

# ENG-PUDSP21005-R2-PDR.pdf Markup Summary

1 (2)

Apply all applicable comments on this document also to the FDR doc.

MASTER DEVELOPER AND PRELIMINARY DR. MATTHEW V. CH

**Subject:** Contractor  
**Page Index:** 1  
**Date:** 11/15/2021 2:23:10 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
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**Page Label:** 1

Apply all applicable comments on this document also to the FDR doc.

See comment letter.

**Subject:** Text Box  
**Page Index:** 1  
**Date:** 11/16/2021 11:12:32 AM  
**Author:** dsdrice  
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See comment letter.

5 (9)

"R"  
approved by El Paso County DBPS it is noted that "a portion of the Geick ranch Drainage Basin at Judge Othman Road, due to the lack of a roadway"

**Subject:** Callout  
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**Author:** CDurham  
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"R"

"J"  
El Paso County, and therefore there are no drainage fees in this basin. In the Haegler Ranch as delineated by the County map was not at Judge Othman Road, due to the lack of a roadway"

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**Author:** CDurham  
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"J"

to a th


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**Author:** CDurham  
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Is this project part of the Haegler Basin which drains to Geick, resulting in no fees? If so, please include in explanation  
before there are no drainage fees in this basin. In the Haegler Ranch as delineated by the County map was not at Judge Othman Road, due to the lack of a roadway"


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**Author:** CDurham  
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Is this project part of the Haegler Basin which drains to Geick, resulting in no fees? If so, please include in explanation

the Haegler  
was found to

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sin at judge Orr  
the Haegler Ra  
se 2 channels

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Haegler


reflect there are no drainage flow in this basin. In the Haegler  
Haegler Ranch as delineated by the County map was found to  
as a judge the Road, due to the lack of a roadway shown as  
the Haegler Ranch DRPS and is included as part of the Creek  
or 2 channels previously shown to Black Square Creek and


1.01 acres and is part of a larger development of 322.0 acres to


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Spelling

ger  
l to   
- - -

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family units, while F  
 SW?  
the SE 1/4 of Sections 1  
inal Meridian within

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SW?

6 (6)

the within the Gei  
el Creek via a put

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id prepro

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shown located at the Gilbert Road crossing and existing  
sewerage for HEC-RAS model). At the time of Final  
Plan to be shown on the Final Plan.

EDDP


is within the Haelger Ranch and Haelger Drainage Basin,  
Haelger via a public piped system and then to the Francis  
and Haelger Road February 20th, and approved by  
yet approved. The Haelger Ranch DDP's the Drainage

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Remove


oved. The Haelger Ranch I

by EPC

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by EPC


ed February 20  
The Haelger Ra

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Haelger

rbury Filing No.

Add reference  
to Kiowa report

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**Author:** CDurham  
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Add reference to Kiowa report

7 (3)

here the runoff  
| eastside of the  
runoff.

Add space

der Eastonville

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**Author:** CDurham  
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Add space

Drainage map calls out 8 x 4 boxes, Please confirm which dimensions are height and width.

4 Basins? (OS-2 thru OS-5)

8 (9)

which both  
form Desis

spelling

ite. the co

the

Existing surface routing spreadsheet has Q100 of 180 cfs.


= 45 cis) is directed out

southern boundary of E

eastern




that leave the site at the south east boundary. Runoff  
29 acres is directed south onto Basin EXC. The runoff  
24.89 acres is combined with the Basin's OS-4. The  
fenced-off area and shortly later in the existing channel  
existing surface routing  
the combined flow Q<sub>100</sub> of 2 cfs.  
boundary of Filing 1 where runoff Q<sub>100</sub> = 9 cfs. Q<sub>100</sub> =  
pool prior to flow south onto Basin EXD's 13.87 acres  
at Q<sub>100</sub> = 3 cfs. Q<sub>100</sub> = 3.3 cfs travels south and drains  
south.

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Existing surface routing spreadsheet has Q100 of  
2 cfs.


1 runoff Q<sub>100</sub> = 7 cfs. Q<sub>100</sub> = 10 cfs is directed south and shortly later in the existing channel  
into Basin EXC.  
Run EXC is a point at the southern boundary of Filing 1 where runoff Q<sub>100</sub> = 9 cfs. Q<sub>100</sub> =  
the runoff Q<sub>100</sub> of 9 cfs is directed south onto Basin EXD's 13.87 acres  
at Q<sub>100</sub> = 3 cfs. The combined flow Q<sub>100</sub> = 1 cfs. Q<sub>100</sub> = 3.3 cfs travels south and drains  
south into the existing channel  
a flow of 10 cfs. Q<sub>100</sub> = 10 cfs is directed south and shortly later in the existing channel  
into Basin EXD's 13.87 acres at Q<sub>100</sub> = 3 cfs. Q<sub>100</sub> = 3.3 cfs travels south and drains  
south into the existing channel  
Run EXC is a point at the southern boundary of Filing 1 where runoff Q<sub>100</sub> = 9 cfs. Q<sub>100</sub> =  
the runoff Q<sub>100</sub> of 9 cfs is directed south onto Basin EXD's 13.87 acres  
at Q<sub>100</sub> = 3 cfs. The combined flow Q<sub>100</sub> = 1 cfs. Q<sub>100</sub> = 3.3 cfs travels south and drains  
south into the existing channel  
a flow of 10 cfs. Q<sub>100</sub> = 10 cfs is directed south and shortly later in the existing channel  
into Basin EXD's 13.87 acres at Q<sub>100</sub> = 3 cfs. Q<sub>100</sub> = 3.3 cfs travels south and drains  
south into the existing channel

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State what design point this corresponds to in the  
MDDP.


cfs. Q<sub>100</sub> = 11 cfs travels south and drains

run south to south onto Basin EXC. Run  
into OS-2 of the proposed Filing 2 system.  
Q<sub>100</sub> = 11 cfs. Q<sub>100</sub> = 11 cfs is directed south and drains  
south into the existing channel  
at the south east boundary. Runoff Q<sub>100</sub> = 3  
into Point EX-10 is directed south onto Basin  
EXC's 13.87 acres is combined with the Basin's  
Filing 2 basin is directed south and into the

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Did not find a DP in the MDDP with 11 cfs. Confirm  
the flow used.

1.70 acres at  
cfs) form Ba  
EXC. The runoff Q<sub>100</sub> = 2 cfs. Q<sub>100</sub> =  
OS-4. The combined runoff Q<sub>100</sub> = 2  
existing channel in the Geick Ranch  
Basin OS-2

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form


EXE. The runoff Q<sub>100</sub> = 2 cfs. Q<sub>100</sub> =  
OS-4. The combined runoff Q<sub>100</sub> = 2  
existing channel in the Geick Ranch  
Basin OS-2

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Basin OS-2

9 (6)

Already described EX10  
Delete this paragraph  
At Design Point EX10 a 36" RCP culvert that drains the  
Basin OS-8) into the undeveloped open space north of it  
Ranch MDDP states the runoff is Q<sub>100</sub> = 3 cfs. Q<sub>100</sub> = 11 cfs

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Already described EX10. Delete this paragraph

State what design point this corresponds to in the MDDP.

Did not find a DP in the MDDP with 19 cfs. Confirm the flow used.

EX6?

