



Final Drainage Report_V1.pdf Markup Summary

CDurham (64)

tree sock
is sparse
1 north to
stock
via Soil

Subject: Callout
Page Label: 4
Author: CDurham
Date: 2/14/2022 4:15:10 PM
Status:
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Layer:
Space:


in and into the pond.
ition comprised of is cc
, part of proposed Mer
1 swales, proposed road

Subject: Highlight
Page Label: 10
Author: CDurham
Date: 2/14/2022 5:21:38 PM
Status:
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and one-year storm are 0 cfs
land towards DP8.1.
approximately 2.06 acres and its prop
ed lots, and undeveloped land. Runoff
athwest to DP8, DP7 and DP8 combi
d towards DP9.1 in Basin OS-5.

Subject: Highlight
Page Label: 9
Author: CDurham
Date: 2/14/2022 5:23:38 PM
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ar storm are 6 cfs and 50
8.1.
6 acres and its proposed o
veloped land. Runoff gener
DP7 and DP8 combined fl

Subject: Callout
Page Label: 9
Author: CDurham
Date: 2/14/2022 5:24:00 PM
Status:
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bined flows at DP11.1 (Q
asin G and continue in t
e pond.
ed of is comprised of part
osed Mercy Court, parts

Subject: Callout
Page Label: 10
Author: CDurham
Date: 2/14/2022 5:24:09 PM
Status:
Color: 
Layer:
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approximately 6.20 acres and its prop
d lots, and undeveloped land. Runo
annel generally southeast to DP11.
= 137.9 cfs) will cross a future dr
towards DP12.2. There they enter t


Subject: Highlight
Page Label: 10
Author: CDurham
Date: 2/14/2022 5:24:17 PM
Status:
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fs, $Q_{100} = 131.3$ cfs) flow
delete
20 acres and its proposed
developed land. Runoff get
southwest to DP11 DP10

Subject: Callout
Page Label: 10
Author: CDurham
Date: 2/14/2022 5:24:24 PM
Status:
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Layer:
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delete

la
Administration's HY-8
n the **Latigo Trails** deve
ertop the road in the 1
Volume 2 Chapter 9 E

Subject: Highlight
Page Label: 11
Author: CDurham
Date: 2/14/2022 5:29:27 PM
Status:
Color: 
Layer:
Space:


Latigo Trails

Control District's UD-Detention, Version 4.04 w
ion volumes and allowable release rates were desi
spreadsheets are presented in Appendix D.
Cornerstone Estates
ministran's HY-8 program (Volume 7.50) was
Latigo Trails development. Per Section 6.4.1 of
(the road in the 100-year storm, Culvert design)
me 2 Chapter 9 Equation 9-16 was used to size

Subject: Callout
Page Label: 11
Author: CDurham
Date: 2/14/2022 5:29:45 PM
Status:
Color: 
Layer:
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Cornerstone Estates

Sheet: Proposed onsite detention D.D
5.2 and will need turf reinforcing mat
Will need to include design
calculations for reinforcing mat to
be used.

Subject: Text Box
Page Label: 12
Author: CDurham
Date: 2/14/2022 5:37:55 PM
Status:
Color: 
Layer:
Space:


Will need to include design calculations for
reinforcing mat to be used.

management are presented
e release rates will be limi
stormwater facilities.
OS-5
OS-6 will contribute flow
60.01 acres and off-site b
included in project stormwater


Subject: Callout
Page Label: 13
Author: CDurham
Date: 2/14/2022 5:43:06 PM
Status:
Color: 
Layer:
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OS-5


ugh OS-6 w
oute **60.01** ac
ith a weightec

Subject: Highlight
Page Label: 13
Author: CDurham
Date: 2/14/2022 5:43:54 PM
Status:
Color: 
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60.01


Subject: Callout
Page Label: 13
Author: CDurham
Date: 2/14/2022 5:44:35 PM
Status:
Color: 
Layer:
Space:

proposed
174.41 ac
The total

Subject: Highlight
Page Label: 13
Author: CDurham
Date: 2/14/2022 5:45:18 PM
Status:
Color: 
Layer:
Space:


174.4

144.27 acres?

Subject: Callout
Page Label: 13
Author: CDurham
Date: 2/14/2022 5:45:38 PM
Status:
Color: 
Layer:
Space:


144.27 acres?

contribute
s of 7.1%.
100-year

Subject: Highlight
Page Label: 13
Author: CDurham
Date: 2/14/2022 5:45:50 PM
Status:
Color: 
Layer:
Space:


7.1%.

