

ENG-CDR23021-R2-FDR-S2.pdf Markup Summary

1 (2)

Subject: Text Box
Page Index: 1
Date: 4/10/2024 12:19:03 PM
Author: Jeff Rice - EPC Engineering Review
Color: ■
Layer:
Space:
Page Label: 1

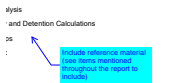
See comment letter also.

See comment letter also.



Subject: PCD Comment Legend
Page Index: 1
Date: 4/10/2024 12:19:12 PM
Author: Jeff Rice - EPC Engineering Review
Color: ■
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Page Label: 1

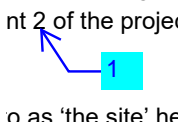
3 (1)



Subject: Callout
Page Index: 3
Date: 4/9/2024 1:53:26 PM
Author: CDurham
Color: ■
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Page Label: 3

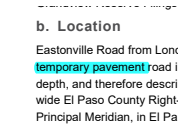
Include reference material (see items mentioned throughout the report to include)

4 (6)



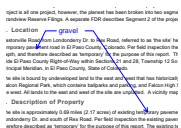
Subject: Callout
Page Index: 4
Date: 4/8/2024 4:21:27 PM
Author: CDurham
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Page Label: 4

1



Subject:
Page Index: 4
Date: 4/10/2024 10:55:02 AM
Author: Jeff Rice - EPC Engineering Review
Color: ■
Layer:
Space:
Page Label: 4

temporary pavement



Subject: Callout
Page Index: 4
Date: 4/10/2024 10:56:25 AM
Author: Jeff Rice - EPC Engineering Review
Color: ■
Layer:
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Page Label: 4

gravel

... (Q₅ = 0.8 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.
EA2 is 0.25 acres of proposed roadway water (Q₅ = 0.8 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.
EA3 is 0.20 acres of proposed roadway water (Q₅ = 0.7 cfs, Q₁₀₀ = 1.4 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.

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Author: CDurham
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Q5 = 0.8 cfs Q100 = 1.5 cfs

... proposed roadway water (Q₅ = 1.4 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.

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Author: CDurham
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1.4 cfs

... This includes Basins EA4-EA7.
... (Q₅ = 1.4 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.
EA4 is 0.25 acres of proposed roadway water (Q₅ = 1.4 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.
EA5 is 0.25 acres of proposed roadway water (Q₅ = 1.4 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.
EA6 is 0.25 acres of proposed roadway water (Q₅ = 1.4 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.
EA7 is 0.25 acres of proposed roadway water (Q₅ = 1.4 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.

Subject: Callout
Page Index: 7
Date: 4/9/2024 12:58:44 PM
Author: CDurham
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Page Label: 7

Unresolved:
Verify all basin flows with hydrology spreadsheet

... (Q₅ = 1.4 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.
EA8 is 0.25 acres of proposed roadway water (Q₅ = 1.4 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.
EA9 is 0.25 acres of proposed roadway water (Q₅ = 1.4 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.
EA10 is 0.25 acres of proposed roadway water (Q₅ = 1.4 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.

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Date: 4/9/2024 12:56:07 PM
Author: CDurham
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Unresolved:
DP6.1? There is no DP9.1 shown on map or listed in hydrology spreadsheet

... conveyed in catchment DP9.1. Basin EA11 is 0.25 acres of proposed roadway water (Q₅ = 1.4 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.

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DP9.1.

... conveyed in catchment DP9.1. Basin EA12 is 0.25 acres of proposed roadway water (Q₅ = 1.4 cfs, Q₁₀₀ = 1.5 cfs) is conveyed to the R sump inlet (Public) and piped to the Pond C Sand Filter.

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DP9.1

9 (1)

... south to the southern property wide temporary pavement and re n consisting of 48' pavement an : low points and roundabout entr m detention pond, sand filter or

Subject:
Page Index: 9
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emporary pavement

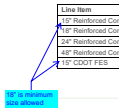
10 (2)

... request

Unresolved:
Quantities and unit costs should match with FAE estimate

Subject: Text Box
Page Index: 10
Date: 4/9/2024 1:05:20 PM
Author: CDurham
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Unresolved:
Quantities and unit costs should match with FAE estimate



Subject: Callout
Page Index: 10
Date: 4/9/2024 1:05:54 PM
Author: CDurham
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18" is minimum size allowed