Per spreadsheet, these flows at DP EX7 only  
account for Basins OS-1, OS-9 & EXF

clacs

Early grading spreadsheet has area for this basin as 0.75 acres & flows of 0 & 2 cfs. Verify correct acreage & flows.

$Q_5 = 2$  cfs,  $Q_{100} = 16$  cfs) from Basin OS-2. The combined flow ( $Q_5 =$  erosion/slope to the TSB where the

Basin OS-1?

an existing stock pond located in

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Basin OS-1?

Filling located on the eastern boundary of the  
a well about Basin  $Q_5 = 1$  cfs,  $Q_{100} = 7$  cfs area  
Basin PRE-E's 0.13 acres will combine with  
 $Q_5 = 3$  cfs,  $Q_{100} = 23$  cfs will be treated on land  
the water will be treated prior to leaving the  
5 just north of Filling 2 boundary in a future  
Temporary Sediment Basin 5 (TSB5). Offsite  
cfs) under Eastonville Road via a 36" culvert  
from Basin PRE-E's 0.13 acres will combine

Basin OS-1?

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Update to match flows in early grading spreadsheet

4. pond located just north of Filling 2 boundary in a future  
Temporary Sediment Basin 5 (TSB5). Offsite  
cfs) under Eastonville Road via a 36" culvert  
 $Q_{100} = 16$  cfs from Basin PRE-E's 0.13 acres will combine

Basin OS-1?

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Did not find a DP in the MDDP with 11 cfs. Confirm the flow used.

north of Filling 2 boundary in a future  
Temporary Sediment Basin 5 (TSB5). Offsite  
cfs) under Eastonville Road via a 36" culvert  
from Basin PRE-E's 0.13 acres will combine

Basin OS-1?

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Should be Basin OS-2 info. Update paragraph

Design Point PRE5 is an existing stock pond  
Waterbury Phase and will be upgraded to function  
Basin OS-8's 2.56 acres flow ( $Q_5 = 5$  cfs,  $Q_{100}$   
onto Basin OS-2. Runoff ( $Q_5 = 2$  cfs,  $Q_{100} = 1$   
downstream of

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downstream of


11 (11)

From spreadsheet,  
flows are 6 & 36 cfs.  
- 8 cfs ( $Q_{100} = 32$  cfs) will be routed  
water will be treated prior to leaving  
ed in the future.

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From spreadsheet, flows are 6 & 36 cfs.


ton Road. B.  
to a Tampa

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Road


Drive

on Road. I

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in it' his

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it'

enters into various on-site to a temporary  
sheet flow to Silt Fence BMPs prior to draining  
  
Spreadsheet has  
flows of 1 & 4 cfs.  
  
majority of the site in the existing channel in the  
of small open space prairie next to the channel  
emporary Sediment Basin. Runoff (Q) 0 cfs,  
er to draining offsite in 10' historic path. Basin

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Spreadsheet has flows of 1 & 4 cfs.

nd wetlands in Filing 1 that cannot be treated to a Temporary Sediment  
basin - 2.40 will drain flow to Silt Fence BMPs prior to draining to  
RE-IT'S 2.40 acres consists of small open space prairie next to the e  
ut cannot be treated to a Temporary Sediment Basin. Runoff (Q) 0 cfs,  
ent to Silt Fence BMPs prior to draining offsite in a historic path. A  
interchange from TSH 2 (NH) & TSH 4 for a combined runoff of Q  
nated to the existing channel. Spreadsheet has  
area of 1.33 acres.  
  
PROPOSED MAJOR SUB-BASIN DESCRIPTION (FOR MDDP)  
he overall site will be developed in several Filings with each filing  
open. The Proposed Major Basin Descriptions below are for Water

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Spreadsheet has area of 1.33 acres

in it' his

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it'

to the channel and wetlands in Filing 2  
off (Q<sub>10</sub> = 1 cfs, Q<sub>100</sub> = 4 cfs) will sheet  
path. Along with these 2 Basins, runoff  
off of Q<sub>10</sub> = 24 cfs, Q<sub>100</sub> = 152-26 that is  
to have these connected PRE5  
according to spreadsheet. Verify  
PRE5...  
WADSWORTH  
is being required to own final drainage  
Wadsworth Filings 1 & 2 development  
tributary to the storm drain system and  
is fully developed to maintain the channel

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These flows included PRE5 according to spreadsheet. Verify flows

This future area is shown as fully developed to analyze the  
times. In the section below labeled Hydrologic Analysis  
be discussed and how runoff is captured and routed out  
1 & 2 construction. See the Proposed MDDP Drainage 1  
as of the future. [See future to capture flow runoff](#)  
[See how CDOT Type R inlets](#)  
In 6' D10-R sump inlet located in the west flowline of  
ut. Basin A's 3.39 acres consists of roadway and sin  
. Q<sub>10</sub> = 12 cfs) sheet flows into street sections and then  
...

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All Inlets in public row need to be CDOT Type R inlets

blic 6' D10-R sur  
out. Basin A's 3.

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6' D10-R


consists of small open space prairie that  
noff (Q<sub>10</sub> = 0 cfs, Q<sub>100</sub> = 2 cfs) will sheet flow to  
path. [Does early grading](#)  
[need to be done in](#)  
[this basin?](#)  
is a point located at the eastern boundary of th  
Basin PRE-G's 2.00 acres consists of small op  
ng 1 that cannot be routed to a Temporary Se

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Does early grading need to be done in this basin?


12 (5)

olic 4' D10-R sur  
0.86 acres is com

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4' D10-R

blic 4' D10-R sun  
sists of roadway a

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4' D10-R

Are flows completely intercepted or any bypass?  
110-R sump inlet located in the west flowline of Sump is comprised of roadway and single-family develop

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Are flows completely intercepted or any bypass?

4' D10-R sur  
2's 2.69 acres cc

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4' D10-R


6' D10-R sun  
0 = 9 cfs) from

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6' D10-R


13 (11)

Missing Design Point designation  
Point is a junction with Pipe run 3. If this in w sown the storm drain tract and into the p

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
Missing Design Point designation

4' D10-R sur  
0 = 8 cfs) from E

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4' D10-R

4' D10-R sump inlet located in the west flowline of Sump is comprised of roadway and single-family develop  
Point is a junction with Pipe run 3. If this in w sown the storm drain tract and into the p

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Inlet capture all of flow or any bypass?

4' D10-R

thru public 18" diameter RCP (Pipe Run 10)


DP 8

### Calculations for forebay missing in appendix


Clarify if 4x4 is true box dimension or grate dimension. Spreadsheet has grate opening 3' x 3'

EURV vol = 1.027 ac-ft

estimating mass flow on the EDD area and four years. Plotted (Fig. 6) as EDB. The basins tributary to Design Point 21 are Basins J and L area of 19.91 acres. The 100-year effective impervious area is 18.75 acres. This information was entered into the MSW Version 3.07 IRF spreadsheet. This information was entered into the calculation and yielded a required WQCV of 0.100 cfs. **detention volume of 1.016 cu ft.** **This gave** a total retention time of 6930 min, with a bottom of pond at 6923.50'. **The** design into two concrete forebays (3% WQCV set calcs in appendix) to release minor flows into 2' wide concrete tickle channel. proposed concrete micro-pool at the surcharge elevation of 6923.50' and the top set at 6973.50'. A measured 2' x

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and

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and


14 (4)

influent is 0.20 cfs with a ponding elevation of 6925.14 and takes 40 hours to rise 0.4 cfs, with an elevation of 6926.54 and takes 70 hours to release 1 cfs at 6.8 cfs, with an elevation of 6927.70 and takes 71 hours to release 1 cfs. The ponding elevation of 6928.00 will allow the 100-year developed peak in a depth of 0.46' (vol of water = 6928.46) to be routed went into the natural provided (see appendix). The spillway and drawstill slope will be same as pipe. Pipe Riser 10A's previous 18" RCP will route the pond release into the 1 cfs Pond Calculations in appendix.