Update imperviousness based on only contributing areas


Subject: Callout
Page Label: 13
Author: CDurham
Date: 2/14/2022 5:46:12 PM
Status:
Color: 
Layer:
Space:


Update imperviousness based on only contributing areas


historic path along the existing


Subject: Text Box
Page Label: 14
Author: CDurham
Date: 2/14/2022 5:53:24 PM
Status:
Color: 
Layer:
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Also include discussion on trickle channel, emergency spillway riprap sizing and if cutoff wall is needed and maintenance access.


Subject: Highlight
Page Label: 14
Author: CDurham
Date: 2/14/2022 5:53:27 PM
Status:
Color: 
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Subject: Highlight
Page Label: 14
Author: CDurham
Date: 2/14/2022 5:54:18 PM
Status:
Color: 
Layer:
Space:

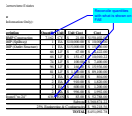
Subject: Callout
Page Label: 14
Author: CDurham
Date: 2/14/2022 5:54:25 PM
Status:
Color: 
Layer:
Space:

Subject: Text Box
Page Label: 14
Author: CDurham
Date: 2/14/2022 5:55:56 PM
Status:
Color: 
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Subject: Highlight
Page Label: 15
Author: CDurham
Date: 2/15/2022 1:49:32 PM
Status:
Color: 
Layer:
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Subject: Highlight
Page Label: 15
Author: CDurham
Date: 2/15/2022 1:49:35 PM
Status:
Color: 
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Space:

636



Subject: Callout
Page Label: 15
Author: CDurham
Date: 2/15/2022 1:49:51 PM
Status:
Color: ■
Layer:
Space:

Reconcile quantities with what is shown on FAE

Construction Cost Estimate
Private Storm System (For Information Only)

Item	Description	Quantity	Unit
1	Stormwater Pond BMP Construction	1.00	EA
2	Stormwater Pond BMP Construction	1.00	EA
3	Stormwater Pond BMP Construction	1.00	EA
4	Stormwater Pond BMP Construction	1.00	EA
5	Stormwater Pond BMP Construction	1.00	EA
6	Stormwater Pond BMP Construction	1.00	EA
7	Stormwater Pond BMP Construction	1.00	EA
8	Stormwater Pond BMP Construction	1.00	EA
9	Stormwater Pond BMP Construction	1.00	EA
10	Stormwater Pond BMP Construction	1.00	EA

Subject: Callout
Page Label: 15
Author: CDurham
Date: 2/15/2022 1:50:23 PM
Status:
Color: ■
Layer:
Space:

52 ft shown on CD's

Final Drainage Report for Construction Estimate
Construction Cost Estimate
Private Storm System (For Information Only)

Item	Description	Quantity	Unit
1	Stormwater Pond BMP Construction	1.00	EA
2	Stormwater Pond BMP Construction	1.00	EA
3	Stormwater Pond BMP Construction	1.00	EA
4	Stormwater Pond BMP Construction	1.00	EA
5	Stormwater Pond BMP Construction	1.00	EA
6	Stormwater Pond BMP Construction	1.00	EA
7	Stormwater Pond BMP Construction	1.00	EA
8	Stormwater Pond BMP Construction	1.00	EA
9	Stormwater Pond BMP Construction	1.00	EA
10	Stormwater Pond BMP Construction	1.00	EA

Subject: Highlight
Page Label: 15
Author: CDurham
Date: 2/15/2022 1:50:33 PM
Status:
Color: ■
Layer:
Space:

Private Storm System (For Information Only):

Construction Cost Estimate
Private Storm System (For Information Only)

Item	Description	Quantity	Unit	Unit Cost	Cost
1	Stormwater Pond BMP Construction	1.00	EA	31,000	31,000

Subject: Callout
Page Label: 15
Author: CDurham
Date: 2/15/2022 1:51:12 PM
Status:
Color: ■
Layer:
Space:

Storm Facilities listed under Public Improvements on FAE

Construction Cost Estimate
Private Storm System (For Information Only)

Item	Description	Quantity	Unit	Unit Cost	Cost
1	Stormwater Pond BMP Construction	1.00	EA	31,000	31,000

