ENG-SF22041-R1-FDR.pdf Markup Summary

1 (2)		
041 30 22-x0x	Subject: Callout Page Index: 1 Date: 1/27/2023 10:23:44 AM Author: dsdrice Color: Layer: Space: Page Label: 1	041
	Subject: Stormwater Comments Color Page Index: 1 Date: 1/30/2023 9:00:37 AM Author: dotprete Color: Layer: Space: Page Label: 1	
4 (1)		
44 <mark>.578</mark> -ac	Subject: Page Index: 4 Date: 1/27/2023 10:25:57 AM Author: dsdrice Color: Layer: Space: Page Label: 4	578
5 (1)		
I Planning In of Sand thof this Rependid following grized by 100 = 2600	Subject: Callout Page Index: 5 Date: 1/30/2023 2:02:43 PM Author: CDurham Color: Layer: Space: Page Label: 5	Off-site drainage map was not found in appendix. Please provide with next submittal
6 (1)		
Map not found? Irainage Map). As shown within the DBPS, this ne and all vegetation at both the entrance and isit this facility seems to be in good working ce	Subject: Callout Page Index: 6 Date: 1/27/2023 10:49:11 AM Author: dsdrice Color: Layer: Space: Page Label: 6	Map not found?

7	1	4	١
1	(I)

(Cq. + 44, Cq 14 43) crouts of 3.7 Ac of the results of Toestendige property sizes and there are under of Toback from a n a vertex direction towards the academy service of the and queries the tabulance area. and and queries the tabulance area.	Subject: Callout Page Index: 7 Date: 1/27/2023 10:56:18 AM Author: dsdrice Color: Layer: Space: Page Label: 7	sediment basins?
9 (2)		
way, a Type II storm manhole will be installed to ind then south down Antelope Ravine Dr. These is for in the previous Filing 1 approved drainage ch). The then the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the form york that then taxed as curb and gutter f	Subject: Text Box Page Index: 9 Date: 1/30/2023 9:07:07 AM Author: dotprete Color: ■ Layer: Space: Page Label: 9	how are these flows treated for water quality?
lows from the front yards that then travel as curl At this location a 5' Type R Sump inlet will be ins of 0007, developed flows, An 12' RCP storm pi eam. The store is the second store of the store of the second store of the second store of the second store of the second store of the store of the second store of the secon	Subject: Text Box Page Index: 9 Date: 1/30/2023 9:07:51 AM Author: dotprete Color: Layer: Space: Page Label: 9	how are these flows treated for water quality?
10 (1)		
let will be installed to completely capture both ti P storm pipe will then convey these flows furthe within inst5-17 will be removed body with th ots. When the flow flows the store that the store that the will be stored to the store that the store that the store is deal represents, developed flows from Basin	Subject: Text Box Page Index: 10 Date: 1/30/2023 9:10:38 AM Author: dotprete	how are these flows treated for water quality?

velop flows that travel as curb and gutter flow Color:

Layer: Space: Page Label: 10

14 (4)



Subject: Text Box Page Index: 14 Date: 1/31/2023 1:14:42 PM Author: dotprete Color: ■ Layer: Space: Page Label: 14

Runoff Reduction Requirements for Basins G, H2, H2, and J:

In accordance with the MHFD, runoff reduction has vegetation requirements that have been overlooked in the past. Going forward the following will be required for runoff reduction:

All RPA/SPA areas will need to be within a no build/drainage easement (or tract) and discussed in the maintenance agreement and O&M manual.
RPA/SPA vegetation should be turf grass (from seed [provide appropriate seed mix] or sod). Turf grass vegetation should have a uniform density of at least 80%.

- Irrigation (temp or permanent) is necessary to establish sufficient vegetation and not just weeds.

Show suitability of topsoil of RPA/SPA and steps for proper preparation of topsoil per recommendations in MHFD detail T-0 Table RR-3
RPA/SPA limits must be shown on GEC Plans (not just FDR) so our SW inspectors and the QSM know that these areas are to remain pervious, vegetated (80%), and irrigated post-construction.
For the roadways, provide a detail for the UIA:RPA interface that shows the recommended vertical drop of 4-inches to promote positive drainage.

- The Plat Note should read something like: The 25' rear setback is to be utilized for water quality runoff reduction. No lots shall have any impervious improvements constructed within the rear setback (i.e. patios, hardscape, gravel, raised garden beds, recreational facilities, etc.). Turf grass vegetation with a uniform density of at least 80% is required. In addition, the existing slope must be maintained in this setback.

Please note WQ Exclusion I.7.1.B.9 for trails.