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Spreadsheet shows release of 8.0 cfs.

[illegible]

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Verify flow based on comment under existing subbasin descriptions

[illegible]

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Basin OS-8 and spreadsheet has area of 2.56 acres


Design Point 10A is another crossing under Eastonville Road will route the flow ( $Q = 28$  cfs,  $Q_{100} = 135$  cfs) from the temporary Madison Ranch MEDD. The pipes discharge onto Office Basin areas consists of future *Waterbury* rural lots, open space and the main  $Q_{100} = 23$  cfs) from OS-5 short flows to the channel. The flow is at

**Subject:** Callout  
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Could not confirm these flows against the MDDP. MDDP interim condition has flows of 18 & 153, proposed condition has flows of 50 & 304. MR Filing 3 FDR has Pond E release rates of 33 & 305.



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If not being used for WQ treatment, why did we mention WQ in the sentence above?

oad form 4-

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form

s is comprised of r  
= 8 cfs) sheet flows

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comprised

s is comprised of r  
= 8 cfs) sheet flows

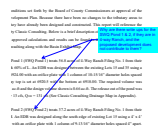
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s is comprised of r  
= 8 cfs) sheet flows

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comprised



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Why are there write ups for the SWQ Pond 1 & 2, if they are in 4-way Ranch, and the proposed development does not contribute to them?

1 to a ED

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a

existing Storm

that was be coi

S-5 Os-6 D

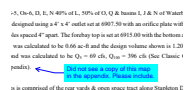
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was be



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(See Classic Consulting Drainage Map in Appendix).



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Did not see a copy of this map in the appendix. Please include.

Existing

rep


Sto

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**Date:** 11/15/2021 1:48:25 PM  
**Author:** EPC Stormwater - Glenn Reese  
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Existing

Sto1

Existing

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has been?


which channel, how does it get to channel and how does it exit Sling Device?

smf((Q<sub>0</sub> = 1, Q<sub>1</sub> = 0, Q<sub>2</sub> = 12 cfs) shoot flows over the back yard Drive the channel and then is routed north overland. The area paths that shoot flow over portion area. The CD-RMP Version show that this area has 100% WQCV reduction based upon the (contour over the Receiving Previous Area.

which channel, how does it get to the channel and how does it exit Stapleton Drive?

[illegible]


10' D10-R

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= 18 cfs) from Basin L1's 5.27 acres consisting of roof, driveway, parking lot line swales and C&G to the proposed inlet. The 10' dia public 24" diameter RCP storm sewer routes the flow to the proposed inlet.

**Basin L2-Update with L2 information**

D10-R pump inlet opposite of DP 14 in Beech Creek basin L1's 5.27 acres consisting of roadway and single-lane C&G to the proposed inlet. The 4' inlet captures all other RCP storm sewer routes the flow to a manhole ju


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### Basin L2-Update with L2 information

manhole junction with Pipe run 12.  
Design Point 15 is a proposed public 4  
' runoff (Q<sub>5</sub> = 8 cfs, Q<sub>100</sub> = 18 cfs) from 1  
lots is directed via side lot line swales a  
low and Pipe run 12 a public 18" diam  
with Pipe run 11. Pipe run 13 a 30" R


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5.27 ac]  
1's 5.27 ac]  
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18 (16)


Public 6' D10-R sum  
ive. Runoff (Q<sub>5</sub> =

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2.82 acres per  
spreadsheet  
inlet located in the proposed western half of the  
cfs, Q<sub>100</sub> = 11 cfs) from Basin O1's 1.27 acres  
ected via side lot line swales and C&G to the  
ad Basin area 1.8 a public 36" diameter D10-R storm


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Public 4' D10-R sum  
= 3 cfs) from Basin


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DP 16  
f DP 14 in


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**Author:** CDurham  
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e L1, L2, O1, O2 and OS-4

Calculations for forebay missing in appendix

### Calculations for forebay missing in appendix

city of Pipe runs 15 and 16 are tested water effluents via a private 36" diameter RCP to a proposed private temporary EDR. This is the FSD Pond 2.

It is a proposed private temporary Full-Scale System Detention Basin called FSD Pond 2. It is engineered and installed when future changes to the east are final designed. There are no  $v$  at this time but when the final design of the permanent pond will happen. During this time to the pond and retention for Water Quality and Detention along with the Basins are consisting of the EDRs and undveloped up-slope wetland areas. Runoff (1) in (d) from Basins (10) and three flows into the EDRs. The basins volume is 2.0E+05, 2.0E+05 and 0.6E+06 a total volume of 2.1E+06. The 100-year effluent impairment was calculated using US-DRP Version 1.87 (87) spreadsheet. This information was used (Detention=4.0) spreadsheet and the calculation yielded a required a WQC of  $0.267(1.25E+05)$  and a 100-year detention volume of 0.720E+06. This gave a detention of  $1.22E+06$ . The top of pond is set at 6906.03', with a bottom of pond at 6899.03'.

$$\text{EURV vol} = 0.507 \text{ ac-ft}$$

flows into the EDB. The basins tributary to Designated area of 21.93 acres. The 100-year effective impervious MP Version 3.07 IRF spreadsheet. This information was used and the calculation yielded a required a WQCV of 00-year detention volume of 0.720 ac-ft. This gave a total pond is set at 6906 cu ft, with a bottom of pond at 6899.00 into a concrete forebay (3% WQCV see culcs in appendix) as minor flows into 2' wide concrete tickle channel. The used concrete micro-pond at the surcharge elevation of 6899.00 cu ft and the top cut at 6906.00 ft. A measured 4' x

and

and

Clarify if 4x4 is true box dimension or grate dimension.


trickle channel directs runoff to  
6899.33. The bottom of the mic  
4' outlet box with the grate set at

Unresolved: Clarify why this pond is temporary. Is there an estimated lifespan for it? Do you mean TSB?