Subject: Callout
Page Label: 29
Author: CDurham
Date: 2/15/2022 1:54:11 PM
Status:
Color: ■
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Space:

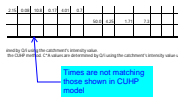
For historic/existing analysis should be using 2% impervious

Construction Cost Estimate
Private Storm System (For Information Only)

Item	Description	Quantity	Unit	Unit Cost	Cost
1	Stormwater Pond BMP Construction	1.00	EA	31,000	31,000

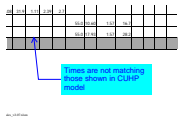
Subject: Text Box
Page Label: 30
Author: CDurham
Date: 2/15/2022 1:55:12 PM
Status:
Color: ■
Layer:
Space:

Add note that OS basins time of concentration are from CUHP method



Subject: Callout
Page Label: 32
Author: CDurham
Date: 2/15/2022 1:56:34 PM
Status:
Color: ■
Layer:
Space:

Times are not matching those shown in CUHP model



Subject: Callout
Page Label: 31
Author: CDurham
Date: 2/15/2022 1:56:43 PM
Status:
Color: ■
Layer:
Space:

Times are not matching those shown in CUHP model

I into EX-3. From DP6.1
I into EX-3. From DP6.1
and DP6.1 Flows
DP7.1
I into EX-3. From DP7.1
I and DP7.1 Flows
DP8.1
and then to DP8.

Subject: Callout
Page Label: 33
Author: CDurham
Date: 2/15/2022 1:57:28 PM
Status:
Color: ■
Layer:
Space:

DP7.1

Use 2% impervious for unimproved areas

Impervious	C _u	C _u	Area (ac)	Impervious	Area (ac)
0.04	0.04	0.04	0.04	0.04	0.04

Subject: Callout
Page Label: 35
Author: CDurham
Date: 2/15/2022 1:57:56 PM
Status:
Color: ■
Layer:
Space:

Use 2% impervious for unimproved areas

05.6	7.15	0%	0
05.7	14.54	0%	0
05.8	8.29	0%	0

Add note that OS basins time of concentration are from CUHP method

Subject: Text Box
Page Label: 36
Author: CDurham
Date: 2/15/2022 1:58:06 PM
Status:
Color: ■
Layer:
Space:

Add note that OS basins time of concentration are from CUHP method

wards DP11.1
seals and then to DP11
culvert at DP11.1
m DP10.1 and DP11.1 Flows
wards DP12.2
seals and then to DP12
t seals at DP12.1
on DP12.1 DP12.1 Flows
wards DP12.2
from DP6.2, DP11.1, and
to the proposed pond.

Subject: Callout
Page Label: 39
Author: CDurham
Date: 2/15/2022 1:58:48 PM
Status:
Color: ■
Layer:
Space:

DP2.1

swale DP11.1
swale and then to DP11.
culvert at DP11.1.
in DP10.1 and DP11.1 flows
swale DP12.2
swale and then to DP12.
1 swale at DP12.2
on DP12.2 DP12.1 flows
swale DP12.2
from DP6.2, DP11.1, and
to the proposed pond.

DP2.1

Subject: Callout
Page Label: 41
Author: CDurham
Date: 2/15/2022 1:59:13 PM
Status:
Color:
Layer:
Space:

DP2.1

by Autodesk, Inc.
Please run separate analysis
for DP2.1 to DP12.1 as it has
a larger flow rate.
12.1
0
Highlighted
Depth (ft)
Q (cfs)
Area (sqft)

Subject: Text Box
Page Label: 43
Author: CDurham
Date: 2/15/2022 2:14:46 PM
Status:
Color:
Layer:
Space:

Please run separate analysis for DP2.1 to DP12.1
as it has a larger flow rate.

Provide analysis of existing
swales to show they are able
to handle proposed flows

Subject: Text Box
Page Label: 42
Author: CDurham
Date: 2/15/2022 2:15:17 PM
Status:
Color:
Layer:
Space:

Provide analysis of existing swales to show they
are able to handle proposed flows

Include design of TRM's to
be used in channels

Subject: Text Box
Page Label: 42
Author: CDurham
Date: 2/15/2022 2:15:43 PM
Status:
Color:
Layer:
Space:

Include design of TRM's to be used in channels

Please include separate
analysis for DP5.1 & DP6.1
as they have larger flows

Subject: Text Box
Page Label: 45
Author: CDurham
Date: 2/15/2022 2:16:31 PM
Status:
Color:
Layer:
Space:

Please include separate analysis for DP5.1 &
DP6.1 as they have larger flows

© by Autodesk, Inc.
Note that this is a
roadside ditch.