11 (1)

and calculations are provided in

Subject: SW - Textbox with Arrow
Page Index: 11
Date: 4/2/2024 4:24:50 PM
Author: Glenn Reese - EPC Stormwater
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Page Label: 11

does not match what is shown in Section 1 of FAE

26 (1)



Subject: Callout
Page Index: 26
Date: 4/9/2024 1:11:09 PM
Author: CDurham
Color:
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Page Label: 26

Unresolved:
Basin labels do not match basin labels on drainage map. Please revise to show same labels. Labels listed here are design points. From map, need to list basins FG35, Ex1 thru Ex4

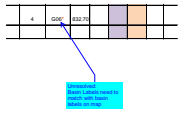
27 (1)

Provide excerpts from Sanctuary FDR for these calculations. Include them in "Excerpts from other reports" section.

Subject: Text Box
Page Index: 27
Date: 4/9/2024 1:12:18 PM
Author: CDurham
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Page Label: 27

Provide excerpts from Sanctuary FDR for these calculations. Include them in "Excerpts from other reports" section.

29 (1)

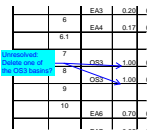


4	OS2	OS3-75		
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Subject: Callout
Page Index: 29
Date: 4/9/2024 1:13:07 PM
Author: CDurham
Color: ■
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Page Label: 29

Unresolved:
Basin Labels need to match with basin labels on map

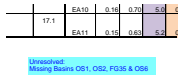
34 (2)



6	EA3	0.28
6.1	EA4	0.17
7	OS3	1.00
8	OS3	1.00
9		
10	EA6	0.75

Subject: Callout
Page Index: 34
Date: 4/9/2024 1:14:21 PM
Author: CDurham
Color: ■
Layer:
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Page Label: 34

Unresolved:
Delete one of the OS3 basins?



17.1	EA10	0.10	0.70	EA7
	EA11	0.10	0.60	EA8

Subject: Text Box
Page Index: 34
Date: 4/9/2024 1:16:36 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: 34

Unresolved:
Missing Basins OS1, OS2, FG35 & OS6

36 (4)



APPENDIX C - HYDRAULIC CALCULATIONS
Provide design calculations for all proposed swales & ditches.

Subject: Text Box
Page Index: 36
Date: 4/9/2024 1:56:54 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: 36

Unresolved:
Provide design calculations for all proposed swales & ditches



APPENDIX C - HYDRAULIC CALCULATIONS
Provide design calculations for riprap outlet protection at end of all culverts

Subject: Text Box
Page Index: 36
Date: 4/9/2024 1:57:26 PM
Author: CDurham
Color: ■
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Page Label: 36

Unresolved:
Provide design calculations for riprap outlet protection at end of all culverts



APPENDIX C - HYDRAULIC CALCULATIONS
Provide analysis of any existing culverts that remain

Subject: Text Box
Page Index: 36
Date: 4/9/2024 1:57:28 PM
Author: CDurham
Color: ■
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Page Label: 36

Unresolved:
Provide analysis of any existing culverts that remain

Subject: Text Box
Page Index: 36
Date: 4/9/2024 1:57:30 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: 36

Unresolved:
Include DP1 calculations for existing and needed
culvert size

39 (1)

Delete this sheet. DP3 is for the flow in the roadside ditch, not within the roadway, so street capacity calculation not needed for DP3.

Subject: Text Box
Page Index: 39
Date: 4/9/2024 1:23:16 PM
Author: CDurham
Color: ■
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Page Label: 39

Delete this sheet. DP3 is for the flow in the roadside ditch, not within the roadway, so street capacity calculation not needed for DP3

40 (1)

Delete this portion as DP 3 is within the roadside ditch at the culvert opening, not a curb inlet. Provide inlet design if an area inlet is being used at DP 3 and delete if not.

Subject: Text Box
Page Index: 40
Date: 4/9/2024 2:29:17 PM
Author: CDurham
Color: ■
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Page Label: 40

Delete this portion as DP 3 is within the roadside ditch at the culvert opening, not a curb inlet. Provide inlet design if an area inlet is being used at DP 3 and delete if not.

44 (1)

Per hydrology spreadsheet, DP6 has Q100 of 2.4 cfs. Interception capacity is not adequate at this inlet.

