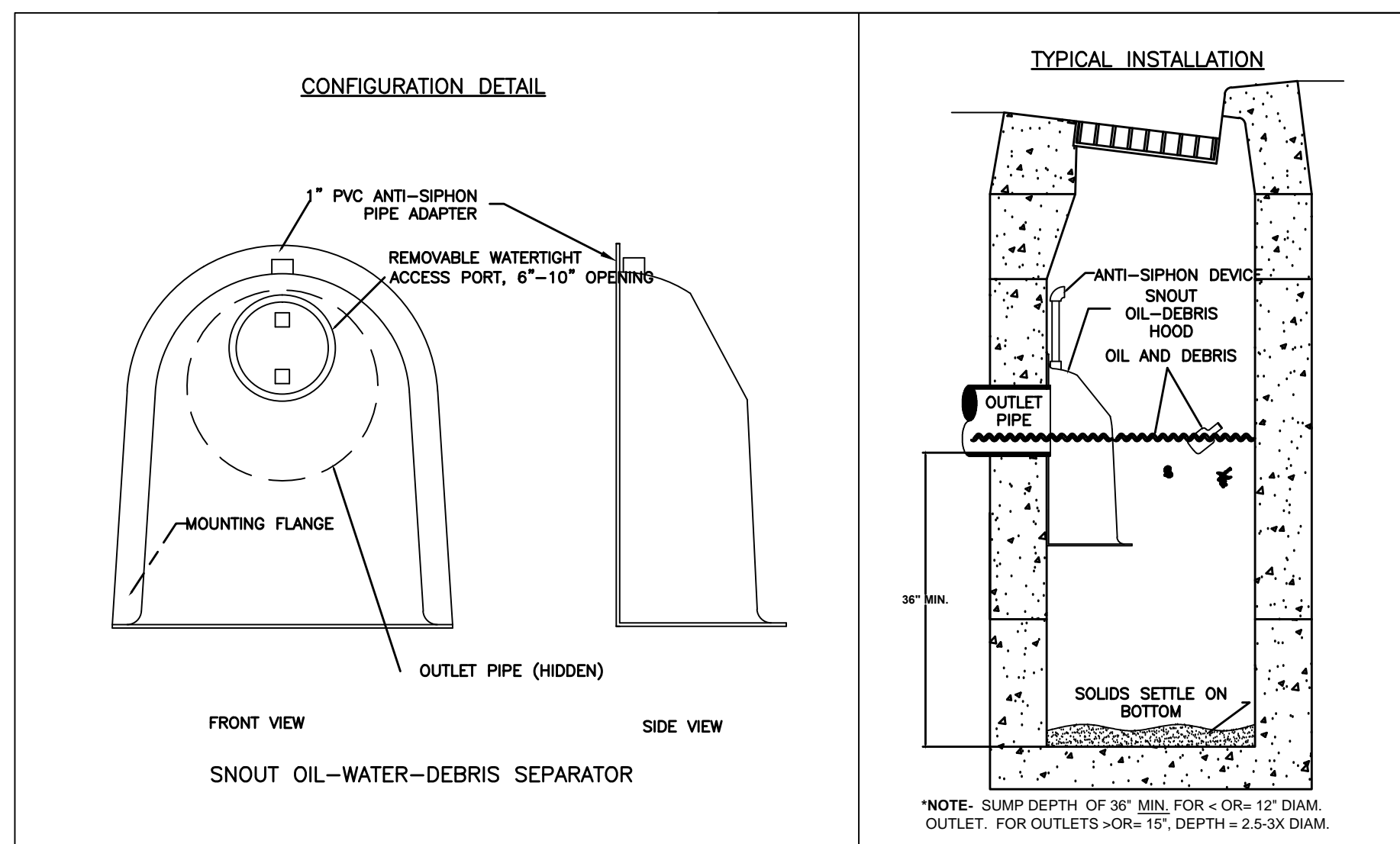
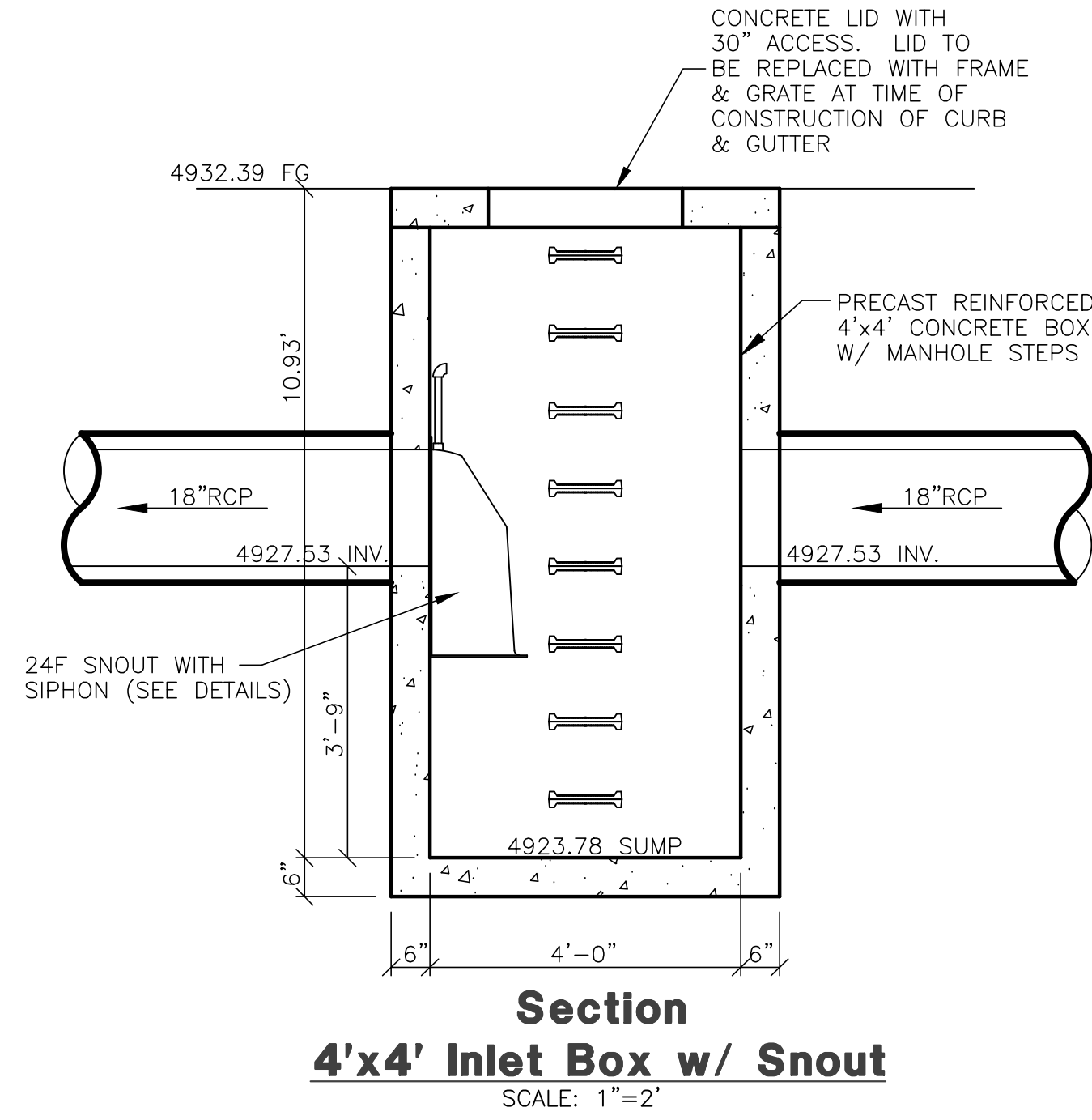
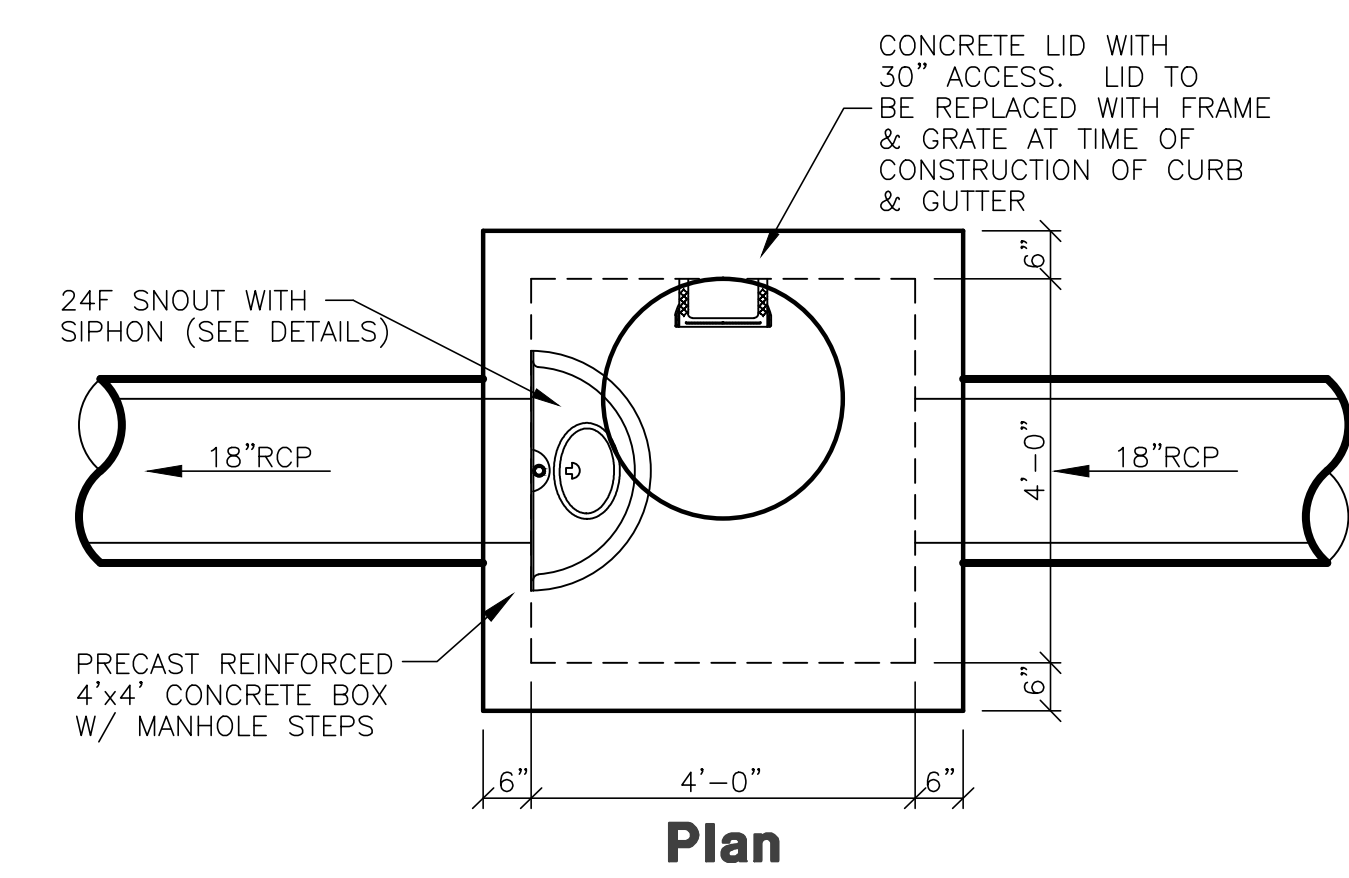
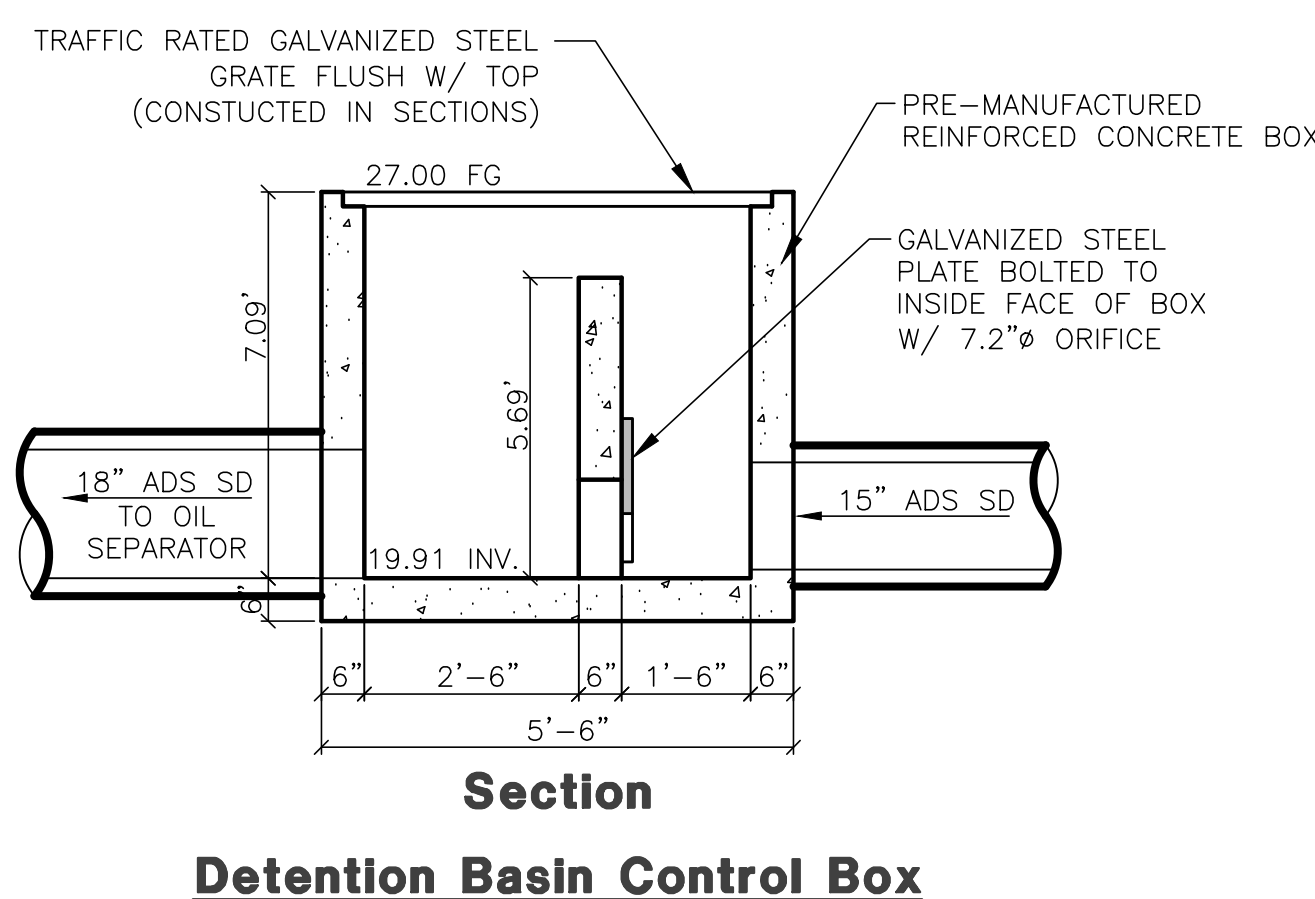
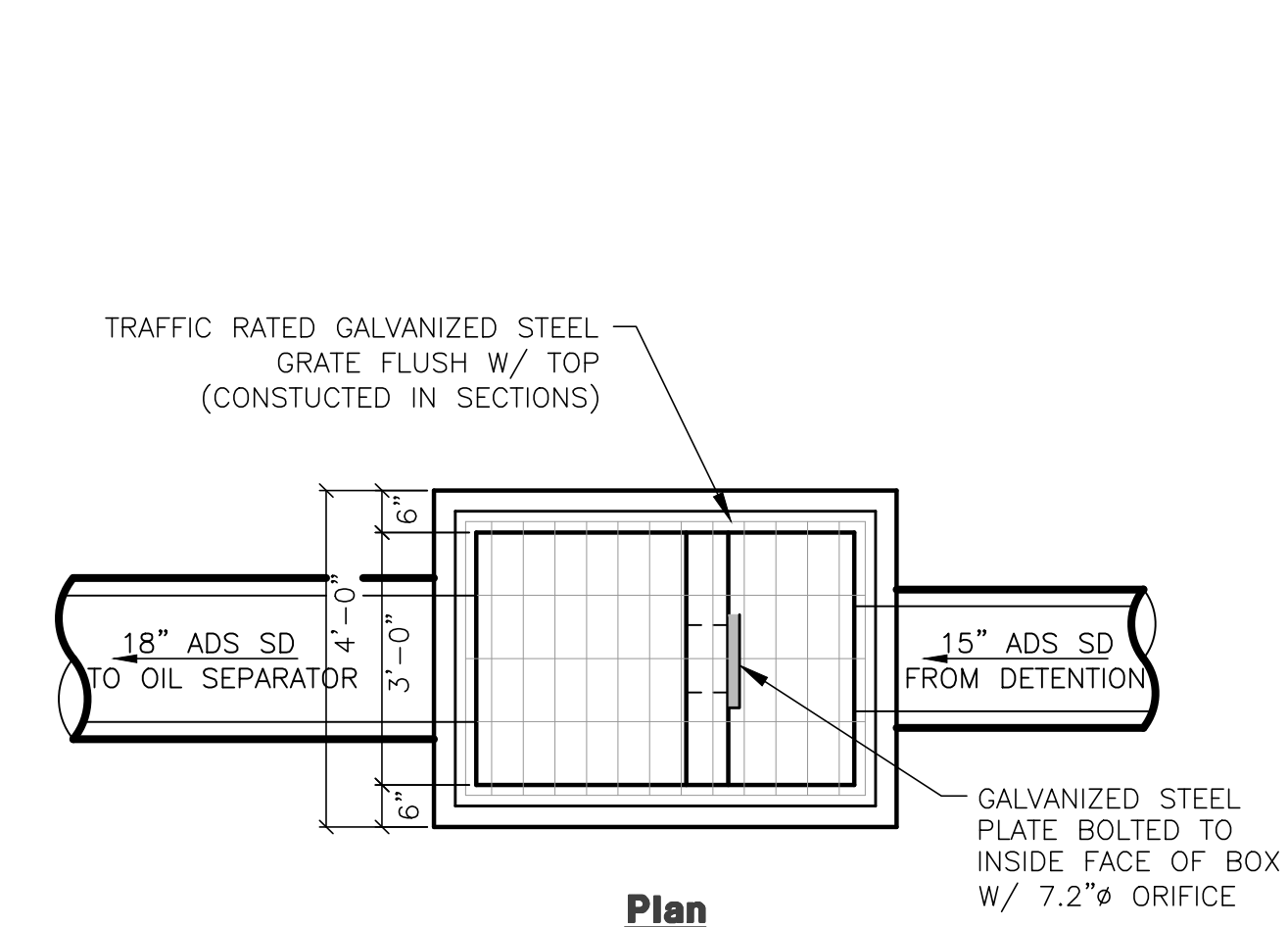