10
Higl
Dep
Q (c

Subject: Text Box
Page Label: 45
Author: CDurham
Date: 2/15/2022 2:16:48 PM
Status:
Color:
Layer:
Space:

Note that this is a roadside ditch.

3.10 Note that this is a roadside ditch

Subject: Text Box
Page Label: 47
Author: CDurham
Date: 2/15/2022 2:17:16 PM
Status:
Color:
Layer:
Space:

Note that this is a roadside ditch

Known Q
 = 33.15

Flow at DP6.2 is 51.6 cfs.

Section

Subject: Callout
Page Label: 47
Author: CDurham
Date: 2/15/2022 2:17:37 PM
Status:
Color:
Layer:
Space:

Flow at DP6.2 is 51.6 cfs.

Specify Minimum, Design, and Maximum

Hydrology spreadsheet shows a 100-year flow of 24.6 cfs at DP2.1

Subject: Text Box
Page Label: 56
Author: CDurham
Date: 2/15/2022 2:18:29 PM
Status:
Color:
Layer:
Space:

Hydrology spreadsheet shows a 100-year flow of 24.6 cfs at DP2.1

PIPE CUL

Substructure

Structure

Include design point labels

Design Point	Flow (cfs)	Fr
DP1	24.6	1.2
DP2	24.6	1.2
DP3	24.6	1.2
DP4	24.6	1.2
DP5	24.6	1.2
DP6	24.6	1.2
DP7	24.6	1.2
DP8	24.6	1.2
DP9	24.6	1.2
DP10	24.6	1.2

Subject: Callout
Page Label: 77
Author: CDurham
Date: 2/15/2022 2:19:41 PM
Status:
Color:
Layer:
Space:

Include design point labels

Design Point	Flow (cfs)	Fr
DP1	24.6	1.2
DP2	24.6	1.2
DP3	24.6	1.2
DP4	24.6	1.2
DP5	24.6	1.2
DP6	24.6	1.2
DP7	24.6	1.2
DP8	24.6	1.2
DP9	24.6	1.2
DP10	24.6	1.2

Remove reference to future flow

Subject: Callout
Page Label: 77
Author: CDurham
Date: 2/15/2022 2:21:02 PM
Status:
Color:
Layer:
Space:

Remove reference to future flow

From HY-8 spreadsheets, Fr #s are greater than 1, which makes flow supercritical.

Design Point	Flow (cfs)	Fr
DP1	24.6	1.2
DP2	24.6	1.2
DP3	24.6	1.2
DP4	24.6	1.2
DP5	24.6	1.2
DP6	24.6	1.2
DP7	24.6	1.2
DP8	24.6	1.2
DP9	24.6	1.2
DP10	24.6	1.2

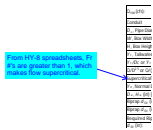
Subject: Callout
Page Label: 77
Author: CDurham
Date: 2/15/2022 2:23:02 PM
Status:
Color:
Layer:
Space:

From HY-8 spreadsheets, Fr #'s are greater than 1, which makes flow supercritical.



Subject: Callout
Page Label: 77
Author: CDurham
Date: 2/15/2022 2:23:23 PM
Status:
Color: ■
Layer:
Space:

Looks like this value is closer to 3.25



Subject: Callout
Page Label: 78
Author: CDurham
Date: 2/15/2022 2:23:55 PM
Status:
Color: ■
Layer:
Space:

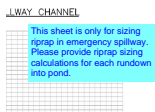
From HY-8 spreadsheets, Fr #'s are greater than 1, which makes flow supercritical.

EGL (ft) = 2.57

Rundowns should be trapezoidal in shape.

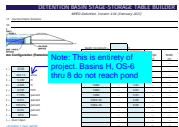
Subject: Text Box
Page Label: 80
Author: CDurham
Date: 2/15/2022 2:36:00 PM
Status:
Color: ■
Layer:
Space:

Rundowns should be trapezoidal in shape.