Page Label: 14 Subject: Text Box Page Index: 14

Date: 1/30/2023 9:42:57 AM

Subject: Text Box

Page Index: 14

Author: dotprete Color: Layer: Space:

Page Index: 14 Date: 1/31/2023 1:27:59 PM Author: dotprete Color: ■ Layer: Space: Page Label: 14

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ue to sheet flow to the

nnel, Please note WQ Exclusion 17.1.8.9 for trails.

Subject: Text Box Page Index: 14 Date: 1/31/2023 1:10:08 PM Author: dotprete Color: ■ Layer: Space: Page Label: 14 This property is >2.5 acres and doesnt need WQ. You only need WQ for the north 1/2 of Arroya Lane and 1/2 Vollmer Road expansion (approximately 0.7ac). Consider removing the proposed rain garden 2 and using exclusion I.7.1.C.1 (which allows for 20% not to exceed 1 acre of the applicable development site area to not be captured).

Basin J includes a portion of the road that needs to be discussed.

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15 (1)		
e tributary to the dual existing 30° RCP culverts this is compared to the anticipated developed flor cfs, Que 50° cfs). Thus, these facilities will cont the set of the set of the set of the set of the set of the RCP bene 30°.	Subject: Text Box Page Index: 15 Date: 1/30/2023 9:45:54 AM Author: dotprete Color: Layer: Space: Page Label: 15	how are these flows treated for water quality (FSD Pond 3)?
16 (2)		
Rited in order to reduce the amount of ter sind Creek. Years features include but siment basitor is the Planning and degin a limit impervisois area, minimize directly	Subject: Callout Page Index: 16 Date: 1/31/2023 1:37:40 PM Author: dotprete Color: Layer: Space: Page Label: 16	runoff reduction RPAs and two existing FSDs?
I be owned and maintained by the is Right of Waye Access ramps are a channel important of the second are of the channel. If the channel is the second part of the second of channel is the second part of the second of channel is the second of	Subject: Callout Page Index: 16 Date: 1/31/2023 9:58:58 AM Author: CDurham Color: Layer: Space: Page Label: 16	Indicate that remaining portions of channel (non-structural) will be maintained by metro district
18 (1)		
: of Engineers with necessary consul is report and documentation can b not found	Subject: Callout Page Index: 18 Date: 1/30/2023 11:48:01 AM Author: dsdrice Color: Layer: Space: Page Label: 18	not found
25 (2)		
(Per El Paso County Perc 2.60 Ac. x 2% = 0.52 In 0.052 Fees for Open Space/Tra	Subject: Callout Page Index: 25 Date: 1/31/2023 2:28:23 PM Author: dsdrice Color: Layer: Space: Page Label: 25	0.052
Hanna and the second se	Subject: Callout Page Index: 25 Date: 1/31/2023 2:30:36 PM Author: dsdrice Color: Layer: Space: Page Label: 25	If average lot size is 1/2 acre 25% may be used

27 (3)		
1,000 1,000 1,000 1,000 1,900 ← 14 2 dd nof Anna a fron 1,900	Subject: Callout Page Index: 27 Date: 1/31/2023 10:01:26 AM Author: CDurham Color: Layer: Space: Page Label: 27	Approved reports for Filing 1 & 2 did not have a 10% engineering cost. Please remove
are the mean the mean the mean state of the state	Subject: Callout Page Index: 27 Date: 1/31/2023 2:44:10 PM Author: dsdrice Color: Layer: Space: Page Label: 27	Until this is vetted or improvements approved in a DBPS amendment, \$95,121 out of \$157,497 can be offset.
reg.j = 51.000 = 5379,0 5379 channel 5379 s46.9 non Poco roadway structure/crossing were	Subject: Callout Page Index: 27 Date: 1/31/2023 2:45:33 PM Author: dsdrice Color: Layer: Space: Page Label: 27	channel improvements?
28 (2)		
Ownerthise and Prices do not match with what was shown is Filing 2 report	Subject: Callout Page Index: 28 Date: 1/30/2023 3:29:44 PM Author: CDurham Color: Layer: Space: Page Label: 28	Quantities and Prices do not match with what was shown in Filing 2 report
decisional required study organization additional required Study Creek imp (Sections 1.7 and 2.3). These on-sit Network-spectra and to require the provide the report lang approval.	Subject: Text Box Page Index: 28 Date: 1/31/2023 10:00:11 AM Author: CDurham Color: Layer: Space: Page Label: 28	Note: Approval will be required from Drainage Board for changes to DBPS prior to this report being approved.
78 (1)		
12.3% 35.1% 32.7% 7.0% 22.4% (PPP7 Plane content	Subject: Text Box Page Index: 78 Date: 1/31/2023 2:05:20 PM Author: dotprete Color: Layer: Space: Page Label: 47	28%? Please confirm

94 (3)