Project Info.

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

Revised 4-30-14

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NOTES:

- ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY: BEST MANAGEMENT PRODUCTS, INC. 53 MT. ARCHER RD. LYME, CT 06371 (860) 434-0277, (860) 434-3195 FAX TOLL FREE: (800) 504-8008 OR (888) 354-7585 WEB SITE: www.bestmp.com OR PRE-APPROVED EQUAL.
- ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
- ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAWN. (SEE CONFIGURATION DETAIL)
- THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.
- THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
- THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3' AND A MAXIMUM OF 24' ACCORDING TO STRUCTURE CONFIGURATION.
- THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.
- THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
- INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.

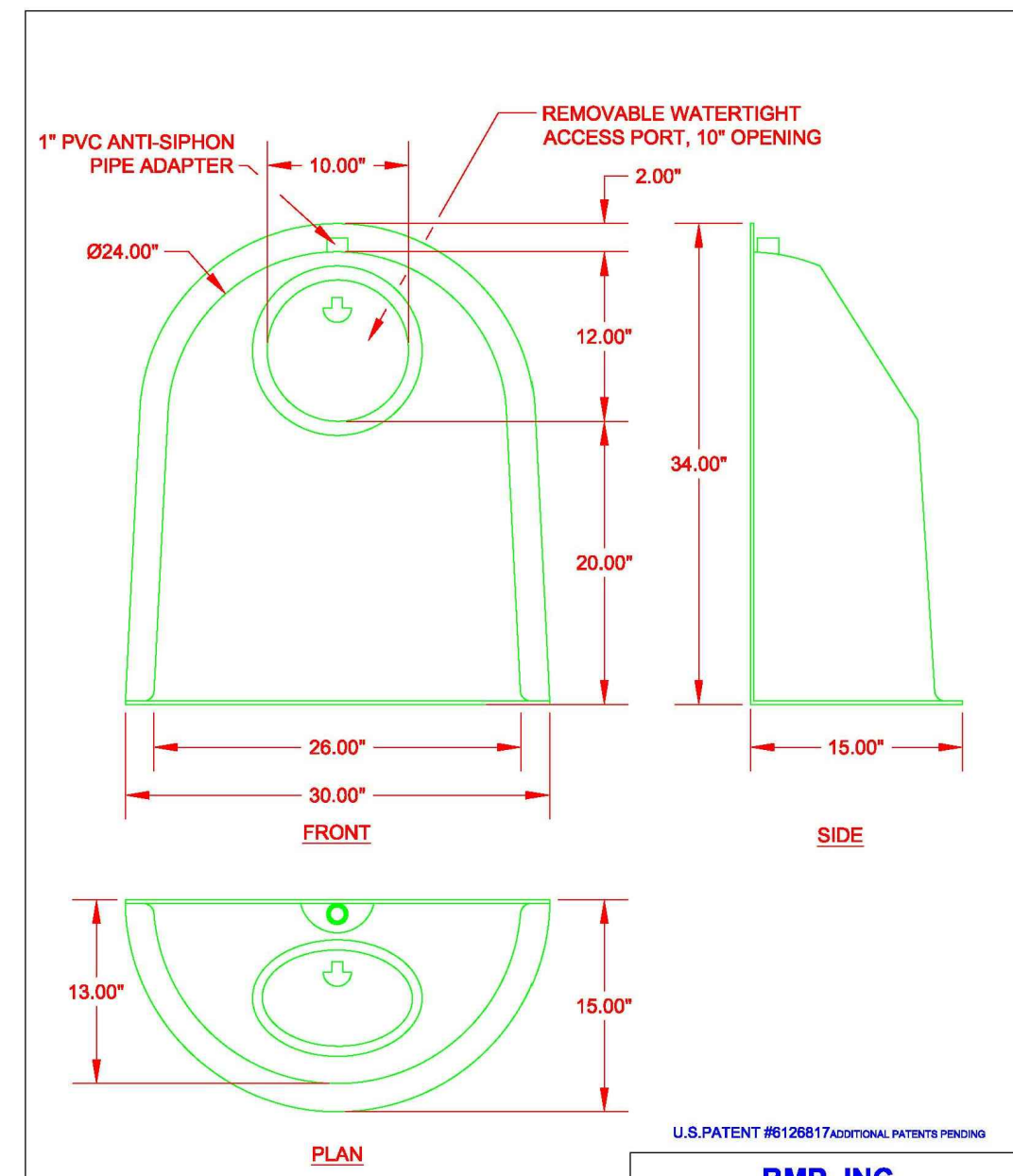
INSTALLATION KIT SHALL INCLUDE:
 A. INSTALLATION INSTRUCTIONS
 B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
 C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
 D. 3/8" STAINLESS STEEL BOLTS
 E. ANCHOR SHIELDS