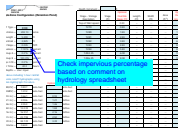
Subject: Text Box
Page Label: 83
Author: CDurham
Date: 2/15/2022 2:36:58 PM
Status:
Color: ■
Layer:
Space:

This sheet is only for sizing riprap in emergency spillway. Please provide riprap sizing calculations for each rundown into pond.



Subject: Callout
Page Label: 85
Author: CDurham
Date: 2/15/2022 2:46:43 PM
Status:
Color: ■
Layer:
Space:

Note: This is entirety of project. Basins H, OS-6 thru 8 do not reach pond



Subject: Callout
Page Label: 85
Author: CDurham
Date: 2/15/2022 2:47:29 PM
Status:
Color: ■
Layer:
Space:

Check impervious percentage based on comment on hydrology spreadsheet

Include design of
forebays and trickle
channels

Subject: Text Box
Page Label: 84
Author: CDurham
Date: 2/15/2022 2:47:52 PM
Status:
Color: ■
Layer:
Space:

Include design of forebays and trickle channels

GRADE	W/VELOCITY	W/VELOCITY	W/VELOCITY
1%	0.09	0.36	50.0
4%	0.11	0.37	50.0

IN RED indicate they were from the CUHP model

CUHP times do not
match what is shown
in model

DESIGN POINT SUMMARY	
DP#	Q _s

Subject: Callout
Page Label: 98
Author: CDurham
Date: 2/15/2022 2:49:21 PM
Status:
Color: ■
Layer:
Space:

CUHP times do not match what is shown in model

ASPH SUMMERY TABLE					
width	C _{base}	C _{sub}	D ₁	D ₂	D ₃
9.00	0.157	25.3	7.25	45.3	0.0
9.00	0.156	25.2	7.25	45.2	0.0
9.00	0.155	25.1	7.25	45.1	0.0
9.00	0.154	25.0	7.25	45.0	0.0
9.00	0.153	24.9	7.25	44.9	0.0
9.00	0.152	24.8	7.25	44.8	0.0
9.00	0.151	24.7	7.25	44.7	0.0
9.00	0.150	24.6	7.25	44.6	0.0
9.00	0.149	24.5	7.25	44.5	0.0
9.00	0.148	24.4	7.25	44.4	0.0
9.00	0.147	24.3	7.25	44.3	0.0
9.00	0.146	24.2	7.25	44.2	0.0
9.00	0.145	24.1	7.25	44.1	0.0
9.00	0.144	24.0	7.25	44.0	0.0
9.00	0.143	23.9	7.25	43.9	0.0
9.00	0.142	23.8	7.25	43.8	0.0
9.00	0.141	23.7	7.25	43.7	0.0
9.00	0.140	23.6	7.25	43.6	0.0
9.00	0.139	23.5	7.25	43.5	0.0
9.00	0.138	23.4	7.25	43.4	0.0
9.00	0.137	23.3	7.25	43.3	0.0
9.00	0.136	23.2	7.25	43.2	0.0
9.00	0.135	23.1	7.25	43.1	0.0
9.00	0.134	23.0	7.25	43.0	0.0
9.00	0.133	22.9	7.25	42.9	0.0
9.00	0.132	22.8	7.25	42.8	0.0
9.00	0.131	22.7	7.25	42.7	0.0
9.00	0.130	22.6	7.25	42.6	0.0
9.00	0.129	22.5	7.25	42.5	0.0
9.00	0.128	22.4	7.25	42.4	0.0
9.00	0.127	22.3	7.25	42.3	0.0
9.00	0.126	22.2	7.25	42.2	0.0
9.00	0.125	22.1	7.25	42.1	0.0
9.00	0.124	22.0	7.25	42.0	0.0
9.00	0.123	21.9	7.25	41.9	0.0
9.00	0.122	21.8	7.25	41.8	0.0
9.00	0.121	21.7	7.25	41.7	0.0
9.00	0.120	21.6	7.25	41.6	0.0
9.00	0.119	21.5	7.25	41.5	0.0
9.00	0.118	21.4	7.25	41.4	0.0
9.00	0.117	21.3	7.25	41.3	0.0
9.00	0.116	21.2	7.25	41.2	0.0
9.00	0.115	21.1	7.25	41.1	0.0
9.00	0.114	21.0	7.25	41.0	0.0
9.00	0.113	20.9	7.25	40.9	0.0
9.00	0.112	20.8	7.25	40.8	0.0
9.00	0.111	20.7	7.25	40.7	0.0
9.00	0.110	20.6	7.25	40.6	0.0
9.00	0.109	20.5	7.25	40.5	0.0
9.00	0.108	20.4	7.25	40.4	0.0
9.00	0.107	20.3	7.25	40.3	0.0
9.00	0.106	20.2	7.25	40.2	0.0
9.00	0.105	20.1	7.25	40.1	0.0
9.00	0.104	20.0	7.25	40.0	0.0
9.00	0.103	19.9	7.25	39.9	0.0
9.00	0.102	19.8	7.25	39.8	0.0
9.00	0.101	19.7	7.25	39.7	0.0
9.00	0.100	19.6	7.25	39.6	0.0
9.00	0.099	19.5	7.25	39.5	0.0
9.00	0.098	19.4	7.25	39.4	0.0
9.00	0.097	19.3	7.25	39.3	0.0
9.00	0.096	19.2	7.25	39.2	0.0
9.00	0.095	19.1	7.25	39.1	0.0
9.00	0.094	19.0	7.25	39.0	0.0
9.00	0.093	18.9	7.25	38.9	0.0
9.00	0.092	18.8	7.25	38.8	0.0
9.00	0.091	18.7	7.25	38.7	0.0
9.00	0.090	18.6	7.25	38.6	0.0
9.00	0.089	18.5	7.25	38.5	0.0
9.00	0.088	18.4	7.25	38.4	0.0
9.00	0.087	18.3	7.25	38.3	0.0
9.00	0.086	18.2	7.25	38.2	0.0
9.00	0.085	18.1	7.25	38.1	0.0
9.00	0.084	18.0	7.25	38.0	0.0
9.00	0.083	17.9	7.25	37.9	0.0
9.00	0.082	17.8	7.25	37.8	0.0
9.00	0.081	17.7	7.25	37.7	0.0
9.00	0.080	17.6	7.25	37.6	0.0
9.00	0.079	17.5	7.25	37.5	0.0
9.00	0.078	17.4	7.25	37.4	0.0
9.00	0.077	17.3	7.25	37.3	0.0
9.00	0.076	17.2	7.25	37.2	0.0
9.00	0.075	17.1	7.25	37.1	0.0
9.00	0.074	17.0	7.25	37.0	0.0
9.00	0.073	16.9	7.25	36.9	0.0
9.00	0.072	16.8	7.25	36.8	0.0
9.00	0.071	16.7	7.25	36.7	0.0
9.00	0.070	16.6	7.25	36.6	0.0
9.00	0.069	16.5	7.25	36.5	0.0
9.00	0.068	16.4	7.25	36.4	0.0
