LEGEND

Q = Flow Rate (cfs)
C = 0.60 (Orifice Coefficient)
H = Height Of Headwater (ft.)

Flow Rate Summary

Event	Intensity (in/hr)	Q Allowable (cfs)	Actual Release (cfs)
100 yr	9.8	42.08	31.63
25 yr	9.0	38.25	28.27
10 yr	8.3	34.27	26.75
5 yr	7.1	30.13	24.11

100 Year

$Q = CA(2gh)^{1/2}$
100 Year WSEL = 507.54
Qallowable = 42.08 cfs
$Q = (0.6)(\frac{\pi D^2}{4})[(2)(32.2)(507.54-505.75)]^{1/2}$
$Q = (0.6)(4.91)[(2)(32.2)(1.79)]^{1/2}$
Q=31.63 cfs < Qallowable

25 Year

$Q = CA(2gh)^{1/2}$
25 Year WSEL = 507.18
Qallowable = 38.25 cfs
$Q = (0.6)(\frac{\pi D^2}{4})[(2)(32.2)(507.18-505.75)]^{1/2}$
$Q = (0.6)(4.91)[(2)(32.2)(1.43)]^{1/2}$
Q=28.27 cfs < Qallowable

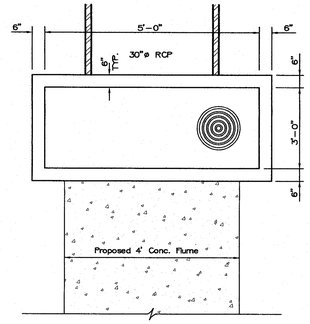
10 Year

$Q = CA(2gh)^{1/2}$
10 Year WSEL = 507.03
Qallowable = 34.27 cfs
$Q = (0.6)(\frac{\pi D^2}{4})[(2)(32.2)(507.03-505.75)]^{1/2}$
$Q = (0.6)(4.91)[(2)(32.2)(1.28)]^{1/2}$
Q=26.75 cfs < Qallowable

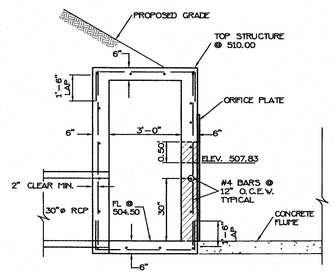
5 Year

$Q = CA(2gh)^{1/2}$
5 Year WSEL = 506.79
Qallowable = 30.13 cfs
$Q = (0.6)(\frac{\pi D^2}{4})[(2)(32.2)(506.79-505.75)]^{1/2}$
$Q = (0.6)(4.91)[(2)(32.2)(1.04)]^{1/2}$
Q=24.11 cfs < Qallowable

Note:
All Storm Structures To Be A Minimum Of 4200 psi (Min. 7.0 Sack Mix)

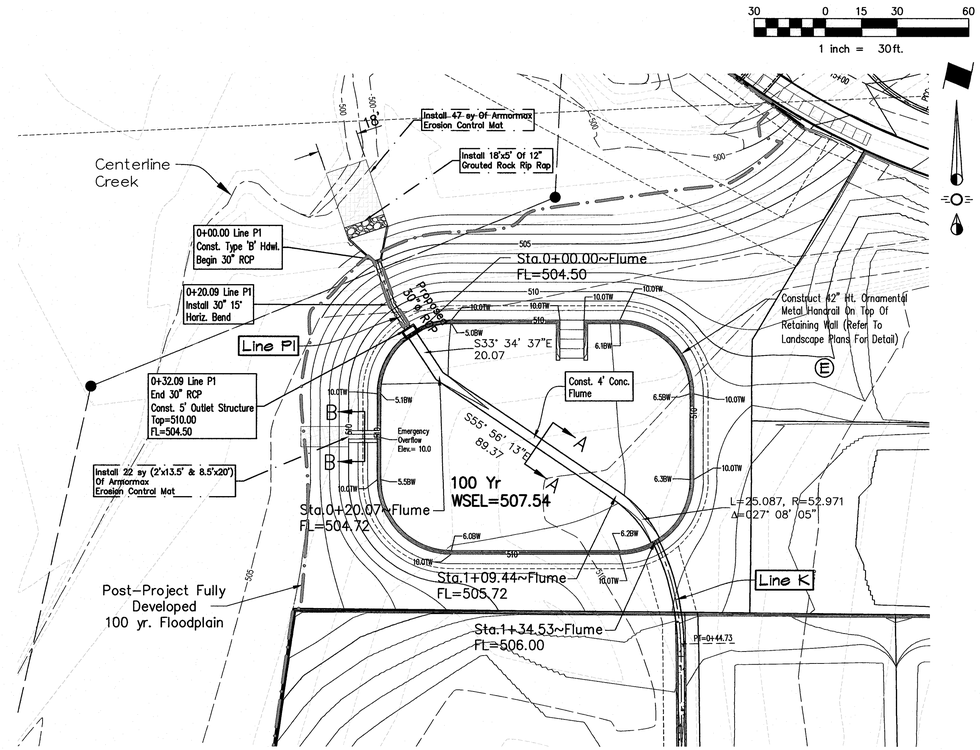


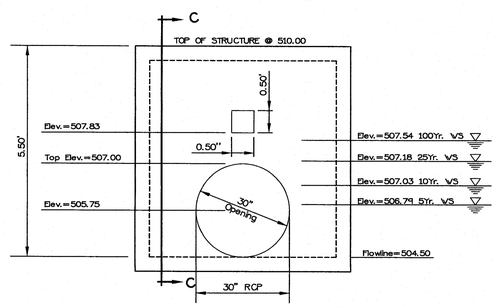
PLAN VIEW



SECTION C–C

Install Orifice Plate On Outlet Structure With A 2.50' Diameter Opening And A 0.50' x 0.50' Rectangular Opening.