US Patent # 6126817

HOOD SPECIFICATION FOR CATCH BASINS AND WATER QUALITY STRUCTURES

DESCRIPTION	DATE	SCALE
OIL-DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)	09/08/00	NONE
DRAWING NUMBER	SP-SN	

Snout Installation Specifications
 SCALE: NONE

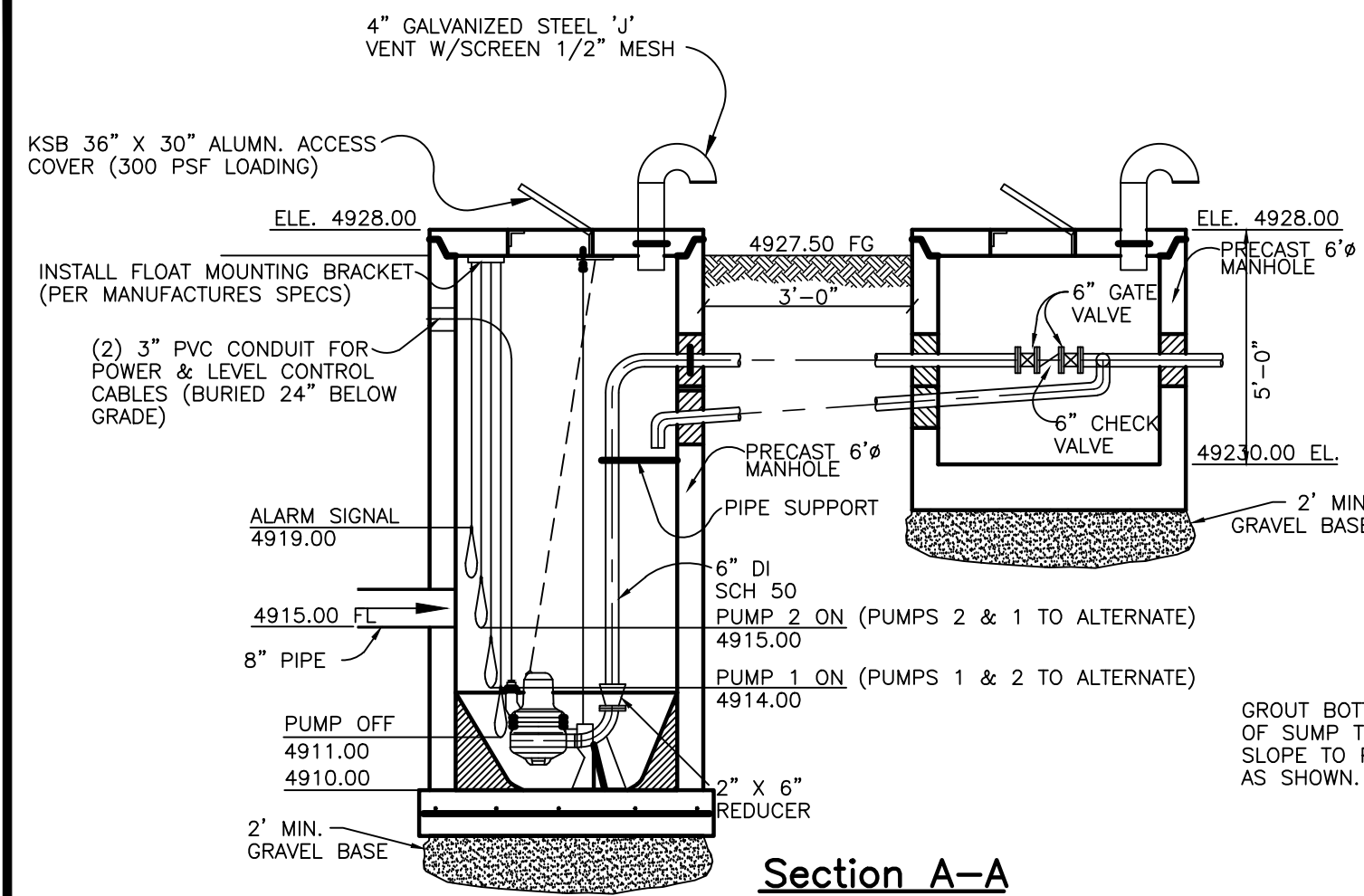


U.S. PATENT #6126817 (FUNCTIONAL PATENT PENDING)

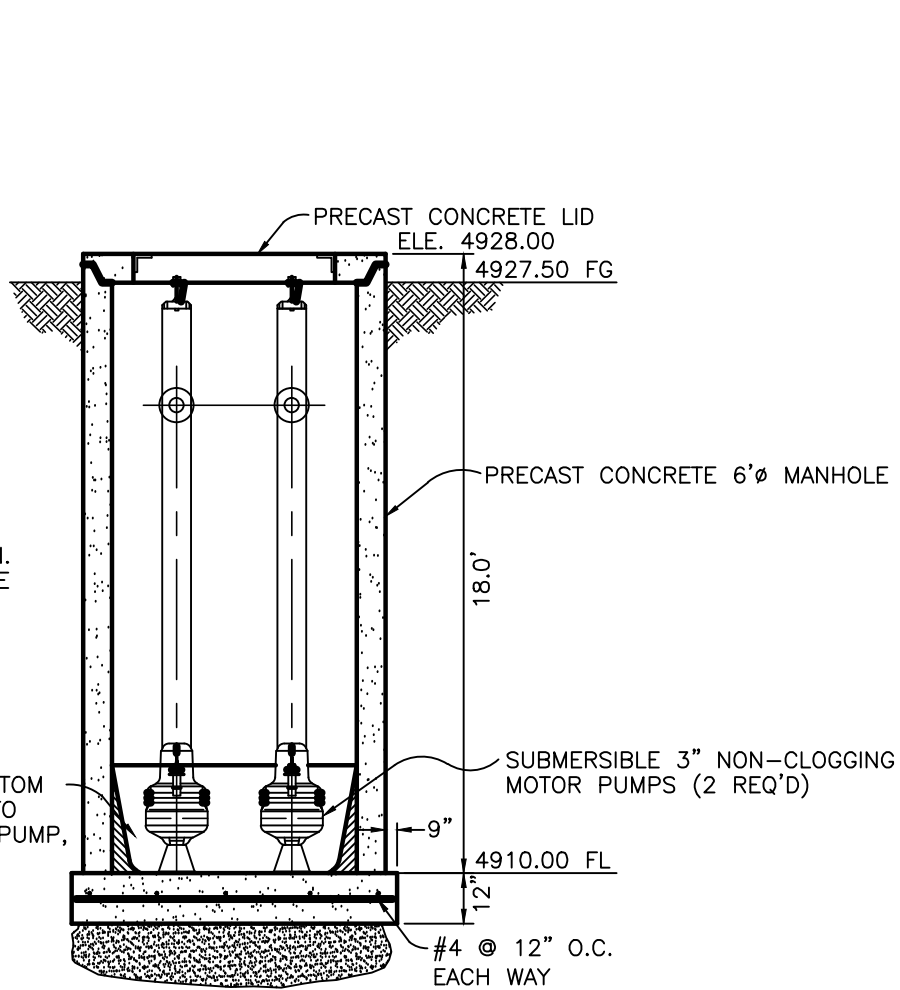
BMP, INC.
 53 MT. ARCHER ROAD, LYME, CT, 06371
 (800) 504-8008 FAX: (860) 434-3195

DESCRIPTION	DATE	SCALE
24F SNOUT OIL & DEBRIS STOP	09/20/99	NONE
DRAWING NUMBER	24F	

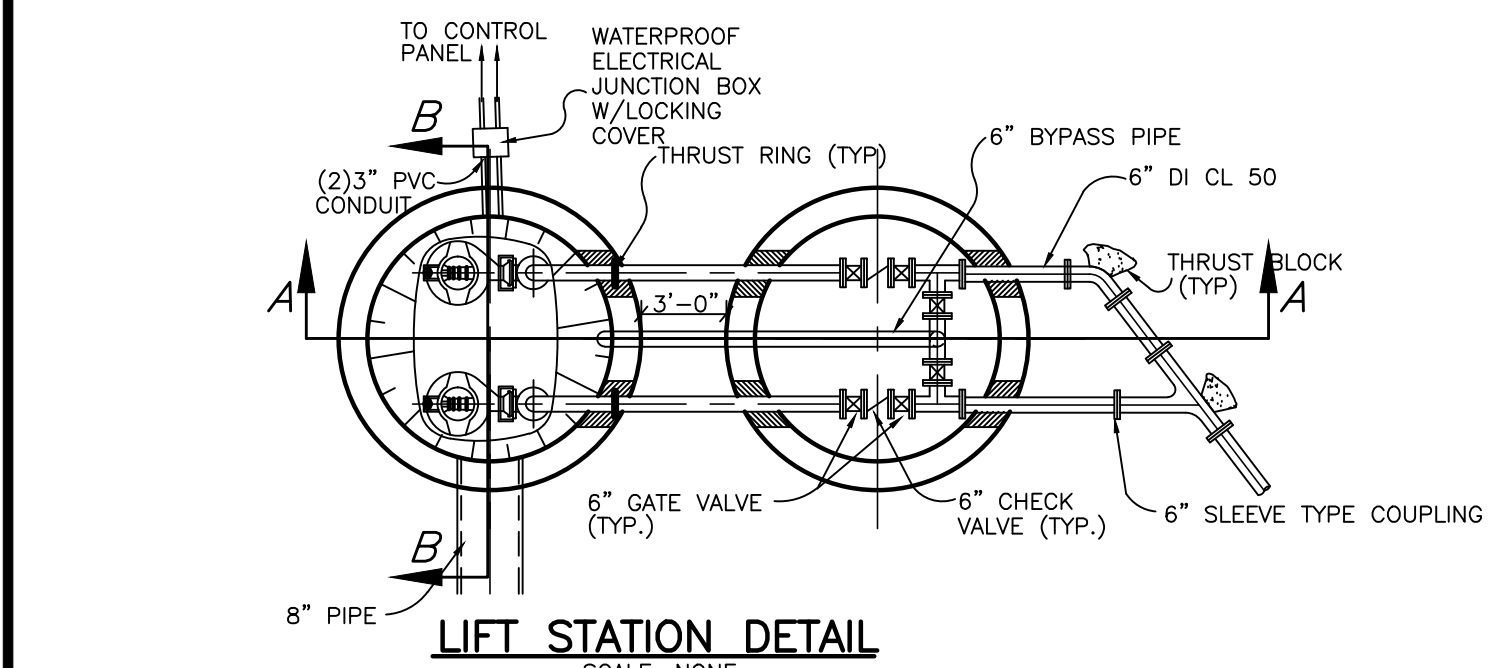
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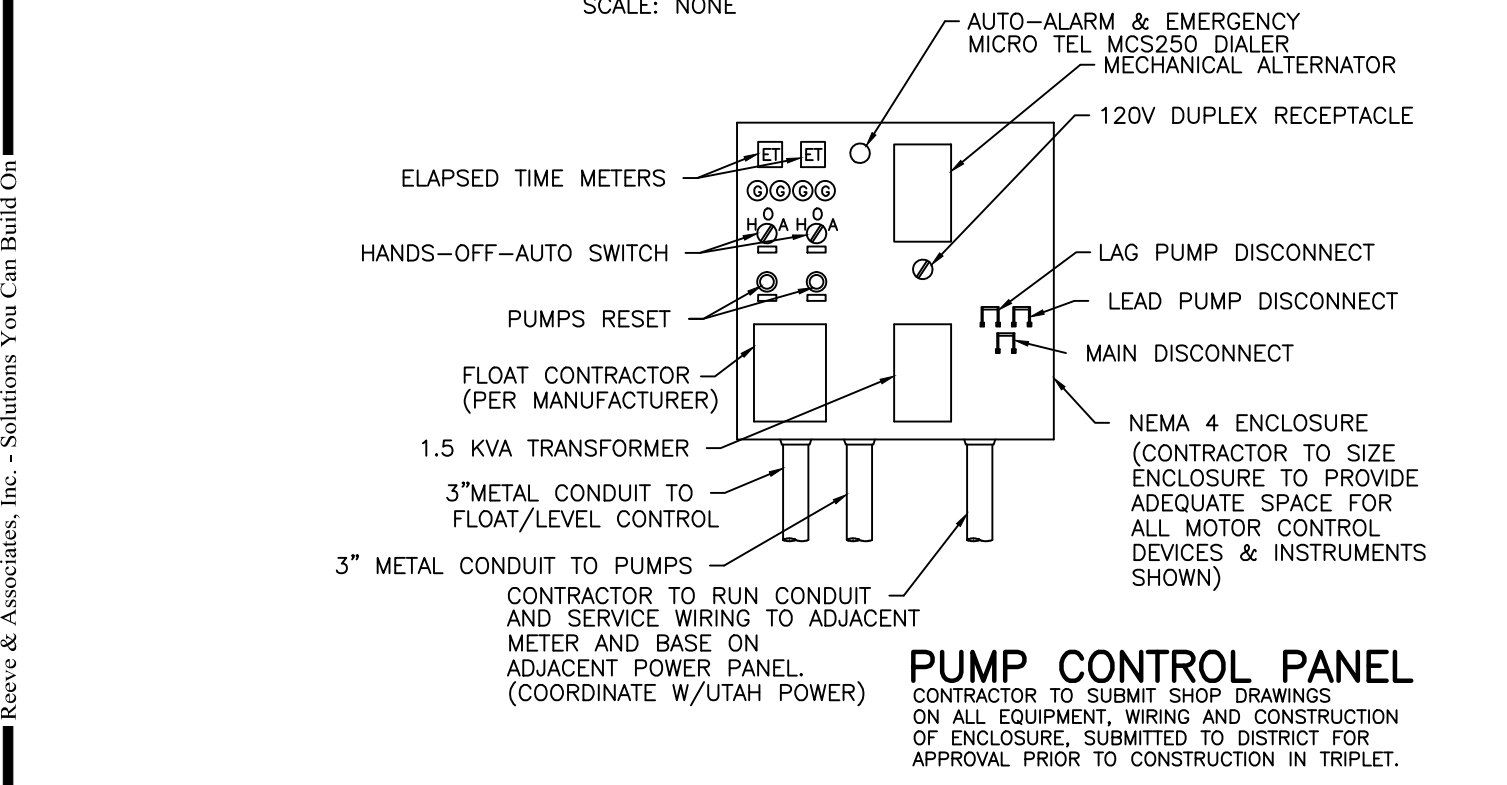
Section A-A