9.00	0.067	16.3	7.25	36.3	0.0
9.00	0.066	16.2	7.25	36.2	0.0
9.00	0.065	16.1	7.25	36.1	0.0
9.00	0.064	16.0	7.25	36.0	0.0
9.00	0.063	15.9	7.25	35.9	0.0
9.00	0.062	15.8	7.25	35.8	0.0
9.00	0.061	15.7	7.25	35.7	0.0
9.00	0.060	15.6	7.25	35.6	0.0
9.00	0.059	15.5	7.25	35.5	0.0
9.00	0.058	15.4	7.25	35.4	0.0
9.00	0.057	15.3	7.25	35.3	0.0
9.00	0.056	15.2	7.25	35.2	0.0
9.00	0.055	15.1	7.25	35.1	0.0
9.00	0.054	15.0	7.25	35.0	0.0
9.00	0.053	14.9	7.25	34.9	0.0
9.00	0.052	14.8	7.25	34.8	0.0
9.00	0.051	14.7	7.25	34.7	0.0
9.00	0.050	14.6	7.25	34.6	0.0
9.00	0.049	14.5	7.25	34.5	0.0
9.00	0.048	14.4	7.25	34.4	0.0
9.00	0.047	14.3	7.25	34.3	0.0
9.00	0.046	14.2	7.25	34.2	0.0
9.00	0.045	14.1	7.25	34.1	0.0
9.00	0.044	14.0	7.25	34.0	0.0
9.00	0.043	13.9	7.25	33.9	0.0
9.00	0.042	13.8	7.25	33.8	0.0
9.00	0.041	13.7	7.25	33.7	0.0
9.00	0.040	13.6	7.25	33.6	0.0
9.00	0.039	13.5	7.25	33.5	0.0
9.00	0.038	13.4	7.25	33.4	0.0
9.00	0.037	13.3	7.25	33.3	0.0
9.00	0.036	13.2	7.25	33.2	0.0
9.00	0.035	13.1	7.25	33.1	0.0
9.00	0.034	13.0	7.25	33.0	0.0
9.00	0.033	12.9	7.25	32.9	0.0
9.00	0.032	12.8	7.25	32.8	0.0
9.00	0.031	12.7	7.25	32.7	0.0
9.00	0.030	12.6	7.25	32.6	0.0
9.00	0.029	12.5	7.25	32.5	0.0
9.00	0.028	12.4	7.25	32.4	0.0
9.00	0.027	12.3	7.25	32.3	0.0
9.00	0.026	12.2	7.25	32.2	0.0
9.00	0.025	12.1	7.25	32.1	0.0
9.00	0.024	12.0	7.25	32.0	0.0
9.00	0.023	11.9	7.25	31.9	0.0
9.00	0.022	11.8	7.25	31.8	0.0
9.00	0.021	11.7	7.25	31.7	0.0
9.00	0.020	11.6	7.25	31.6	0.0
9.00	0.019	11.5	7.25	31.5	0.0
9.00	0.018	11.4	7.25	31.4	0.0
9.00	0.017	11.3	7.25	31.3	0.0
9.00	0.016	11.2	7.25	31.2	0.0
9.00	0.015	11.1	7.25	31.1	0.0
9.00	0.014	11.0	7.25	31.0	0.0
9.00	0.013	10.9	7.25	30.9	0.0
9.00	0.012	10.8	7.25	30.8	0.0
9.00	0.011	10.7	7.25	30.7	0.0
9.00	0.010	10.6	7.25	30.6	0.0
9.00	0.009	10.5	7.25	30.5	0.0
9.00	0.008	10.4	7.25	30.4	0.0
9.00	0.007	10.3	7.25	30.3	0.0
9.00	0.006	10.2	7.25	30.2	0.0
9.00	0.005	10.1	7.25	30.1	0.0
9.00	0.004	10.0	7.25	30.0	0.0
9.00	0.003	9.9	7.25	29.9	0.0
9.00	0.002	9.8	7.25	29.8	0.0
9.00	0.001	9.7	7.25	29.7	0.0
9.00	0.000	9.6	7.25	29.6	0.0
9.00	0.000	9.5	7.25	29.5	0.0
9.00	0.000	9.4	7.25	29.4	0.0
9.00	0.000	9.3	7.25	29.3	0.0
9.00	0.000	9.2	7.25	29.2	0.0
9.00	0.000	9.1	7.25	29.1	0.0
9.00	0.000	9.0	7.25	29.0	0.0
9.00	0.000	8.9	7.25	28.9	0.0
9.00	0.000	8.8	7.25	28.8	0.0
9.00	0.000	8.7	7.25	28.7	0.0
9.00	0.000	8.6	7.25	28.6	0.0
9.00	0.000	8.5	7.25	28.5	0.0
9.00	0.000	8.4	7.25	28.4	0.0
9.00	0.000	8.3	7.25	28.3	0.0
9.00	0.000	8.2	7.25	28.2	0.0
9.00	0.000	8.1	7.25	28.1	0.0
9.00	0.000	8.0	7.25	28.0	0.0
9.00	0.000	7.9	7.25	27.9	0.0
9.00	0.000	7.8	7.25	27.8	0.0
9.00	0.000	7.7	7.25	27.7	0.0
9.00	0.000	7.6	7.25	27.6	0.0
9.00	0.000	7.5	7.25	27.5	0.0
9.00	0.000	7.4	7.25	27.4	0.0
9.00	0.000	7.3	7.25	27.3	0.0
9.00	0.000	7.2	7.25	27.2	0.0
9.00	0.000	7.1	7.25	27.1	0.0
9.00	0.000	7.0	7.25</		