MH 7 SWR 7 - 1	Subject: Line Page Index: 94 Date: 1/31/2023 8:59:42 AM Author: CDurham Color: Layer: Space: Page Label: 63	
No. No search poster a registra trapera la registra trapera la registra trapera la registra de construction de la construction registra de la construction reg	Subject: Callout Page Index: 94 Date: 1/31/2023 9:00:26 AM Author: CDurham Color: Layer: Space: Page Label: 63	Include existing section of pipe to ensure there's no negative impacts to existing culvert.
-Desigvianalysis needs to be provided for new pipe (8) DP 6 wiconnection to existing system	Subject: Text Box Page Index: 94 Date: 1/31/2023 9:13:55 AM Author: CDurham Color: Layer: Space: Page Label: 63	-Design/analysis needs to be provided for new pipe @ DP 6 w/connection to existing system
98 (2)		
2.27 0.03 1.32 6.00 CRCLLAR 2.60 m 3.60 Normal Flaw By balance 1.00 <	Subject: Callout Page Index: 98 Date: 1/30/2023 5:34:38 PM Author: CDurham Color: Layer: Space: Page Label: 67	Velocity does not meet ECM Section 3.3.1.J.8 requirements (Max 18 fps velocity). Please revise
1.3 7242 10 0.013 1.1 5.8 7222 81 0.013 1.1 1.0 7222 27 0.013 1 Invidence for match with COS Invidence for match with COS 1.1	Subject: Callout Page Index: 98 Date: 1/31/2023 9:08:00 AM Author: CDurham Color: Layer: Space: Page Label: 67	Inv does not match with CD's
108 (3)		
Provide calculations for sprap rundown into rain garden	Subject: Text Box Page Index: 108 Date: 1/31/2023 9:21:44 AM Author: CDurham Color:	Provide calculations for riprap rundown into rain garden

Color: Colorian Layer: Space: Page Label: 77

Subject: Text Box Provide calculations for riprap protection at all Page Index: 108 storm outlet locations Date: 1/31/2023 12:14:04 PM Author: CDurham Color: Layer: Space: Page Label: 77 -----Subject: Engineer Provide roadside ditch/swale calculations Page Index: 108 Date: 1/31/2023 2:07:06 PM Author: dotprete Color: Layer: Space: Page Label: 77 109 (2) Subject: Callout 1 Page Index: 109 Date: 1/31/2023 1:37:43 PM Author: dotprete Color: 🔳 Layer: Space: Page Label: 78 Subject: Engineer Page Index: 109 Date: 1/31/2023 2:07:22 PM 22.4 l_a = 7% Author: dotprete Color: Layer: Space: Page Label: 78

111 (1)



Subject: Callout Page Index: 111 Date: 1/31/2023 12:34:30 PM Author: dotprete Color: ■ Layer: Space: Page Label: 80

113 (2)



Subject: Callout Page Index: 113 Date: 1/31/2023 12:27:29 PM Author: dotprete Color: ■ Layer: Space: Page Label: 82

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Subject: Text Box Please use latest MHFD-Detention Spreadsheet, Page Index: 113 Version 4.06 (July 2022) Date: 1/31/2023 12:32:46 PM Author: dotprete Color: Layer: Space: Page Label: 82 117 (1) Subject: Callout 2 Page Index: 117 Date: 1/31/2023 12:35:05 PM Author: dotprete Color: Layer: Space: Page Label: 86 119 (1) Subject: Callout 2 Page Index: 119 TENTION BAS Date: 1/31/2023 12:35:53 PM Author: dotprete Color: Layer: Space: Page Label: 88

121 (2)

2 DETENTION BASIN MHPD-Detenti ETREAT AT TIMBERIDGE FILING NO. 3 AIN GARDEN WW FACILITY Subject: Callout Page Index: 121 Date: 1/31/2023 12:36:02 PM Author: dotprete Color: ■ Layer: Space: Page Label: 90

Subject: Text Box Page Index: 121 Date: 1/31/2023 12:36:11 PM Author: dotprete Color: ■ Layer: Space: Page Label: 90 2

Please use latest MHFD-Detention Spreadsheet, Version 4.06 (July 2022)

125 (2)



Subject: Callout Page Index: 125 Date: 1/31/2023 1:07:50 PM Author: dotprete Color: ■ Layer: Space: Page Label: 94

If the RPA is within the 25' setback, wouldn't the total area be 22,500SF?



126 (7)

Subject: Callout Page Index: 125 Date: 1/31/2023 1:07:48 PM Author: dotprete Color: ■ Layer: Space: Page Label: 94

Subject: Engineer

Space:

Page Label: [1] Model

If the RPA is within the 25' setback, wouldn't the total area be 13,750SF?