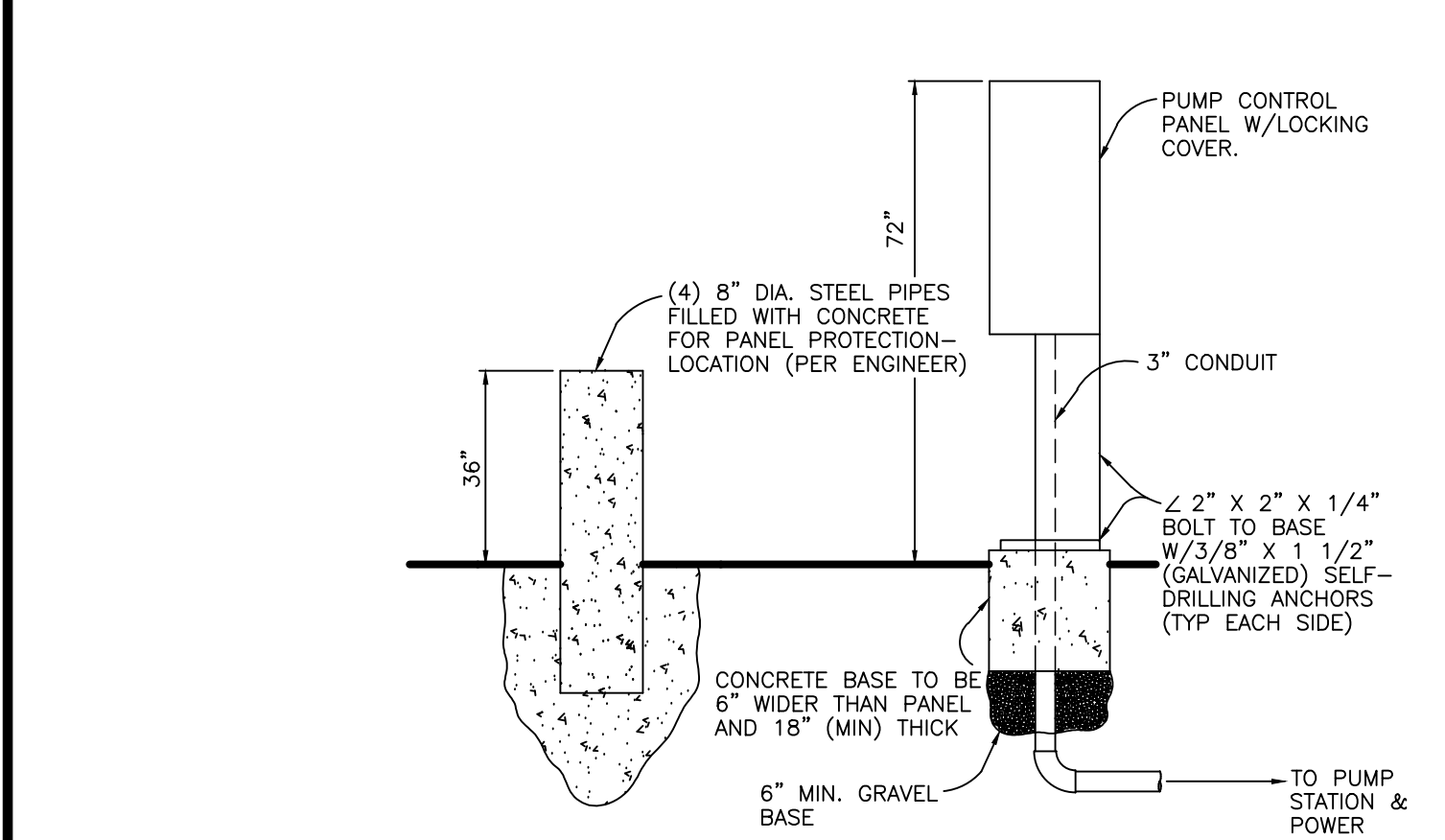
Section B-B



LIFT STATION DETAIL
SCALE: NONE



PUMP CONTROL PANEL
CONTRACTOR TO RUN CONDUIT AND SERVICE WIRING TO ADJACENT METER AND BASE ON ADJACENT POWER PANEL. (COORDINATE W/UTAH POWER)



PANEL PEDESTAL
CONTRACTOR SHALL PROVIDE 3/4\"/>

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\"/>

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 NORHARD A MARTENSITIC CHROMIUM-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 8-10 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, WATER-TIGHT CHAMBER. THE STATOR WINDING AND STATOR LEADS SHALL BE PROTECTED WITH MOISTURE RESISTANT CLASS F INSULATION TO WITHSTAND A TEMPERATURE OF 155 DEGREES (311 DEGREES F). THE MOTOR SHALL BE DESIGNED FOR CONTINUOUS DUTY, CAPABLE OF SUSTAINING UP TO THIRTY (30) STARTS PER HOUR.

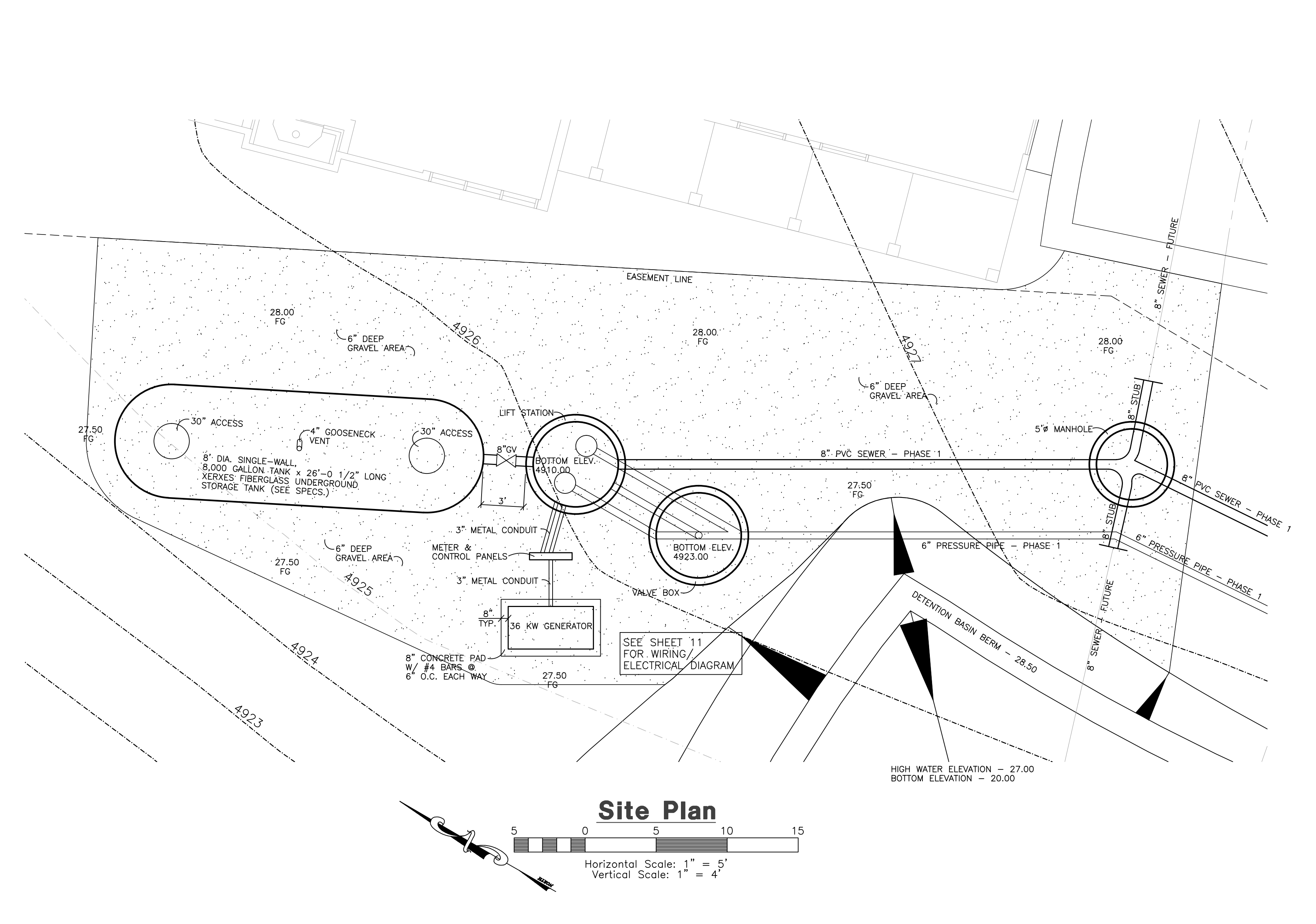
PROTECTION
THE MOTOR SHALL BE FURNISHED WITH THE FOLLOWING MEANS OF PROTECTION. A BIMETALLIC SENSOR SHALL BE PROVIDED IN THE MOTOR WINDING TO AUTOMATICALLY SWITCH OFF THE MOTOR IF THE WINDING TEMPERATURE REACHES 285 DEGREES F. THE GRINDER WILL RESTART AUTOMATICALLY AFTER THE MOTOR COOLS DOWN. A MOISTURE 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.

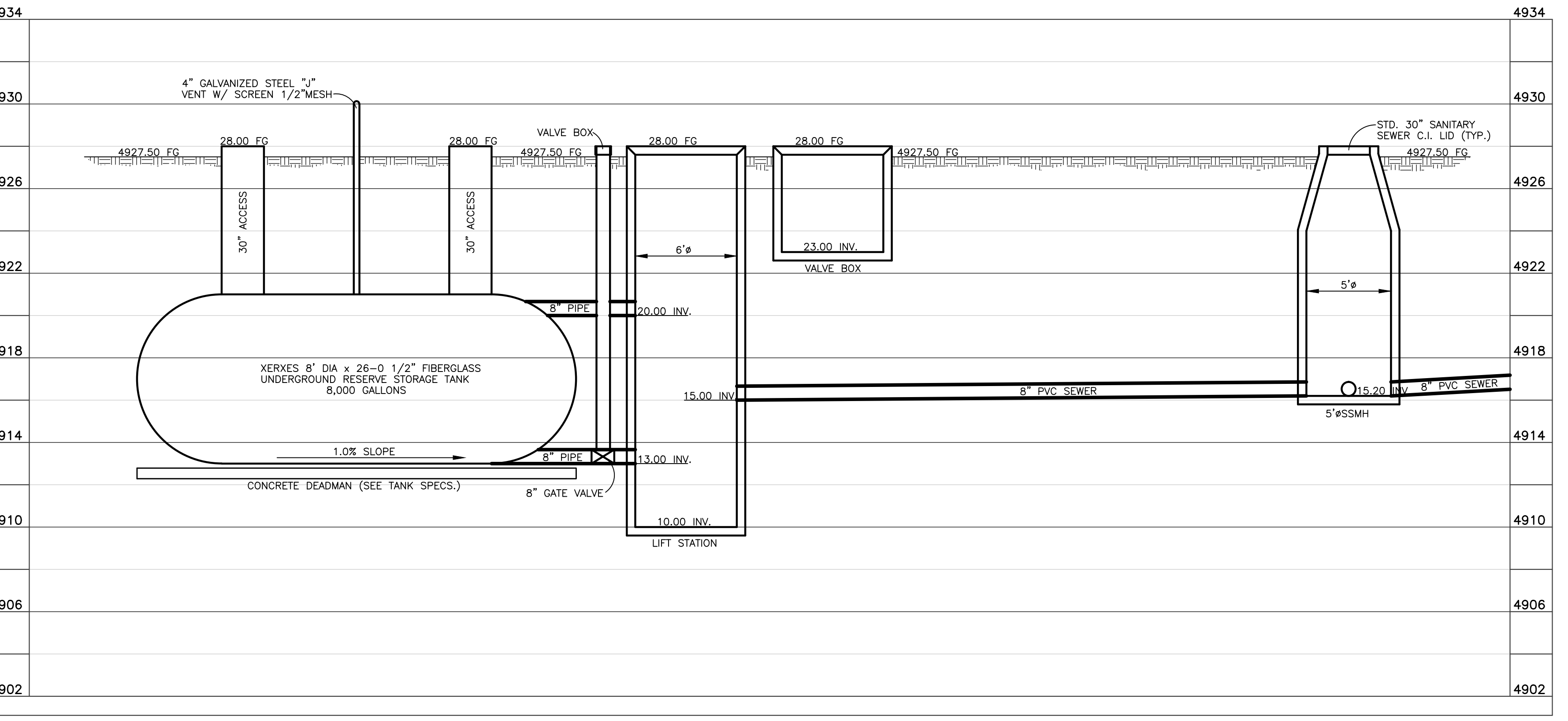
SEWER PUMP STATION DESIGN DATA

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 150 FT USING 6\"/>	
3. PUMP SELECTION:	
SINGLE VANE IMPELLER (144 MM DIA.)	
2\"/>	
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	