Subject: Cloud+
Page Label: 98
Author: CDurham
Date: 2/15/2022 2:50:09 PM
Status:
Color: ■
Layer:
Space:

Update Q's to match with corresponding DP's in
table below

GRADE	W/VELOCITY	W/VELOCITY	W/VELOCITY
0%	0.08	0.35	50.0
1%	0.09	0.36	50.0
4%	0.11	0.37	50.0

IN RED indicate they were from the CUHP model

CUHP times do not
match what is shown
in model

DP#	Q ₅	
1	2	

Subject: Callout
Page Label: 99
Author: CDurham
Date: 2/15/2022 2:51:54 PM
Status:
Color: ■
Layer:
Space:

CUHP times do not match what is shown in model

BAWU SUMMARY TABLE					
Designpoint	Q _s	Rate	Cost	Q _s	Q _{eq}
100%	0.00	0.00	0.00	0.00	0.00
20%	0.00	0.00	0.00	0.00	0.00
30%	0.00	0.00	0.00	0.00	0.00
40%	0.00	0.00	0.00	0.00	0.00
50%	0.00	0.00	0.00	0.00	0.00
60%	0.00	0.00	0.00	0.00	0.00
70%	0.00	0.00	0.00	0.00	0.00
80%	0.00	0.00	0.00	0.00	0.00
90%	0.00	0.00	0.00	0.00	0.00
100%	0.00	0.00	0.00	0.00	0.00

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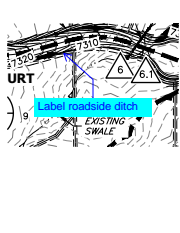
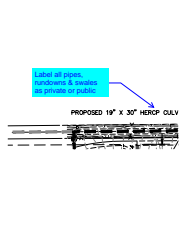
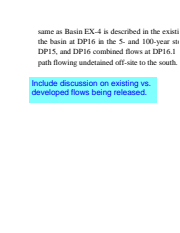
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Update Q's to match with corresponding DP's in
table below

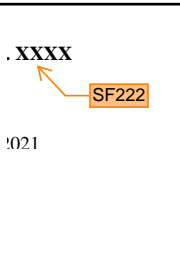
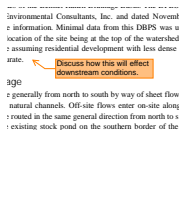
Label swales to correspond
to calculations in appendix

Subject: Text Box
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Label swales to correspond to calculations in
appendix

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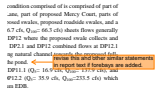
Glenn Reese - EPC Stormwater (9)

	<div> <div>Subject: SW - Textbox with Arrow</div> <div>Page Label: 1</div> <div>Author: Glenn Reese - EPC Stormwater</div> <div>Date: 2/7/2022 8:09:24 AM</div> <div>Status:</div> <div>Color: </div> <div>Layer:</div> <div>Space:</div> </div> <div>SF222</div>
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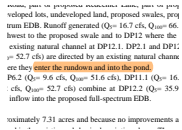
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Author: Glenn Reese - EPC Stormwater
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The Bennett Ranch DBPS also modeled the site assuming residential development with less dense 5-acre single-family lots, which is no longer accurate.



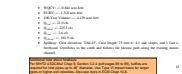
Subject: SW - Textbox with Arrow
Page Label: 10
Author: Glenn Reese - EPC Stormwater
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revise this and other similar statements in report text if forebays are added.



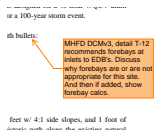
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Author: Glenn Reese - EPC Stormwater
Date: 2/7/2022 8:10:09 AM
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enter the rundown and into the pond.



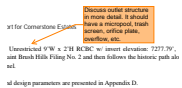
Subject: SW - Textbox
Page Label: 13
Author: Glenn Reese - EPC Stormwater
Date: 2/7/2022 8:10:19 AM
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Additional note about forebays:
Per MHFD USDCMv2 Chap 9, Section 3.2.4 (pdf pages 89 to 99), baffles are required for inlet pipes up to 48" diameter. Use Type VI impact basin for larger pipes or higher exit velocities. Also see req's in ECM Chap 10.8.



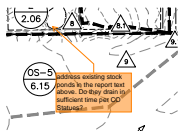
Subject: SW - Textbox with Arrow
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Author: Glenn Reese - EPC Stormwater
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MHFD DCMv3, detail T-12 recommends forebays at inlets to EDB's. Discuss why forebays are or are not appropriate for this site. And then if added, show forebay calcs.



Subject: SW - Textbox with Arrow
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Discuss outlet structure in more detail. It should have a micropool, trash screen, orifice plate, overflow, etc.



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address existing stock ponds in the report text above. Do they drain in sufficient time per CO Statues?