Subject: Callout
Page Index: 44
Date: 4/9/2024 1:27:28 PM
Author: CDurham
Color: ■
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Page Label: 44

Unresolved:
Per hydrology spreadsheet, DP6 has Q100 of 2.4 cfs. Interception capacity is not adequate at this inlet

48 (2)

18.6
9.5

Subject: Highlight
Page Index: 48
Date: 4/9/2024 1:28:52 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: 48

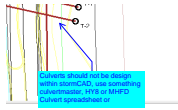
9.5

Verify correct design flows are being used at all inlets.

Subject: Callout
Page Index: 48
Date: 4/9/2024 1:29:09 PM
Author: CDurham
Color: ■
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Page Label: 48

Verify correct design flows are being used at all inlets.

53 (1)



Subject: Callout
Page Index: 53
Date: 4/9/2024 1:31:58 PM
Author: CDurham
Color: ■
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Space:
Page Label: 53

Culverts should not be design within stormCAD, use something culvertmaster, HY8 or MHFD Culvert spreadsheet or

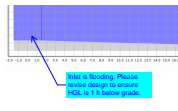
60 (1)



Subject: Callout
Page Index: 60
Date: 4/9/2024 1:34:27 PM
Author: CDurham
Color: ■
Layer:
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Page Label: 60

Inlet is flooding. Please revise design to ensure HGL is 1 ft below grade.

61 (1)



Subject: Callout
Page Index: 61
Date: 4/9/2024 1:34:51 PM
Author: CDurham
Color: ■
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Page Label: 61

Inlet is flooding. Please revise design to ensure HGL is 1 ft below grade.

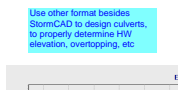
63 (1)



Subject: Callout
Page Index: 63
Date: 4/9/2024 1:38:09 PM
Author: CDurham
Color: ■
Layer:
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Page Label: 63

Verify that HGL is 1 foot below grade.

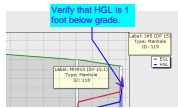
64 (1)



Subject: Text Box
Page Index: 64
Date: 4/9/2024 1:39:02 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: 64

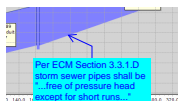
Use other format besides StormCAD to design culverts, to properly determine HW elevation, overtopping, etc

66 (2)



Subject: Callout
Page Index: 66
Date: 4/9/2024 1:40:25 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: 66

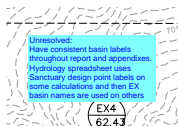
Verify that HGL is 1 foot below grade.



Subject: Callout
Page Index: 66
Date: 4/9/2024 1:44:52 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: 66

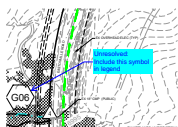
Per ECM Section 3.3.1.D storm sewer pipes shall be "...free of pressure head except for short runs..."

96 (5)



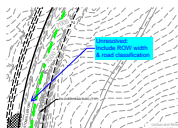
Subject: Text Box
Page Index: 96
Date: 4/9/2024 1:59:03 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:
 Have consistent basin labels throughout report and appendices. Hydrology spreadsheet uses Sanctuary design point labels on some calculations and then EX basin names are used on others



Subject: Callout
Page Index: 96
Date: 4/9/2024 2:00:27 PM
Author: CDurham
Color: ■
Layer:
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Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:
 Include this symbol in legend



Subject: Callout
Page Index: 96
Date: 4/9/2024 2:00:50 PM
Author: CDurham
Color: ■
Layer:
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Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:
 Include ROW width & road classification



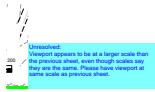
Subject: Text Box
Page Index: 96
Date: 4/9/2024 2:01:15 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:
 Add additional contour labels



Subject: Text Box
Page Index: 96
Date: 4/9/2024 2:01:47 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] 201662.08_FDR_map_ex_Seg2-E DR 1

Unresolved:
 - Add Basin and Design Point Summary Tables
 - Label all existing easements (all maps)
 - Text is hard to read, suggest making it a little larger
 -Could not find Design Points G15, G18, FG36, or G16 in the Sanctuary FDR for comparison. Recommended highlighting them in the reference section.



Subject: Text Box
Page Index: 97
Date: 4/9/2024 2:02:47 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [2] 201662.08_FDR_map_ex_Seg2-E DR 2

Unresolved:
Viewport appears to be at a larger scale than the previous sheet, even though scales say they are the same. Please have viewport at same scale as previous sheet.