Design Point 17 is a proposed public 4' D10-R stump inlet. Drive: Landscape (Q<sub>1</sub> = 1 cfs, Q<sub>2</sub> = 3 cfs) from Basin 0210 and runoff area short flows to the street frontage inlet. After being captured by the inlet Pipe 16 will flow (Q<sub>3</sub> = 37 cfs) of Pipe runs 15 and 16 are noted were Design Point 18 is a proposed private temporary EDRB. The stormwater clearly only this pond is temporary. In these an estimated storage for 10 to 20 years may require Design Point 18 is a proposed private Fall Spill. This pond will be replaced and revised when future filing out time frames at this time to when the final design of Points 14-17 are noted to the pond and treated for Water 054-0.10.90 are consisting of the EDRB area and under 2 cfs, Q<sub>3</sub> = 14 cfs) from Basin 054 short flows to the


**Subject:** SW - Comment  
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**Author:** EPC Stormwater - Glenn Reese  
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used 8' D10-R sun  
= 12 cfs) from Ba

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8' D10-R

offsite basin upstream are fully developed with  
in runoff coefficient  
located on the south curb of Muddy Pond Street.  
S-Q1's 4.31 acres consists of future single-family  
and edge onto Basin Q1. Runoff (Q<sub>1</sub>) = 2 cfs. Q<sub>100</sub> =  
the 8" inlet. The combined flow (Q<sub>2</sub>) = 7 cfs. Q<sub>100</sub> =  
"RCP diameter storm routes the flows to a manhole

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Couldn't verify area, missing sheet 2 in runoff coeff  
spreadsheet

= 4 cfs) from Basin Q1's 1.04 ac  
15 cfs) is captured in the inlet and  
junction with Pipe run 19  
full capture/bypass?  
Design Point 20 is a proposed 4"  
Q<sub>100</sub> = 4 cfs) from Basin Q1-Q2  
be directed via lot line swales and  
Q2's 1.04 acres is directed to line-  
the inlet and Pipe run 19 and 18" R  
run 18. Pipe Run 20 a 24" RCP s

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full capture/bypass?

used 4' D10-R sun  
S-Q2's 0.94 acre:

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4' D10-R

= 12 cfs) from Basin Q1-Q2's 4.31 acres consists of future single-family  
directed via lot line swales and edge onto Basin Q1. Runoff (Q<sub>1</sub>) = 2 cfs. Q<sub>100</sub> =  
1.04 acres is directed to the 8" inlet. The combined flow (Q<sub>2</sub>) = 7 cfs. Q<sub>100</sub> =  
inlet and Pipe run 18 a 24" RCP diameter storm routes the flows to a manhole  
full capture/bypass?  
used 4' D10-R sun  
Q1-Q2's 4.31 acres consists of future single-family development and will  
into and edge onto Basin Q2. Runoff (Q<sub>1</sub>) = 2 cfs. Q<sub>100</sub> = 7 cfs) from Basin  
to the 8" inlet. The combined flow (Q<sub>2</sub>) = 9 cfs. Q<sub>100</sub> = 9 cfs) is captured in  
a 18" RCP diameter storm routes the flows to a manhole junction with Pipe  
Run 19. RCP storm routes the combined flow (Q<sub>2</sub>) = 9 cfs. Q<sub>100</sub> = 21 cfs) of Pipe

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spreadsheet

inlet. The combined flow (Q<sub>2</sub>) = 3 cfs. Q<sub>100</sub> =  
diameter storm routes the flows to a manhol  
n routes the combined flow (Q<sub>2</sub>) = 10 cfs. C  
Street east-down Muddy Pond Street to a m

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12' D10-R

Design Principle 2 is a proposed 12' D10-R arguments inlet located in the north east Street segment of Minnesota Way intersection. Runoff ( $Q = 11$  cfs,  $Q_{50} = 24$  cfs) R's A&R's areas consists of future single-family development and will be directed and culled into Basin R ( $Q = 8$  cfs,  $Q_{50} = 15$  cfs) from Basin R's (0.13 acre 12' inlet). The combined flow ( $Q = 11$  cfs,  $Q_{50} = 24$  cfs) is routed to the inlet at R's in, continued. Run on 21 sq ft, BCF, downer, enters the control

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Couldn't verify area, missing sheet 2 of runoff coeff spreadsheet


used 10' D10-R sun  
= 18 cfs) from Basin

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10' D10-R


run 22 routes the combined flow ( $Q_3 = 14$  cfs,  $Q_{300} = 27$  cfs) to the Muddy Pond Street to a manhole junction with Pipe run 25. The combined flow is then routed to the Muddy Pond Street. P 21 travels in the north flow line of Muddy Pond Street. **Couldn't verify area, missing sheet 2 of runoff coeff spreadsheet**

10" D10-R sump inlet located in the west curb of Muddy Pond Street (from Basin OS-S1's 5' x 9' across concrete of future 10' x 10' lot line swales and c&g onto Basin S1. Runoff ( $Q_3$ ) is directed to the 4" inlet. The combined flow ( $Q_3$ ) is then routed to the Muddy Pond Street.

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Couldn't verify area, missing sheet 2 of runoff coeff spreadsheet


used 10' D10-R sun  
S-S2's 0.17 acres c

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10' D10-R

Runoff ( $Q_1 = 8$  cfs,  $Q_{200} = 18$  cfs) from Basin 200 (development) and will be directed via lot line easement to 7 cfs) from Basin S1's 1.55 acres is directed to 37 cfs) of Basins OS-S1, S1 & the bypass the **existing conveyance, existing storm sewer, and 10' runoff** easement.

Design Point 23 is a proposed 10" D10-R sample ( $Q_1 = 1$  cfs) from Basin OS-S2's 0.47 acres conveyed via lot line easement and c/sig onto Basin 200. 0.13 acres is directed to the 10' inlet. The combined flow ( $Q_2 = 16$  cfs) is conveyed to the 2-10" D10-R sample inlets. Pipe runs 23a & 23b


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Couldn't verify area, missing sheet 2 of runoff coeff spreadsheet




0 cfs, 0.100  
Include  
discussion of  
Pipe run 22

14 = 0 cfs.

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Include discussion of Pipe run 22


at Pipe run 21.  
is a proposed 12" D10-R at-grade inlet located in th  
f Massachusetts Way intersection. Runoff (Q<sub>1</sub> = 11 cfs, t  
omists of future single-family development and will l  
asin R. Runoff (Q<sub>2</sub> = 0 cfs, Q<sub>10</sub> = 1 cfs) from Basin R  
mbined flow (Q<sub>3</sub> = 11 cfs, Q<sub>10</sub> = 24 cfs) is routed to t  
l. Pipe run 21 an 18" RCP diameter storm routes the

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at Pipe run 21


21 (8)

osed 4' D10-R sun  
= 6 cfs) from Basi

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4' D10-R

full capture/bypass?  
stump inlet located in the south curb of Mud  
basin T1's 1.42 acres consists of single-fami  
d edg to the 4' inlet. Pipe run 27 an 18" RCP

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full capture/bypass?

osed 4' D10-R sum  
S-T2's 0.76 acres c

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4' D10-R

Design Point 24 is a proposed 4' D10-R an  
Runoff (Q<sub>1</sub> = 3 cfs, Q<sub>10</sub> = 6 cfs) from Bas  
and will be directed via lot line swales and c  
route the flow from the site to a nearby  
Design Point 25 is a proposed 4' D10-R an  
Q<sub>10</sub> = 3 cfs) from Basin 06 (2.28 ac)  
directed via lot line swales and edg onto the  
1.23 acres is directed to the 4' inlet. The con  
20 an 18" RCP diameter storm routes the fl  
4' D10-R

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Couldn't verify are, missing sheet 2 of runoff coeff  
spreadsheet

pe run 27 in 18" RCP diameter storm  
ms 26 & 28.  
Q5=2 & Q100=5 cfs  
per spreadsheet  
osite of PP 24. Runoff (Q<sub>5</sub> = 1 cfs,  
ngle-familly development and will be  
= 0 cfs, Q<sub>100</sub> = 1 cfs) from Basin T2's  
5 is Q<sub>5</sub> = 3 cfs, Q<sub>100</sub> = 7 cfs. Pipe run