Show the RPA hatching for H1 Page Index: 126 Date: 1/31/2023 1:11:04 PM Author: dotprete Color: Layer: Space: Page Label: [1] Model Subject: Engineer Show the RPA hatching for J Page Index: 126 Date: 1/31/2023 1:10:52 PM Author: dotprete Color: Layer: Space: Page Label: [1] Model Subject: Engineer UIA Page Index: 126 UIA Date: 1/31/2023 1:04:38 PM Author: dotprete Color: Layer: Space: Page Label: [1] Model AREAS OF RUNOFF REL WATER QUALITY TREAT Subject: Engineer include RPA hatching Page Index: 126 include RPA hatching Date: 1/31/2023 1:04:41 PM Author: dotprete OFF-SITE AREA TREATI TEMPORARY SEDIMENT FACILITIES Color: Layer: Space: Page Label: [1] Model Subject: Engineer J and H1 Page Index: 126 Date: 1/31/2023 12:59:40 PM Author: dotprete 69. (B≠ Color: Layer:

Subject: Engineer include north arrow and scale Page Index: 126 Date: 1/31/2023 1:02:00 PM Author: dotprete Color: Layer: Space: Page Label: [1] Model Subject: Engineer existing? PROP. TEMP. SEDIMENT BASI Page Index: 126 Date: 1/31/2023 1:02:10 PM existing? Author: dotprete Color: Layer: Space: Page Label: [1] Model 156 (1) Subject: Text Box Scour analysis needs to be provided for structure Page Index: 156 at Arroya Lane since Culvert report did not address Date: 1/31/2023 12:53:20 PM this Author: CDurham Color: Layer: Space: Page Label: 124 170(1) Subject: Callout Note where mean velocity was obtained from. Page Index: 170 Date: 1/30/2023 1:56:31 PM Author: CDurham Color: 📘 Layer: Space: Page Label: 138 171 (1) Subject: Text Box Provide input information for HEC RAS model Page Index: 171 Date: 1/30/2023 1:50:27 PM Provide input i Author: CDurham Color: 📘 Layer: Space: Page Label: 139 195 (1)



Subject: Callout Page Index: 195 Date: 1/31/2023 3:25:50 PM Author: dsdrice Color: Layer: Space: Page Label: 163

Also provide a cross section showing water and gas line crossings.

205 (4)



206 (11)



Subject: Callout Page Index: 206 Date: 1/27/2023 10:42:21 AM Author: dsdrice Color: Layer: Space: Page Label: [1] Layout1

Is this needed? If so, provide drain time calculations



Subject: Page Index: 206 Date: 1/27/2023 10:31:17 AM Author: dsdrice Color: Layer: Space: Page Label: [1] Layout1

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Subject: Callout Page Index: 206 Date: 1/27/2023 10:31:40 AM Author: dsdrice Color: Layer: Space: Page Label: [1] Layout1

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Is flow supposed to go to the TSB?



Subject: Callout Page Index: 206 Date: 1/27/2023 10:37:31 AM Author: dsdrice Color: Layer: Space: Page Label: [1] Layout1

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Show emergency overflow swales and easements if needed



Subject: Callout Page Index: 206 Date: 1/27/2023 10:38:56 AM Author: dsdrice Color: Layer: Space: Page Label: [1] Layout1

Show maintenance access roads



Subject: Arrow Page Index: 206 Date: 1/27/2023 10:43:22 AM Author: dsdrice Color: Layer: Space: Page Label: [1] Layout1

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Subject: Engineer Page Index: 206 Date: 1/30/2023 9:51:00 AM Author: dotprete Color: Layer: Space: Page Label: [1] Layout1

define

Layer: Space: Page Label: [1] Layout1

Include what flows are at this location EXIST. 48" Subject: Text Box Page Index: 206 Date: 1/30/2023 12:43:20 PM Author: CDurham Color: Layer: Space: Page Label: [1] Layout1

Include what flows are at this location



Subject: Callout Page Index: 206 Date: 1/30/2023 1:10:47 PM Author: CDurham Color: Layer: Space: Page Label: [1] Layout1

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Label drainage easement

Provide calculations for roadside ditches



Subject: Callout Page Index: 206 Date: 1/31/2023 11:38:01 AM Author: CDurham Color: Layer: Space: Page Label: [1] Layout1

Subject: Text Box Page Index: 206 Date: 1/31/2023 1:36:40 PM Author: dotprete Color: ■ Layer: Space: Page Label: [1] Layout1

This property is >2.5 acres and doesnt need WQ. You only need WQ for the north 1/2 of Arroya Lane and 1/2 Vollmer Road expansion (approximately 0.7ac). Consider removing the proposed rain garden 2 and using exclusion I.7.1.C.1 (which allows for 20% not to exceed 1 acre of the applicable development site area to not be captured).