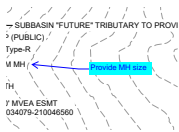
Subject: Callout
Page Index: 98
Date: 4/9/2024 2:03:31 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Unresolved:
Is there a wall along here? If so, please label



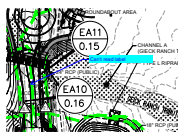
Subject: Text Box
Page Index: 98
Date: 4/9/2024 2:03:45 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Unresolved:
Add additional contour labels



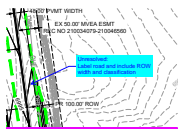
Subject: Callout
Page Index: 98
Date: 4/9/2024 2:31:34 PM
Author: CDurham
Color: ■
Layer:
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Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Provide MH size



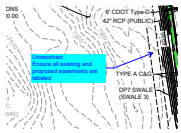
Subject: Callout
Page Index: 98
Date: 4/9/2024 2:33:35 PM
Author: CDurham
Color: ■
Layer:
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Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Can't read label



Subject: Callout
Page Index: 98
Date: 4/9/2024 2:34:11 PM
Author: CDurham
Color: ■
Layer:
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Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Unresolved:
Label road and include ROW width and classification



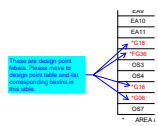
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Page Index: 98
Date: 4/9/2024 2:34:57 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Unresolved:
 Ensure all existing and proposed easements are labeled

Missing Basins OS1, OS2, OS6 & FG35 in summary table.

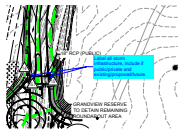
Subject: Text Box
Page Index: 98
Date: 4/9/2024 2:36:24 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Missing Basins OS1, OS2, OS6 & FG35 in summary table.



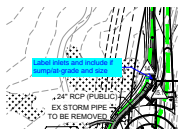
Subject: Callout
Page Index: 98
Date: 4/9/2024 2:37:29 PM
Author: CDurham
Color: ■
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Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

These are design point labels. Please move to design point table and list corresponding basins in this table.



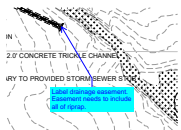
Subject: Callout
Page Index: 98
Date: 4/9/2024 2:39:29 PM
Author: CDurham
Color: ■
Layer:
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Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Label all storm infrastructure, include if public/private and existing/proposed/future.



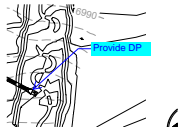
Subject: Callout
Page Index: 98
Date: 4/9/2024 2:39:55 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Label inlets and include if sump/at-grade and size



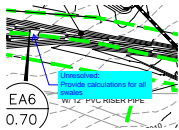
Subject: Callout
Page Index: 98
Date: 4/9/2024 3:31:50 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] 201662.08_FDR_map_Seg2-FDR Map 1

Label drainage easement. Easement needs to include all of riprap.



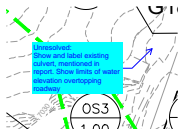
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Page Index: 99
Date: 4/9/2024 2:41:07 PM
Author: CDurham
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Layer:
Space:
Page Label: [1] FDR Map 2

Provide DP



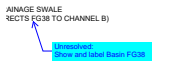
Subject: Callout
Page Index: 99
Date: 4/9/2024 3:05:36 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] FDR Map 2

Unresolved:
Provide calculations for all swales



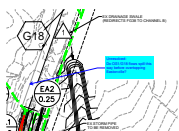
Subject: Callout
Page Index: 99
Date: 4/9/2024 3:06:36 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] FDR Map 2

Unresolved:
Show and label existing culvert, mentioned in report. Show limits of water elevation overtopping roadway



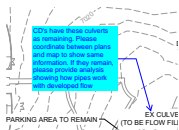
Subject: Callout
Page Index: 99
Date: 4/9/2024 3:07:28 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] FDR Map 2

Unresolved:
Show and label Basin FG38



Subject: Callout
Page Index: 99
Date: 4/9/2024 3:07:56 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] FDR Map 2

Unresolved:
Do OS1/G18 flows spill this way before overtopping Eastonville?



Subject: Callout
Page Index: 99
Date: 4/9/2024 3:20:31 PM
Author: CDurham
Color: ■
Layer:
Space:
Page Label: [1] FDR Map 2

CD's have these culverts as remaining. Please coordinate between plans and map to show same information. If they remain, please provide analysis showing how pipes work with developed flow