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Q5=2 & Q100=5 cfs per spreadsheet

osed 10' D10-R sun  
(Q<sub>5</sub> = 7 cfs, Q<sub>100</sub> =

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10' D10-R

osed 6' D10-R sun  
U2's 1.89 acres cc

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
6' D10-R


osed 10' D10-R sun  
is offsite in a future

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10' D10-R


22 (7)

run 24" RCP.  
  
s to the north and

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34

Can't verify basin area  
missing sheet 2 runoff coef  
spreadsheet  
Q5=2 & Q100=5 cfs  
per spreadsheet  
osite of PP 24. Runoff (Q<sub>5</sub> = 1 cfs,  
ngle-familly development and will be  
= 0 cfs, Q<sub>100</sub> = 1 cfs) from Basin T2's  
5 is Q<sub>5</sub> = 3 cfs, Q<sub>100</sub> = 7 cfs. Pipe run


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Couldn't verify basin area, missing sheet 2 runoff  
coeff spreadsheet

... 5-1, 2, 3A, 3B, 7, & 9 with a total area of 84.44 acres are on  
... utility and Detention. The 100-year effective impervious area  
... BMP Version 3.07 BRF spreadsheet. This information was e  
... sheet and the calculation yielded a required a WQCV of  
... 100-year detention volume of 4.44 ac-ft. This figure is total re  
... would be set at 602.00, with a bottom of pond at 602.00. The  
... site a concrete forebay (1% WQCV see calc in appendix) wi  
... not minor flows into 2" wide concrete trickle channel. The  
... and concrete micro-pool at the surge elevation of 602.3  
... 6000 GPD and the box cost is \$4975 per 6' x 6' unit.


**Subject:** Line  
**Page Index:** 22  
**Date:** 10/28/2021 2:06:41 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 22

... and  
... 100-year

**Subject:** Text Box  
**Page Index:** 22  
**Date:** 10/28/2021 2:05:07 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 22


and

... through the future Waterbury fillings and in  
... EURV vol = 3.20 ac-ft  
... Design Point 29 is a proposed private Ful  
... Points 19-28 and Office Building (S-1, 2, 3,  
... the pond and treated for Water Quality at  
... 47.5% was calculated using UD-BMP Ver  
... into the UD-Detention\_v4.03 spreadsheet  
... ac-ft, a EURV of 2.00 ac-ft and a 100-year  
... volume of 7.365 ac-ft. The top of pond is at

**Subject:** Callout  
**Page Index:** 22  
**Date:** 10/28/2021 1:43:12 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 22


EURV vol = 3.20 ac-ft

... 1.0% was calculated using UD-BMP Version 4.03 BRF spreadsheet. This information is  
... ac-ft (UD-BMP Version 4.03 spreadsheet) and the calculation yielded a required 100-year  
... vol. of EURV of 2.00 ac-ft. The top of pond is at 602.00, with a bottom of pond at 602.00.  
... volume of 7.365 ac-ft. The top of pond is at 602.33, with a bottom of pond at 602.00.  
... 1.0% was calculated using UD-BMP Version 4.03 BRF spreadsheet. This information is  
... ac-ft (UD-BMP Version 4.03 spreadsheet) and the calculation yielded a required 100-year  
... vol. of EURV of 2.00 ac-ft. The top of pond is at 602.00, with a bottom of pond at 602.00.  
... volume of 7.365 ac-ft. The top of pond is at 602.33, with a bottom of pond at 602.00.

**Subject:** Callout  
**Page Index:** 22  
**Date:** 10/28/2021 2:03:37 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 22

Calculations for forebay missing in appendix


... rate trickle channel. The trickle  
... large elevation of 602.33. The  
... A proposed 6' x 6' outlet box  
... Clarify if 6x6 is true box  
... dimension or grate dimension.

**Subject:** Callout  
**Page Index:** 22  
**Date:** 10/28/2021 2:04:52 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 22

Clarify if 6x6 is true box dimension or grate dimension.

23 (6)

... 18.4" per Detention  
... Outlet spreadsheet  
... front to meet the 3-orifice requirement as  
... he invert will route all runoff from the pe  
... of 2" x 3" orifice holes spaced 18.3" apart

**Subject:** Callout  
**Page Index:** 23  
**Date:** 10/28/2021 1:46:09 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 23

18.4" per Detention Outlet spreadsheet

**2.51 runoff cusp spreadsheet**

Couldn't verify area, missing sheet 2 of runoff coeff spreadsheet

Runoff Reduction spreadsheet shows that this area connected impervious Area being routed over the  $p = 3$  cfs,  $Q_{100} = 10$  cfs) at DP 30 does not warrant use in the "Word 3 outlet runoff from the emergency through the triple 36" RCP culverts (See appendix).

Couldn't verify flow, missing DP 30 on Surface Routing spreadsheet


Missing discussion on Basin OS-7

there

Q5=3 & Q100=6 cfs per spreadsheet

Address channel conditions, velocities, shear stresses, stabilization at each of the proposed channel crossings at Gilbert Dr.

osed 8' D10-R sun  
= 1 cfs) from Basi

**Subject:** Highlight  
**Page Index:** 24  
**Date:** 10/28/2021 4:36:25 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 24


8' D10-R

---

25 (5)


---

osed 4' D10-R sun  
DS-Q2's 0.22 acres


**Subject:** Highlight  
**Page Index:** 25  
**Date:** 10/28/2021 4:37:59 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 25

4' D10-R

s 1.10 acres is directed to the 4" inlet. The  
inlet and Pipe run 19 in 18" RCP diameter  
18. Pipe Run 20 a 24" RCP storm routes  
9 & 20 east down Muddy Pond Street east  
run 21.  
located in the north curb of Muddy Pond


**Subject:** Line  
**Page Index:** 25  
**Date:** 10/28/2021 4:39:26 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 25

osed 12' D10-R at-  
to Way intersection

**Subject:** Highlight  
**Page Index:** 25  
**Date:** 10/28/2021 4:39:42 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 25


12' D10-R

osed 10' D10-R sun  
: 1 cfs) from Basin (

**Subject:** Highlight  
**Page Index:** 25  
**Date:** 10/28/2021 4:42:38 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 25

10' D10-R

osed 10' D10-R sum  
S-S2's 0.13 acres cc

**Subject:** Highlight  
**Page Index:** 25  
**Date:** 10/28/2021 4:42:43 PM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 25

10' D10-R

used 4' D10-R sun

= 6 cfs) from Basin

Subject: Highlight

Page Index: 26

Date: 10/28/2021 4:52:03 PM

Author: CDurham

Color:

Layer:

Space:

Page Label: 26

4' D10-R

used 4' D10-R sun

S-T2's 0.30 acres c

Subject: Highlight

Page Index: 26

Date: 10/28/2021 4:52:07 PM

Author: CDurham

Color:

Layer:

Space:

Page Label: 26

4' D10-R

used 10' D10-R sun

(Q<sub>5</sub> = 7 cfs, Q<sub>100</sub> =

Subject: Highlight

Page Index: 26

Date: 10/28/2021 4:52:11 PM

Author: CDurham

Color:

Layer:

Space:

Page Label: 26

10' D10-R

used 6' D10-R sun

U2's 1.89 acres cc

Subject: Highlight

Page Index: 26

Date: 10/28/2021 4:52:23 PM

Author: CDurham

Color:

Layer:

Space:

Page Label: 26

6' D10-R

at point upstream of the existing structure.  
Q<sub>100</sub> = 3 cfs) sheet flows from the back y  
quality that is accounted for using Runof  
d above. The combined flow (Q<sub>5</sub> = 24 c  
the triple 36" RCP culverts (See appendi  
6 cfs  
re Design point and Basin description sh

Subject: Callout

Page Index: 27

Date: 10/28/2021 4:58:39 PM

Author: CDurham

Color:

Layer:

Space:

Page Label: 27

6 cfs

28 (3)

le for w]

Subject: Line

Page Index: 28

Date: 10/28/2021 5:06:28 PM

Author: CDurham

Color:

Layer:

Space:

Page Label: 28

Quentin N. Armijo, P.E.  
Vice President  
June 17, 2016 (page 12) of MDDP-EX10-12  
Missing Bibliography from previous version. Please add back in.