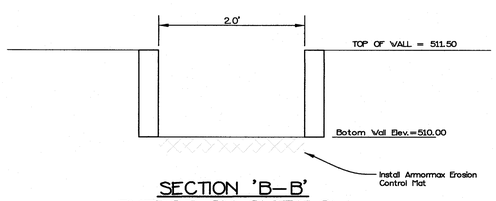




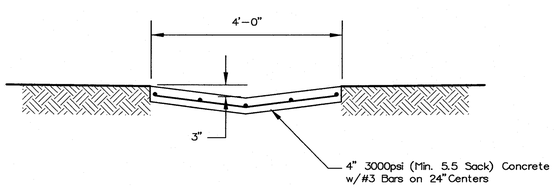
FRONT VIEW

DETENTION POND OUTFALL STRUCTURE

N.T.S.



SECTION 'B–B'
EMERGENCY OVERFLOW
nts

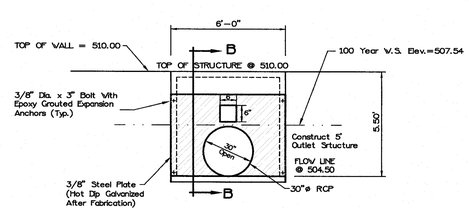


SECTION 'A–A'
CONCRETE FLUME DETAIL
nts

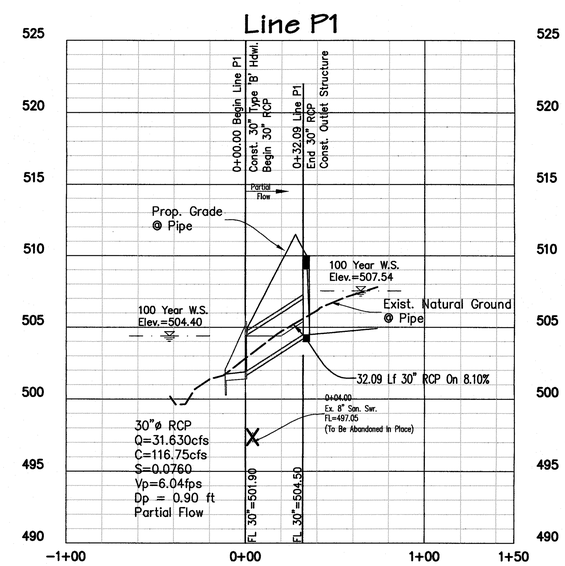
AS-BUILT DRAWINGS
THIS DRAWING HAS BEEN REVISED TO CONFORM TO THE CONSTRUCTION RECORDS PROVIDED BY THECONTRACTOR. ALIGNMENT AND GRADES SHOWN ON THIS DRAWING WERE NOT FIELD VERIFIED BY THE ENGINEER.

Greg T. Heisel, P.E.

11/29/16
DATE



ORIFICE PLATE



BM1
Being an "X" found in concrete at the intersection of the north line of Arcadia Way with the west line of Highland Drive and being the southeast corner of Lot 24, Block Q of the Preserve Phase III.
Elevation = 565.30

BM2
Being an "X" found in concrete at the intersection of the north line of East Fork Road with the west line of Calistoga Drive and being the southeast corner of Lot 16, Block X of Lakeview Summit, Phase One.
Elevation = 500.49

CAUTION !!!
EXISTING UTILITIES

EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION, TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION.

CALL 1–800–344–8377 (DIG–TESS) OR OTHER UTILITY LOCATION SERVICES 48 HOURS PRIOR TO CONSTRUCTION ACTIVITY. SPIARS ENGINEERING, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES OR DEPICTING EXACT LOCATIONS OF UTILITIES ON DRAWINGS.

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STATE OF TEXAS
GREG T. HEISEL
120379
LICENSED PROFESSIONAL ENGINEER
11/25/15

THE PRESERVE PHASE 1
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS
DETENTION POND 1 DETAILS

Issue Dates:
06–30–2015

Date	Revisions

Detention 1 ~ Line P1

Scale: 1"=40'H, 1"=5'V
Drawn By: GD
Checked By: GTH
Sheet 32 of 62
SEI No. 13–141

Drawing: G:\2013 JOBS\13-141 The Preserve Phase 1\13-141-detention 1.dwg Saved By: jimchell Save Time: 11/24/2015 1:35:15 PM
Plotted by: Jim Ciel Plot Date: 11/24/2015 2:29 PM