Site Plan

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



Profile

WET WELL DESIGN

WET WELL VOLUME TO ALARM
T(3)(9) = 1,900 GALLONS PUMP CHAMBER
RESERVE TANK = 8,314 GALLONS
TOTAL WET WELL VOLUME
T(3)(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

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
PLUMBERS • ELECTRICAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS

DATE	DESCRIPTION
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Edgewater Beach Resort Phase-1
WEBER COUNTY, UTAH
Sewer Lift Station

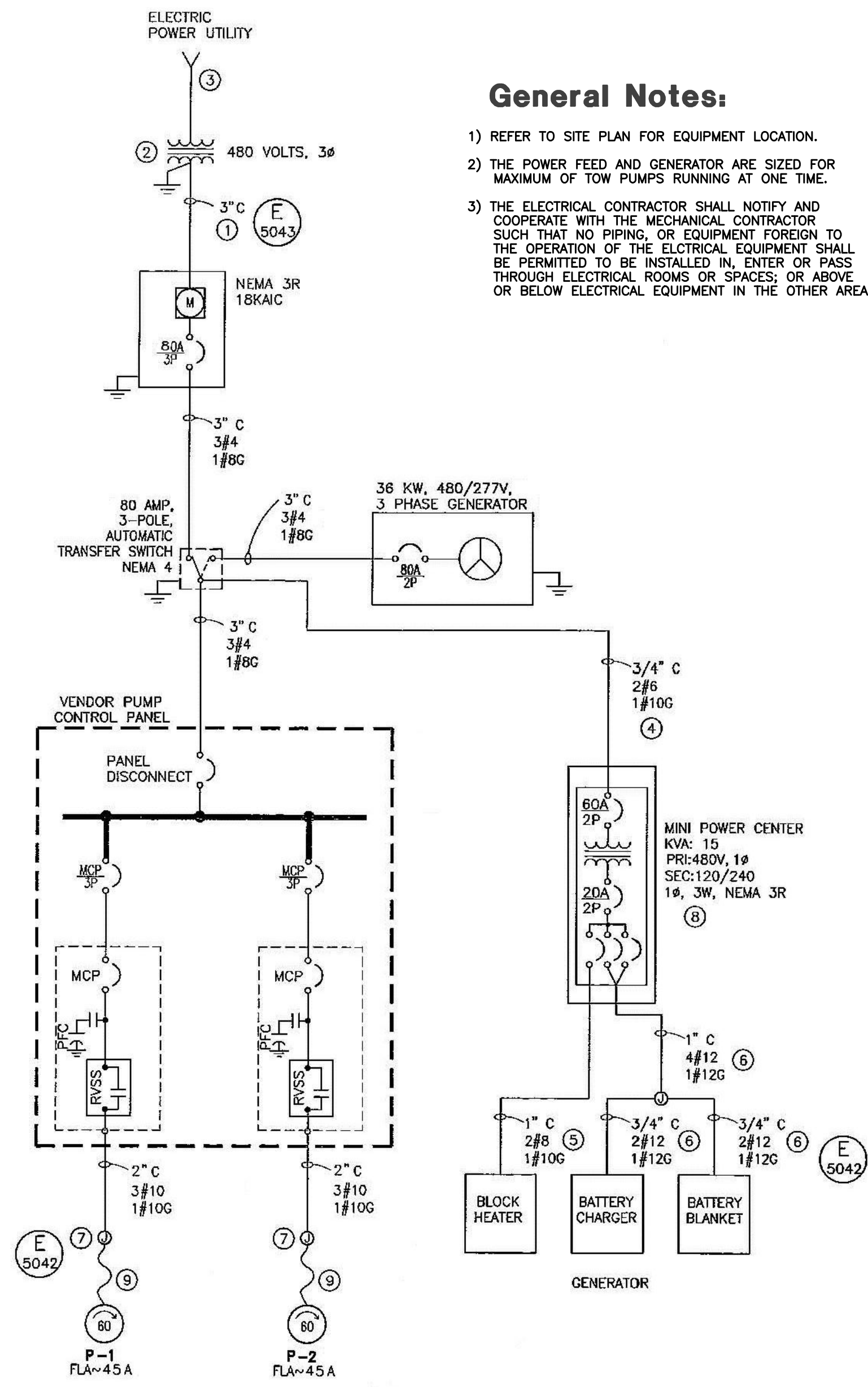
REGISTERED PROFESSIONAL ENGINEER
375328
J. NATE REEVE
STATE OF UTAH

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

Sheet **13**
10 Sheets

Revised 4-30-14

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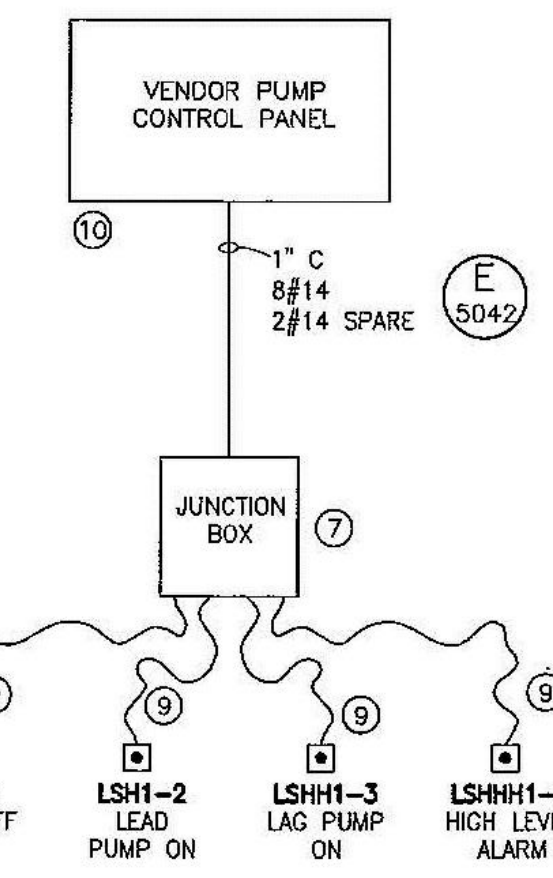
Power One-Line Diagram

General Notes:

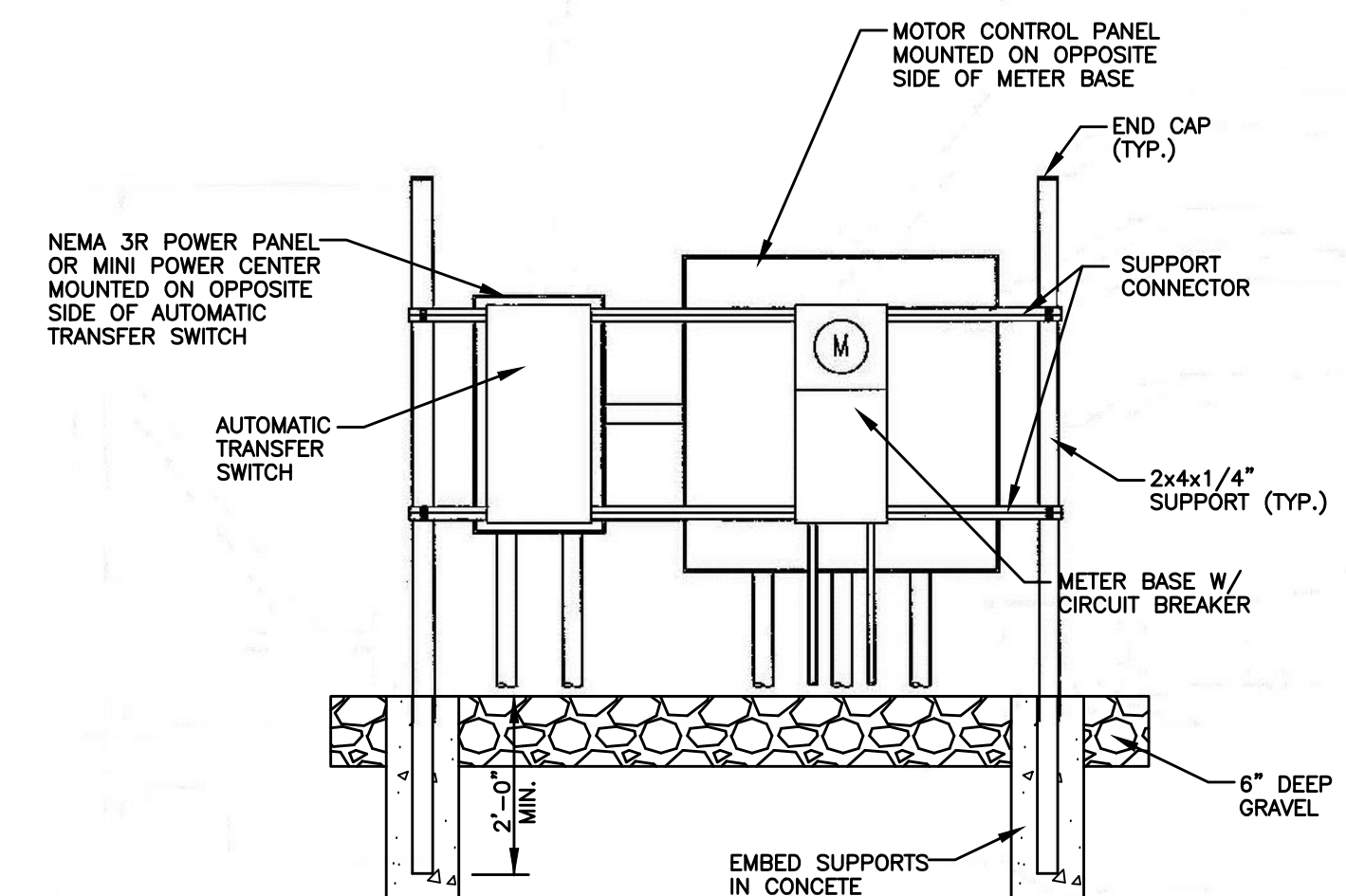
- 1) REFER TO SITE PLAN FOR EQUIPMENT LOCATION.
- 2) THE POWER FEED AND GENERATOR ARE SIZED FOR MAXIMUM OF TWO PUMPS RUNNING AT ONE TIME.
- 3) THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL 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:

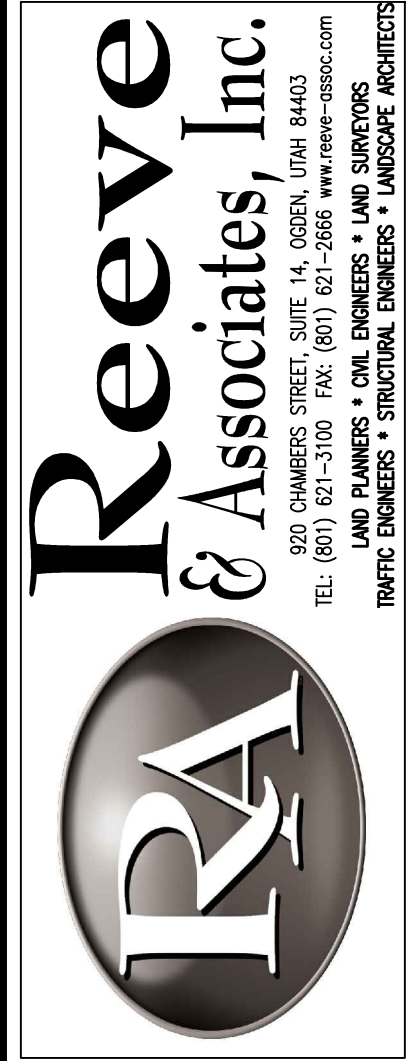
- ① CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT IN ACCORDANCE WITH PACIFICORP POWER REQUIREMENTS. CONDUCTORS SHALL BE INSTALLED BY PACIFICORP.
- ② PROVIDED AND INSTALLED BY PACIFICORP.
- ③ PROVIDED AND INSTALLED BY DEVELOPER.
- ④ CONDUIT AND CONDUCTORS TO MIN POWER ZONE SHALL NOT EXCEED 10 FEET.
- ⑤ 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 BATTERY CHARGER AND BATTERY BLANKET, CONNECT TO 20 AMP, SINGLE POLE CIRCUIT BREAKER IN MINI-POWER CENTER.
- 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



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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 Co. Eng. Revisions
11-22-13	RH Co. Eng. Comments
12-13-13	RH Co. Eng. Comments
4-30-13	RH SD. Outlet Changes

Edgewater Beach Resort
Phase-1
 WEBER COUNTY, UTAH
Wiring/Electrical Diagram

Revised 4-30-14

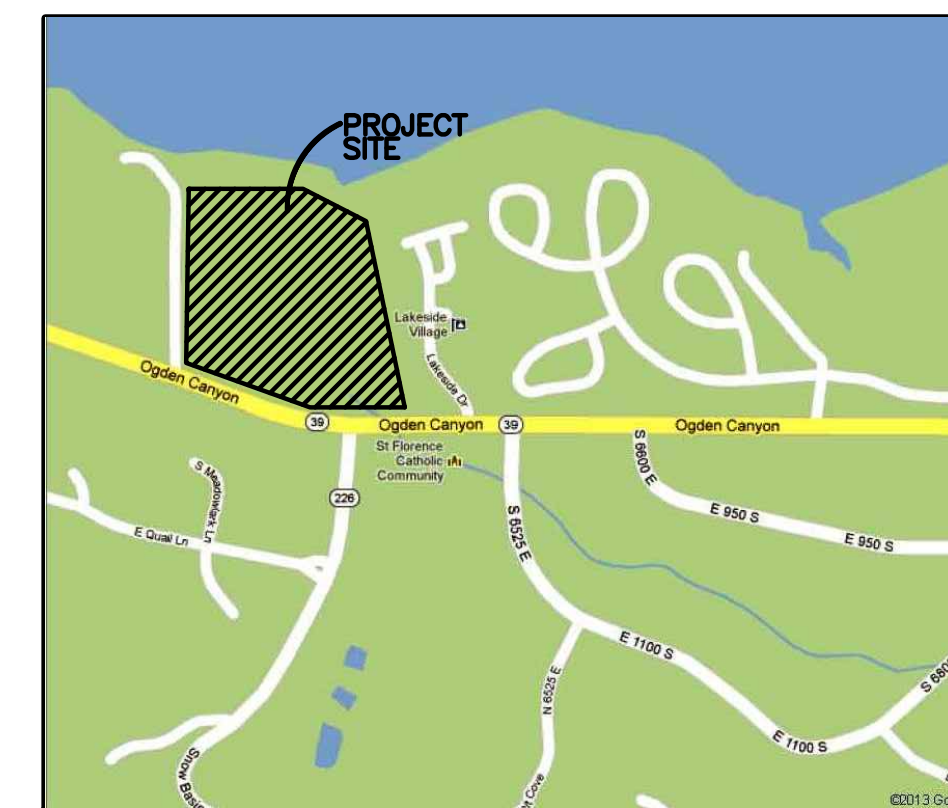


Project Info.

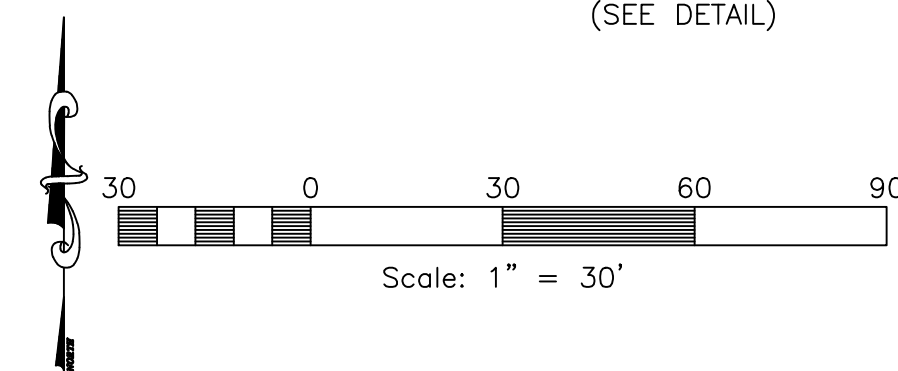
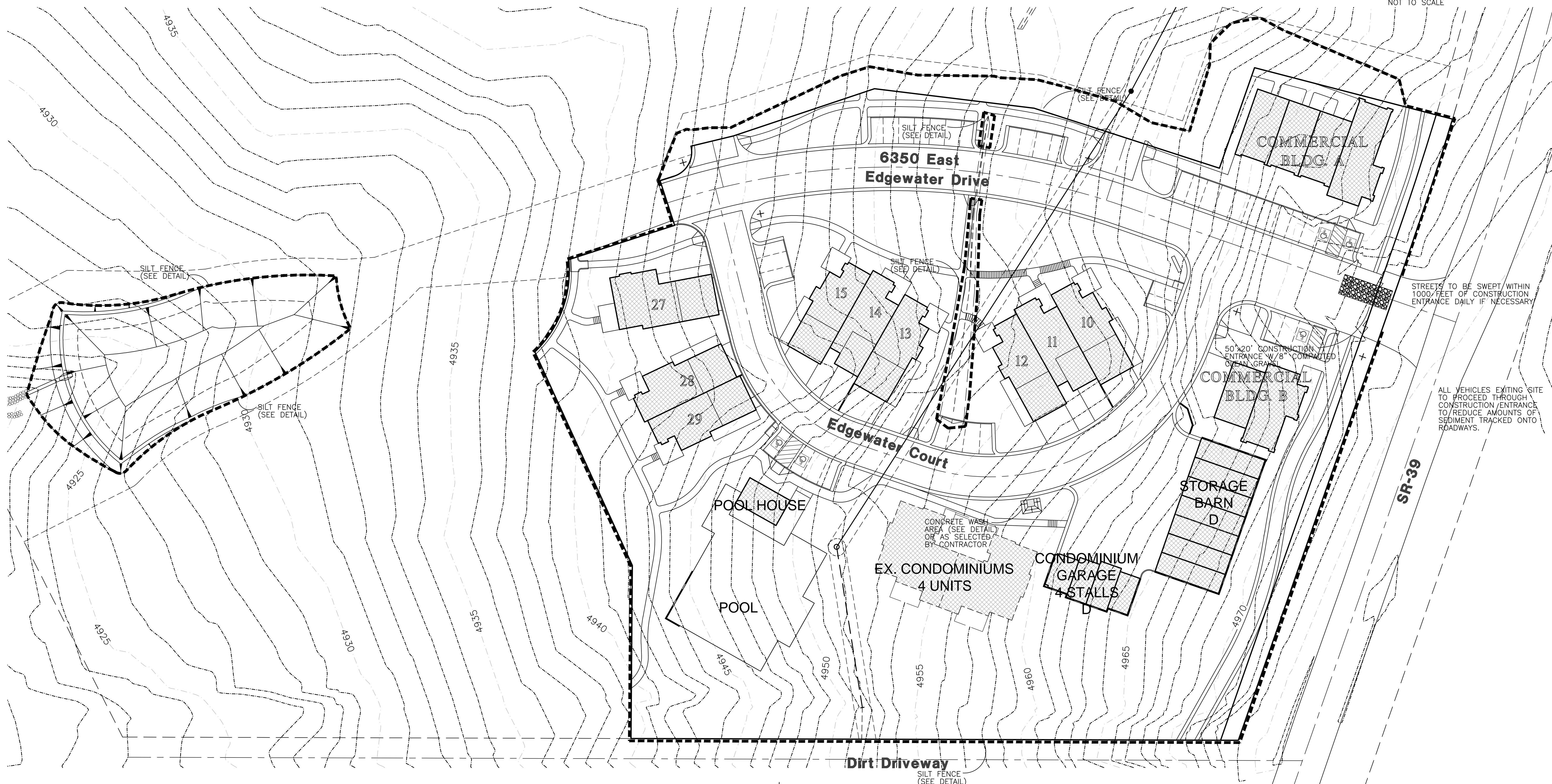
Engineer:	J. NATE REEVE, P.E.
Drafter:	R. HANSEN
Begin Date:	JULY 09, 2012
Name:	EDGEWATER BEACH RESORT PHASE-1
Number:	5917-15

EDGEWATER ESTATES Phase-1 Storm Water Pollution Prevention Plan Exhibit

WEBER COUNTY, UTAH
AUGUST 2013



Vicinity Map
NOT TO SCALE

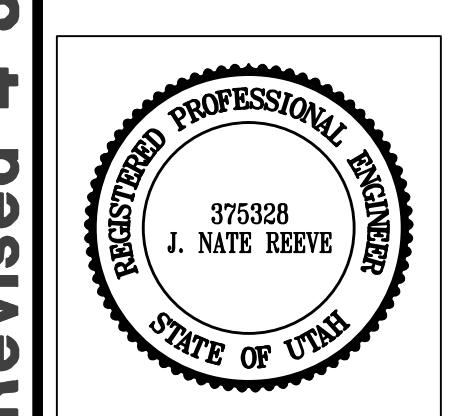


Construction Activity Schedule	
- PROJECT LOCATION.....	WEBER COUNTY, UTAH
- PROJECT BEGINNING DATE.....	AUGUST 2013
- BMP'S DEPLOYMENT DATE.....	AUGUST 2013
- STORM WATER MANAGEMENT CONTACT / INSPECTOR.....	REESE HOWELL, JR. (801) 363-6500
- SPECIFIC CONSTRUCTION SCHEDULE INCLUDING BMP CONSTRUCTION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

Reeve & Associates, Inc.
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 920 CHAMBERS STREET, SUITE #14, OGDEN, UTAH 84403
 TEL: (801) 921-2100 FAX: (801) 621-2666 www.reeve-assoc.com
 LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
 PUBLIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

DATE	DESCRIPTION
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
4-30-14	RH SD Outlet Changes