**Subject:** Text Box  
**Page Index:** 28  
**Date:** 10/28/2021 5:08:22 PM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 28

Missing Bibliography from previous version. Please add back in.

Geick Ranch  
ge Basin and Geick Ranch Basin. The  
th fees for this basin. At the time of th  
the portion in the Hawler Ranch Rec

**Subject:** Callout  
**Page Index:** 28  
**Date:** 11/16/2021 11:18:31 AM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 28

Geick Ranch

47 (2)

ATTACHED MDDP  
10/16/21  
8/27/21  
10/1/21

Change to DP-EX10 & DP-EX10A

MDDP - EXISTING SURFACE ROUTING SU

Contributing Basin	Area (AC)	Equivalent CAGS	Equivalent CAGS (ft)
EX10, EX10A, DP-EX10 & DP-EX10A	18.02	1.47	3.36
EX10	4.03	0.37	1.47

**Subject:** Callout  
**Page Index:** 47  
**Date:** 11/1/2021 7:29:42 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 47

Change to DP-EX10 & DP-EX10A

Flow shown doesn't match report.

JURY

Intensity	Flow	Facility S
100	100	100
100	100	100
100	100	100

**Subject:** Callout  
**Page Index:** 47  
**Date:** 11/1/2021 7:31:18 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 47

Flow shown doesn't match report.

51 (2)

OS 4 & OS 2

OS 4 & OS 2	13.71	1.34	4.15
PREL	0.02	0.02	0.22
PREL PREL PREL PREL	35.03	3.31	21.25

Pre write up is report should be basin Pre4

**Subject:** Callout  
**Page Index:** 51  
**Date:** 10/28/2021 5:40:32 PM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 51

Per write up in report should be basin Pre4

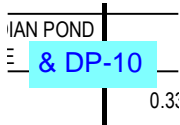
Missing Design Points EX10 & 13, shown on Early Grading drainage map

**Subject:** Text Box  
**Page Index:** 51  
**Date:** 10/28/2021 5:40:56 PM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 51

Missing Design Points EX10 & 13, shown on Early Grading drainage map

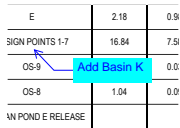






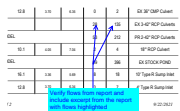
**Subject:** Text Box  
**Page Index:** 65  
**Date:** 11/1/2021 7:59:19 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 65

& DP-10



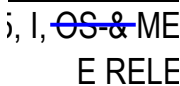
**Subject:** Callout  
**Page Index:** 65  
**Date:** 11/1/2021 7:57:23 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 65

Add Basin K

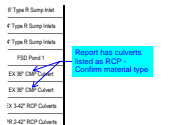


**Subject:** Callout  
**Page Index:** 65  
**Date:** 11/1/2021 7:58:36 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 65

Verify flows from report and include excerpt from the report with flows highlighted



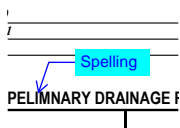
**Subject:** Line  
**Page Index:** 65  
**Date:** 11/1/2021 7:59:26 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 65



**Subject:** Callout  
**Page Index:** 65  
**Date:** 11/1/2021 8:00:26 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 65

Report has culverts listed as RCP - Confirm material type

66 (2)



**Subject:** Callout  
**Page Index:** 66  
**Date:** 11/1/2021 8:01:06 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 66

Spelling

PELIMINARY DRAINAGE REPORT			
Cont.	Change to Design Points 14-17	Eq.	C
01	2.82		
02	0.94		
DESIGN POINTS 1-10 & BASIN DS-4	21.93		

**Subject:** Callout  
**Page Index:** 66  
**Date:** 11/1/2021 8:01:25 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 66

Change to Design Points 14-17

67 (1)

PELIMINARY DRAINAGE REPORT - PI			
VERY FINE	Spelling		
E LISTED AT MAXIMUM SIZE REQUIRED TO ACCOMMODATE INDIVIDUAL PIPE SHEETS FOR HYDRAULIC INFORMATION			

**Subject:** Callout  
**Page Index:** 67  
**Date:** 11/1/2021 8:01:55 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 67

Spelling

68 (2)

1	36" RCP
8	36" RCP
19	36" RCP
5	18" RCP
29	36" RCP
15	36" RCP
44	42" RCP

**Subject:** Callout  
**Page Index:** 68  
**Date:** 11/1/2021 8:02:31 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 68

Report has 30" RCP

1	36"	1.0	11	36" RCP
1	1.0	1.0	11	36" RCP

**Subject:** Callout  
**Page Index:** 68  
**Date:** 11/1/2021 8:17:14 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 68

Single 36" RCP in report and on map

70 (1)

MDDP INLET CALCULATIONS			
All inlets within public ROW need to be CDOT Type R inlets. Update inlet lengths accordingly.			

**Subject:** Text Box  
**Page Index:** 70  
**Date:** 11/1/2021 8:19:07 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 70

All inlets within public ROW need to be CDOT Type R inlets. Update inlet lengths accordingly.

92 (1)

MDDP PIPE CALCULATIONS			
These sheets are fine for normal depth calculations, but system HGL calculations are needed as well.			

**Subject:** Text Box  
**Page Index:** 92  
**Date:** 11/1/2021 8:55:19 AM  
**Author:** CDurham  
**Color:**    
**Layer:**  
**Space:**  
**Page Label:** 92

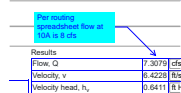
These sheets are fine for normal depth calculations, but system HGL calculations are needed as well.

---


## 103 (1)

---

[Open Google Sheets version](#) [View All Screens](#)



Per routing spreadsheet flow at 10A is 8 cfs	
Results	
Flow, Q	7.3079 cfs
Velocity, v	8.4238 ft/s
Velocity head, h <sub>v</sub>	0.6411 ft

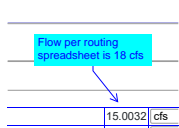
**Subject:** Callout  
**Page Index:** 103  
**Date:** 11/1/2021 8:31:08 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 103

Per routing spreadsheet flow at 10A is 8 cfs


---

## 104 (1)

---



Flow per routing spreadsheet is 18 cfs
15.0032 cfs

**Subject:** Callout  
**Page Index:** 104  
**Date:** 11/1/2021 8:32:21 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 104

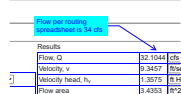
Flow per routing spreadsheet is 18 cfs

---


## 108 (1)

---

[Open Google Sheets version](#) [View All Screens](#)



Flow per routing spreadsheet is 34 cfs	
Results	
Flow, Q	32.1044 cfs
Velocity, v	3.3457 ft/s
Velocity head, h <sub>v</sub>	0.3575 ft
Flow area	9.4353 ft <sup>2</sup>

**Subject:** Callout  
**Page Index:** 108  
**Date:** 11/1/2021 8:39:29 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 108

Flow per routing spreadsheet is 34 cfs

---

## 109 (1)

---

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Flow per routing spreadsheet is 3 cfs

Results

Flow, Q

Velocity, v

Velocity head,  $h_v$

2.0060


12.7995

2.5462

cfs

ft/s

ft

**Subject:** Callout  
**Page Index:** 109  
**Date:** 11/1/2021 8:40:17 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 109

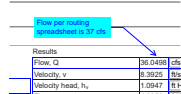
Flow per routing spreadsheet is 3 cfs

---


## 110 (1)

---

[Open Google Sheets version](#) [View All Screens](#)



Flow per routing spreadsheet is 37 cfs	
Results	
Flow, Q	36.0498 cfs
Velocity, v	8.3925 ft/s
Velocity head, $h_v$	1.0947 ft
Flow area	4.2936 ft <sup>2</sup>

**Subject:** Callout  
**Page Index:** 110  
**Date:** 11/1/2021 8:40:38 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 110

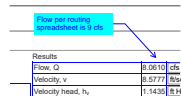
Flow per routing spreadsheet is 37 cfs

---


## 115 (1)

---

[Open Google Sheets version](#) [View All Screens](#)



Flow per routing spreadsheet is 9 cfs	
Results	
Flow, Q	8.0810 cfs
Velocity, v	8.5777 ft/s
Velocity head, h <sub>v</sub>	1.1436 ft

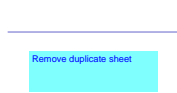
**Subject:** Callout  
**Page Index:** 115  
**Date:** 11/1/2021 8:44:09 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** 115

Flow per routing spreadsheet is 9 cfs

---

119 (1)

---



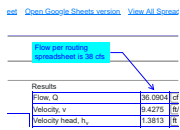
**Subject:** Text Box  
**Page Index:** 119  
**Date:** 11/1/2021 8:44:58 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 119

Remove duplicate sheet

---

120 (1)

---



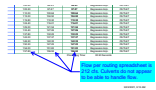
**Subject:** Callout  
**Page Index:** 120  
**Date:** 11/1/2021 8:45:27 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 120

Flow per routing spreadsheet is 38 cfs

---

131 (1)

---



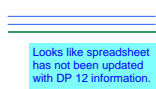
**Subject:** Callout  
**Page Index:** 131  
**Date:** 11/1/2021 8:51:57 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 131

Flow per routing spreadsheet is 212 cfs. Culverts do not appear to be able to handle flow.

---

133 (1)

---



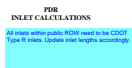
**Subject:** Text Box  
**Page Index:** 133  
**Date:** 11/1/2021 8:53:34 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 133

Looks like spreadsheet has not been updated with DP 12 information.

---

137 (1)

---



**Subject:** Text Box  
**Page Index:** 137  
**Date:** 11/1/2021 8:57:04 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 137

All inlets within public ROW need to be CDOT Type R inlets. Update inlet lengths accordingly.

---

148 (1)

---



**Subject:** Text Box  
**Page Index:** 148  
**Date:** 11/1/2021 8:57:53 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 148

These sheets are fine for normal depth calculations, but system HGL calculations are needed as well.

---

166 (2)

---

**Subject:** Contractor  
**Page Index:** 166  
**Date:** 11/15/2021 2:39:04 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 166

this ID is a misnomer. There is not a FSD at DP9. Do you mean DP 8? Rename to clarify. It should coincide with Location description above.

**Subject:** Architect  
**Page Index:** 166  
**Date:** 11/15/2021 2:38:14 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 166

POND 1 Design Point 8 Full Spectrum Detention  
19.91 Acres

---

171 (1)

---

**Subject:** Callout  
**Page Index:** 171  
**Date:** 11/1/2021 9:06:44 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 171

Should be <1

---

174 (1)

---

**Subject:** Contractor  
**Page Index:** 174  
**Date:** 11/15/2021 3:20:05 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 174

this ID is a misnomer. There is not a FSD at DP9. Do you mean DP 18? Rename to clarify. It should coincide with Location description above.

---

182 (1)

---

**Subject:** Contractor  
**Page Index:** 182  
**Date:** 11/15/2021 3:20:26 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 182

this ID is a misnomer. There is not a FSD at DP9. Do you mean DP 29? Rename to clarify. It should coincide with Location description above.

---

183 (1)

---

**Subject:** Text Box  
**Page Index:** 183  
**Date:** 11/16/2021 12:11:19 PM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 183

Submit SDI worksheets separately from this report.

## 191 (1)

What is this column?

**Subject:** Callout  
**Page Index:** 191  
**Date:** 11/1/2021 9:12:36 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 191

What is this column?

## 192 (2)

What is this column?

**Subject:** Contractor  
**Page Index:** 192  
**Date:** 11/15/2021 3:25:13 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 191

These sub-basins of I and J are not shown on any of the drainage maps. Show on one of the maps.

What is this column?

**Subject:** SW - Rectangle  
**Page Index:** 192  
**Date:** 11/15/2021 3:25:10 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 191

## 193 (3)

What is this column?

**Subject:** Callout  
**Page Index:** 193  
**Date:** 11/16/2021 12:09:30 PM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 192

If Saybrook Road is not sheet flowing, but point discharging to ditches (future pipe or C&G?) does this work?

What is this column?

**Subject:** Callout  
**Page Index:** 193  
**Date:** 11/16/2021 11:31:15 AM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 192

why is this highlighted red?

What is this column?

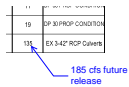
**Subject:** Callout  
**Page Index:** 193  
**Date:** 11/16/2021 11:32:00 AM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** 192

is 0 correct?

---

343 (1)

---



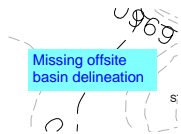
**Subject:** Callout  
**Page Index:** 343  
**Date:** 11/16/2021 12:18:35 PM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EX 1

185 cfs future release

---

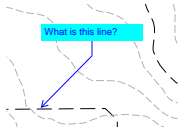
344 (4)

---



**Subject:** Text Box  
**Page Index:** 344  
**Date:** 11/1/2021 9:52:41 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EX 2

Missing offsite basin delineation



**Subject:** Callout  
**Page Index:** 344  
**Date:** 11/1/2021 9:56:57 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EX 2

What is this line?



**Subject:** Cloud+  
**Page Index:** 344  
**Date:** 11/1/2021 9:58:03 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EX 2

What are these lines?



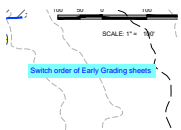
**Subject:** Callout  
**Page Index:** 344  
**Date:** 11/1/2021 9:58:45 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EX 2

What are these lines?

---

345 (8)

---



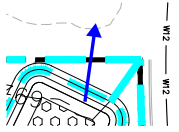
**Subject:** Text Box  
**Page Index:** 345  
**Date:** 11/1/2021 9:59:39 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 2

Switch order of Early Grading sheets

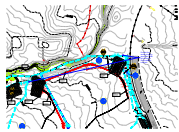


**Subject:** Contractor  
**Page Index:** 345  
**Date:** 11/15/2021 12:56:38 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 2

add linetype to Legend.