**Edgewater Beach Resort
Phase-1
Storm Water Pollution
Prevention Plan Exhibit**
 WEBER COUNTY, UTAH

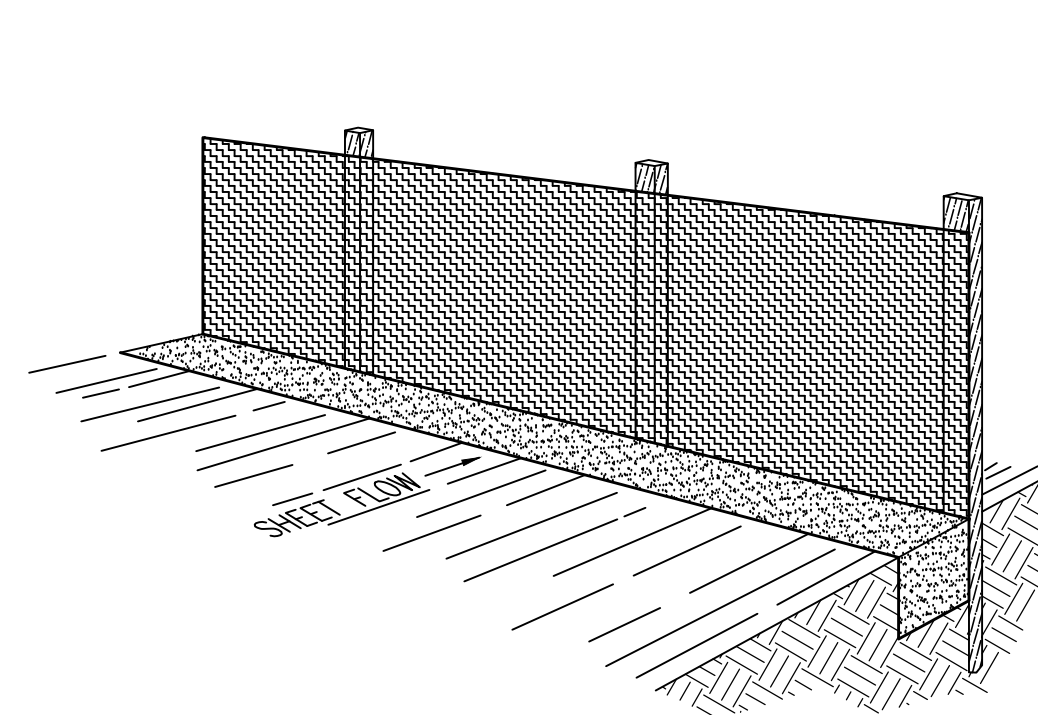


Project Info.	
Engineer:	J. NATE REEVE, P.E.
Drafter:	R. HANSEN
Begin Date:	JULY 09, 2012
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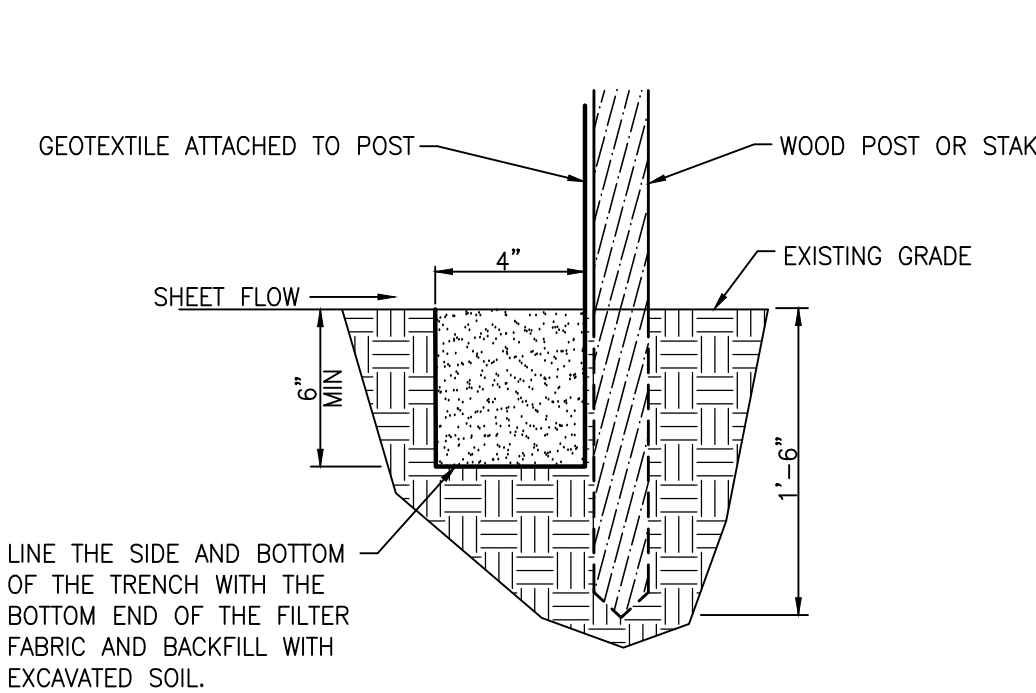
Sheet	13
12	Sheets

Notes:

- 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).
- Describe BMP's to eliminate/reduce contamination of storm water from:
 - Equipment / building / concrete wash areas:
To be performed in designated areas only and surrounded with silt fence barriers.
 - Soil contaminated by soil amendments:
If any contaminants are found or generated, contact environmental engineer and contacts listed.
 - Areas of contaminated soil:
If any contaminants are found or generated, contact environmental engineer and contacts listed.
 - Fueling area:
To be performed in designated areas only and surrounded with silt fence.
 - Vehicle maintenance areas:
To be performed in designated areas only and surrounded with silt fence.
 - Vehicle parking areas:
To be performed in designated areas only and surrounded with silt fence.
 - Equipment storage areas:
To be performed in designated areas only and surrounded with silt fence.
 - Materials storage areas:
To be performed in designated areas only and surrounded with silt fence.
 - Waste containment areas:
To be performed in designated areas only and surrounded with silt fence.
 - Service areas:
To be performed in designated areas only and surrounded with silt fence.
- BMP's for wind erosion:
Stockpiles and site as needed to be watered regularly to eliminate / control wind erosion
- Construction Vehicles and Equipment:
 - 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.
 - 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 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.
 - 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, creeks, rivers, and other water bodies.
 - Use phosphate-free, biodegradable soaps.
 - Do not permit steam cleaning on-site.
- Spill Prevention and Control
 - 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 properly 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.
 - 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.
- Post Roadway / Utility Construction
 - Maintain good housekeeping practices.
 - Enclose or cover building material storage areas.
 - Properly store materials such as paints and solvents.
 - Store dry and wet materials under cover, away from drainage areas.
 - Avoid mixing excess amounts of fresh concrete or cement on-site.
 - Perform washout of concrete trucks offsite or in designated areas only.
 - Do not wash out concrete trucks into storm drains, open ditches, streets or streams.
 - Do not place material or debris into streams, gutters or catch basins that stop or reduce the flow of runoff water.
 - 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.
 - Install straw wattle around all inlets contained within the development and all others that receive runoff from the development.
- Erosion Control Plan Notes
 - The contractor will designate an emergency contact that can be reached 24 hours a day 7 days a week.
 - 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.
 - 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.
 - 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.
 - All silt and debris shall be removed from all devices within 24 hours after each rain or runoff event.
 - 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.
 - 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.
 - The placement of additional devices to reduce erosion damage within the site is left to the discretion of the Engineer of record.
 - Desilting basins may not be removed or made inoperable without the approval of the engineer of record and the governing agency.
 - 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.
- Conduct a minimum of one inspection of the erosion and sediment controls every two weeks. Maintain documentation on site.
 - Part III.D.4 of general permit UTR300000 identifies the minimum inspection requirements.
 - Part III.D.4.C identifies the minimum inspection report requirements.
 - 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

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 by 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.

- 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 stabilized and/or revegetated.

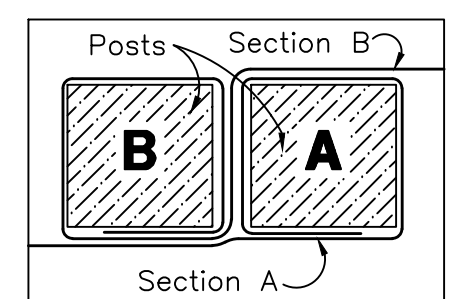
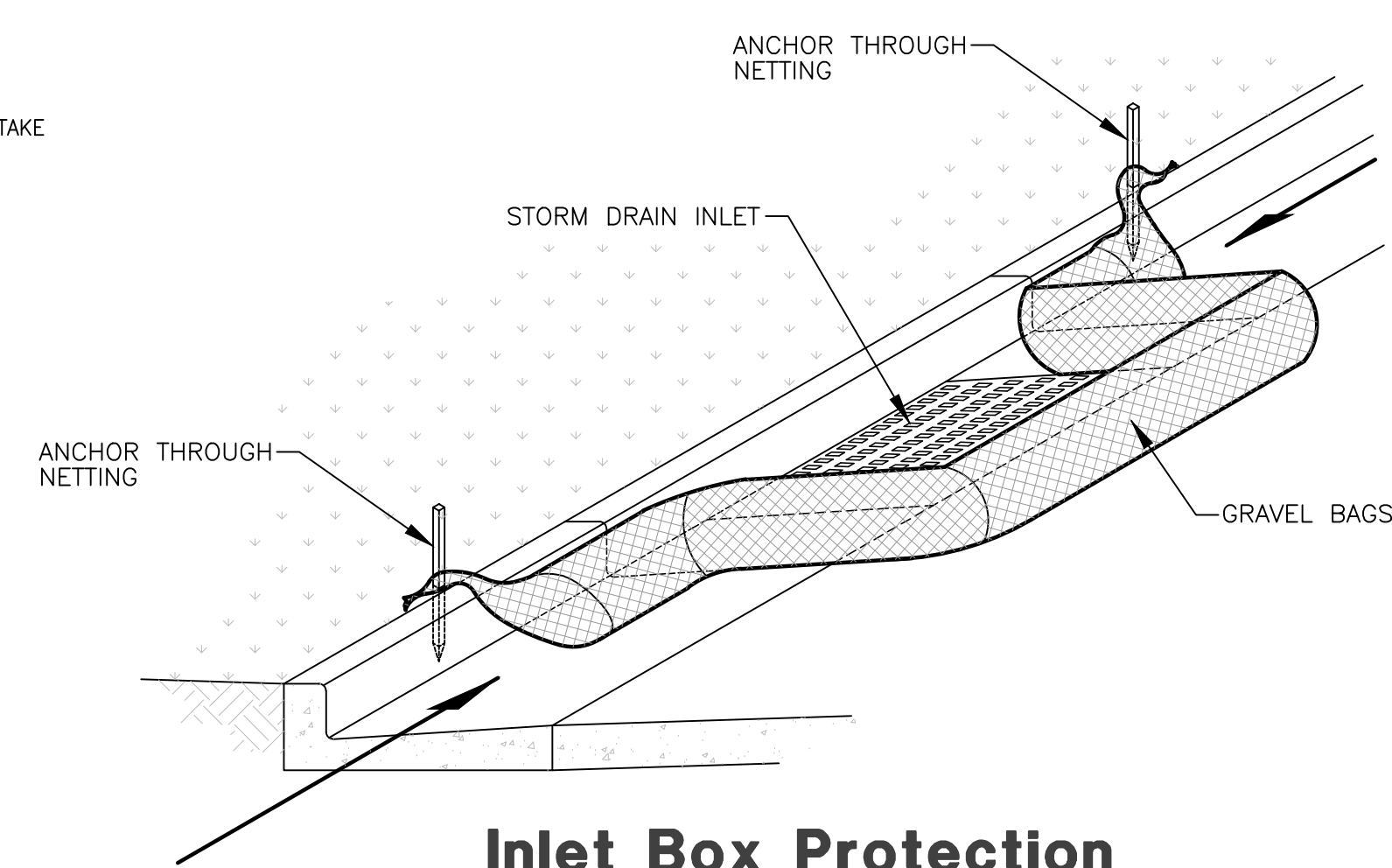
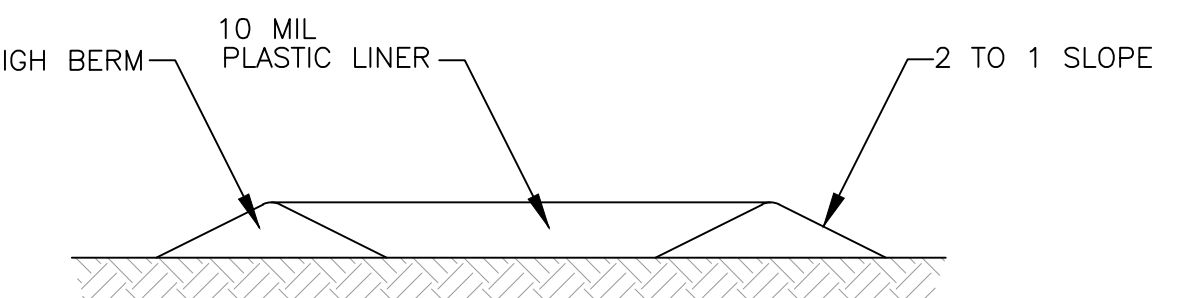
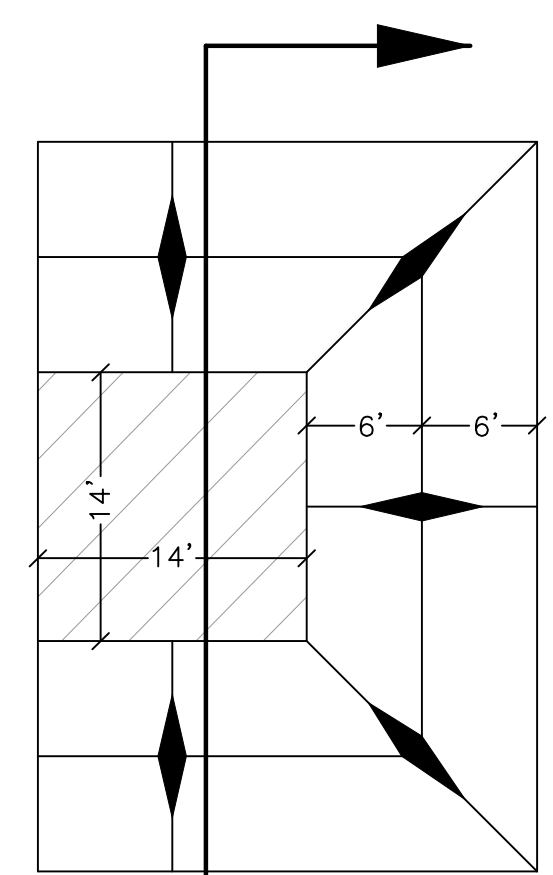