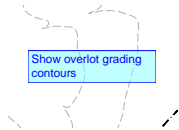


**Subject:** Arrow  
**Page Index:** 345  
**Date:** 11/16/2021 10:08:22 AM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 2



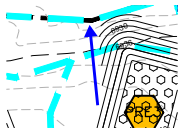
**Subject:** Callout  
**Page Index:** 345  
**Date:** 11/16/2021 10:13:07 AM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 2

Provide flow arrows showing where the TSBs will discharge. Show spillway locations.

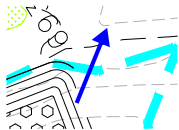


**Subject:** Text Box  
**Page Index:** 345  
**Date:** 11/16/2021 10:10:05 AM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 2

Show overlot grading contours

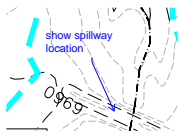



**Subject:** Arrow  
**Page Index:** 345  
**Date:** 11/16/2021 10:10:36 AM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 2



**Subject:** Arrow  
**Page Index:** 345  
**Date:** 11/16/2021 10:11:12 AM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 2



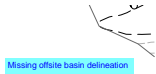



**Subject:** Callout  
**Page Index:** 345  
**Date:** 11/16/2021 10:12:26 AM  
**Author:** dsdrice  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 2

show spillway location

---


346 (3)



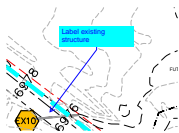
**Subject:** Text Box  
**Page Index:** 346  
**Date:** 11/1/2021 10:01:09 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 1


Missing offsite basin delineation



**Subject:** Callout  
**Page Index:** 346  
**Date:** 11/1/2021 10:02:17 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 1

Spreadsheets should be for Early Grading scenario. Please update

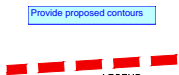



**Subject:** Callout  
**Page Index:** 346  
**Date:** 11/1/2021 10:03:20 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] EGP 1

Label existing structure

---

347 (1)

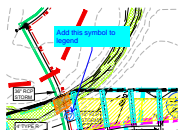



**Subject:** Text Box  
**Page Index:** 347  
**Date:** 11/16/2021 3:05:18 PM  
**Author:** dsdrice  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 1

Provide proposed contours

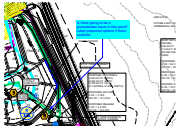
---

348 (9)



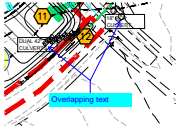
**Subject:** Callout  
**Page Index:** 348  
**Date:** 11/1/2021 10:08:34 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Add this symbol to legend



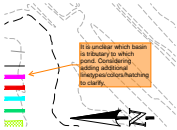
**Subject:** Callout  
**Page Index:** 348  
**Date:** 11/1/2021 10:44:21 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Is there going to be a groundwater issue in this pond? Label proposed options if there could be.



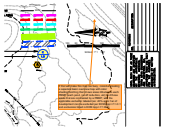
**Subject:** Callout  
**Page Index:** 348  
**Date:** 11/1/2021 10:56:42 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Overlapping text



**Subject:** Contractor  
**Page Index:** 348  
**Date:** 11/15/2021 2:01:00 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

It is unclear which basin is tributary to which pond. Considering adding additional linetypes/colors/hatching to clarify.



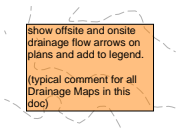
**Subject:** Contractor  
**Page Index:** 348  
**Date:** 11/15/2021 3:23:45 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

If that will make this map too busy, consider creating a separate basic overview map with color shading/hatching that shows areas tributary to each PBMP (each pond, runoff reduction, etc) and those areas that are not treated by a PBMP, with the applicable exclusion labeled (ex: 20% up to 1ac of development can be excluded per ECM App I.7.1.C.1 and exclusions listed in ECM App I.7.1.B.#).



**Subject:** Contractor  
**Page Index:** 348  
**Date:** 11/15/2021 2:29:07 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

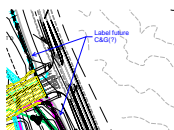
This should be Pond 1. This is just a duplicate text box to Pond 2 at top of sheet. So all input values need to be updated in this Pond 1 text box too.




**Subject:** Contractor  
**Page Index:** 348  
**Date:** 11/15/2021 2:36:31 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

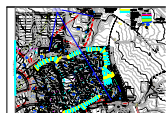
show offsite and onsite drainage flow arrows on plans and add to legend.


(typical comment for all Drainage Maps in this doc)



**Subject:** Callout  
**Page Index:** 348  
**Date:** 11/16/2021 12:08:42 PM  
**Author:** dsdrice  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Label future C&G(?)




**Subject:** Callout  
**Page Index:** 348  
**Date:** 11/16/2021 3:13:51 PM  
**Author:** dsdrice  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Consider moving the overflow spillways north (less drop to channels)

---

349 (1)

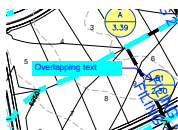



**Subject:** Text Box  
**Page Index:** 349  
**Date:** 11/1/2021 10:37:43 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 1

Missing Basin line and label for Basin OS-2

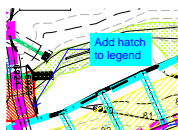
---


350 (8)



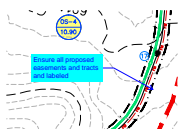
**Subject:** Callout  
**Page Index:** 350  
**Date:** 11/1/2021 10:30:59 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2


Overlapping text



**Subject:** Callout  
**Page Index:** 350  
**Date:** 11/1/2021 10:32:20 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Add hatch to legend



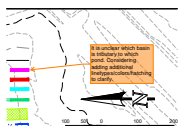
**Subject:** Callout  
**Page Index:** 350  
**Date:** 11/1/2021 10:45:05 AM  
**Author:** CDurham  
**Color:**   
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Ensure all proposed easements and tracts and labeled



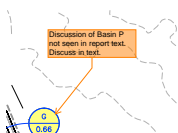
**Subject:** Callout  
**Page Index:** 350  
**Date:** 11/1/2021 10:54:19 AM  
**Author:** CDurham  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Label all roadways



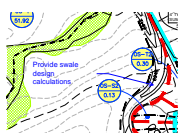
**Subject:** Contractor  
**Page Index:** 350  
**Date:** 11/15/2021 2:01:08 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

It is unclear which basin is tributary to which pond.  
Considering adding additional  
linetypes/colors/hatching to clarify.



**Subject:** SW - Comment  
**Page Index:** 350  
**Date:** 11/15/2021 2:18:16 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Discussion of Basin P not seen in report text.  
Discuss in text.



**Subject:** Callout  
**Page Index:** 350  
**Date:** 11/16/2021 3:22:55 PM  
**Author:** dsdrice  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

Provide swale design calculations



**Subject:** Contractor  
**Page Index:** 350  
**Date:** 11/17/2021 12:34:02 PM  
**Author:** EPC Stormwater - Glenn Reese  
**Color:** ■  
**Layer:**  
**Space:**  
**Page Label:** [1] PROP 2

It is not permissible to have the RPA within  
wetlands because:  
- according to MHFD Detail T-0, the allowable  
vegetation type is turf grass for RPAs that are  
grass buffers or grass swales.  
- Pg 29 of our MS4 Permit states: "Control  
measures must prevent pollution or degradation of  
state waters." And so directly connecting to the  
wetland will convey sediment to state waters.