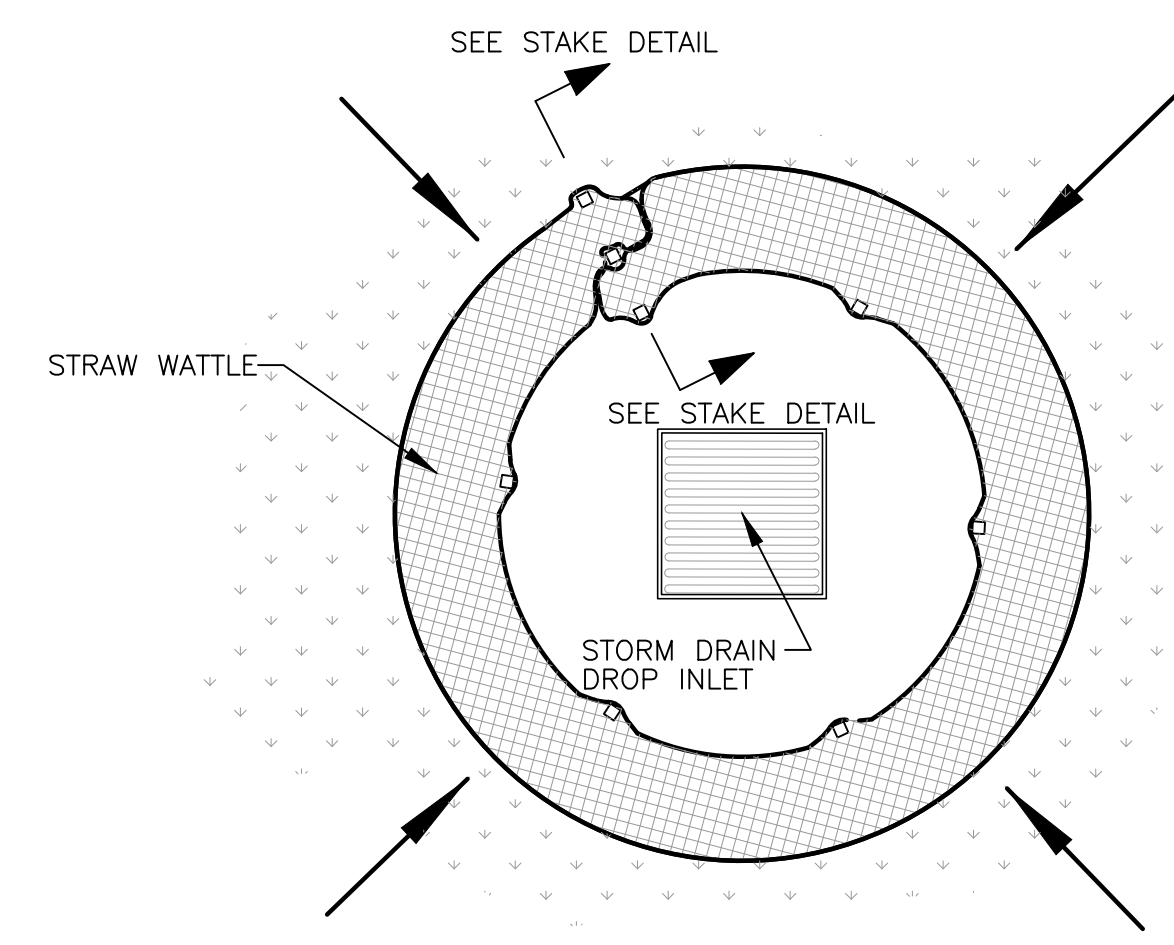
Figure 1:
Top View of
Roll-to-Roll Connection

Silt Fence Detail

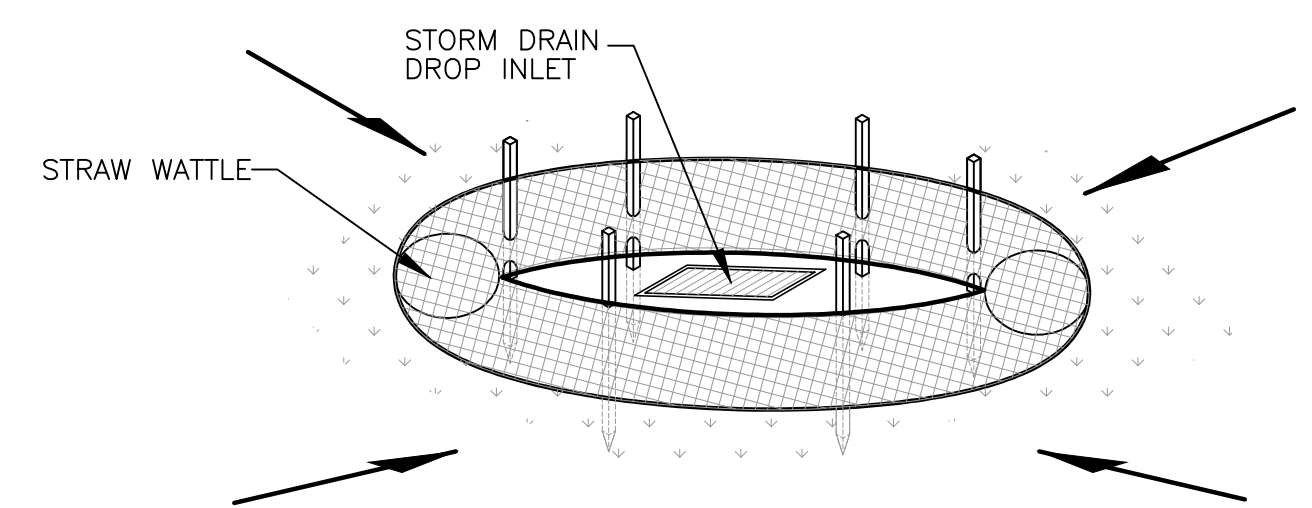
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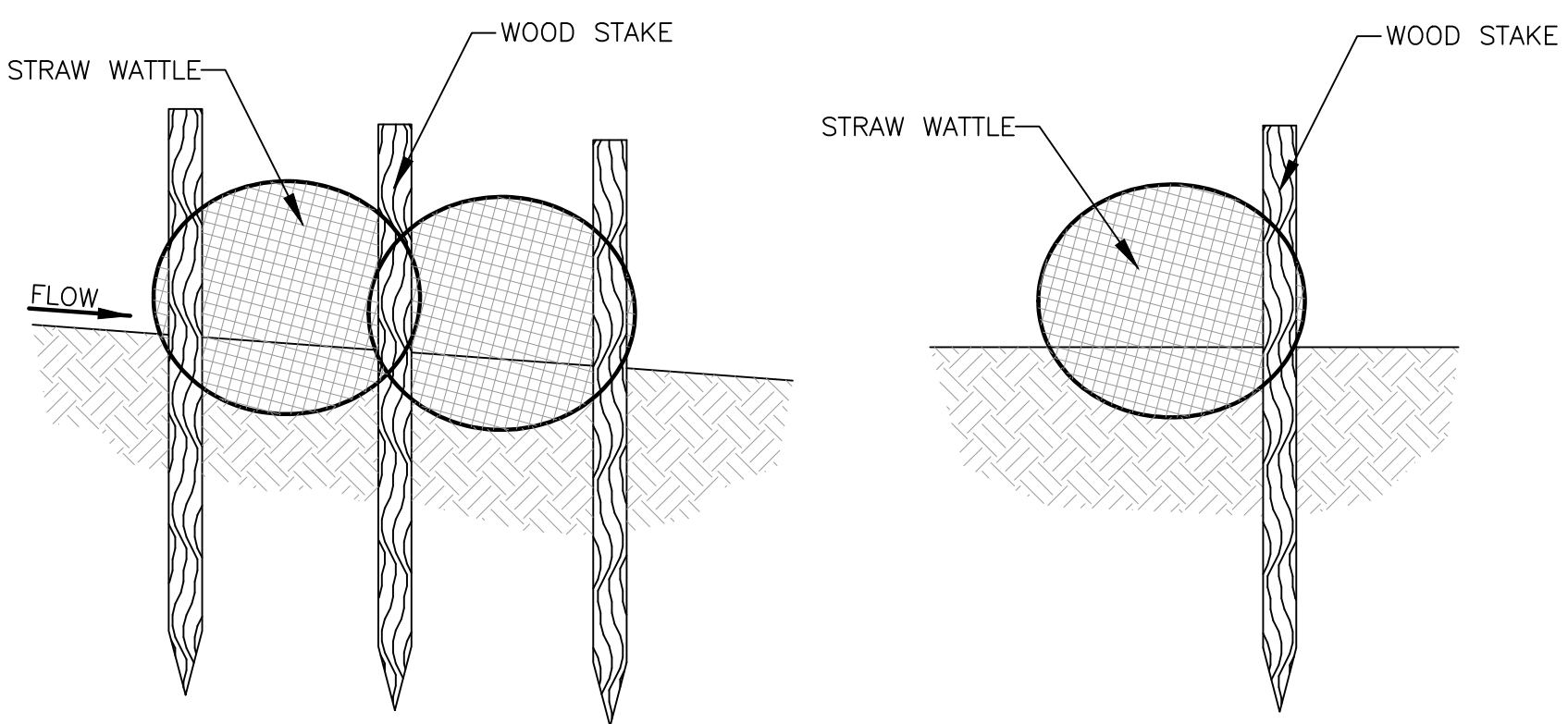
Inlet Box Protection



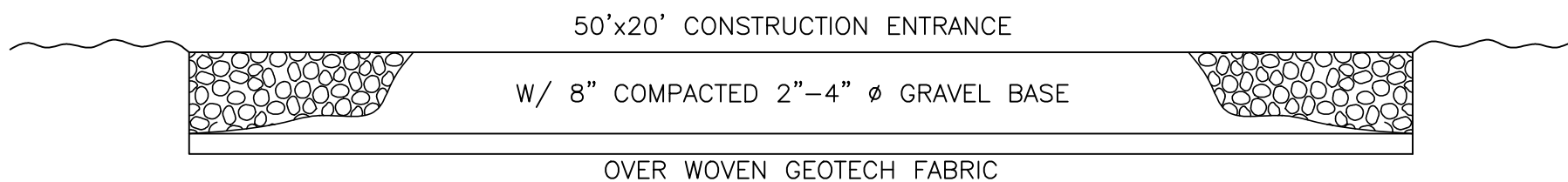
Plan View



Drop Inlet Protection



Stake Detail



Cross Section 50' x 20' Construction Entrance

**Concrete Washout Area
w/ 10 mil Plastic Liner**

SCALE: NONE

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**Edgewater Beach Resort
Phase-1**
 WEBER COUNTY, UTAH
**Storm Water Pollution
Prevention Plan Details**

REGISTERED PROFESSIONAL ENGINEER
 375328
J. NATE REEVE
 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**
 13 Sheets