

ENG-PUDSP22007-R1-PDR redlines.pdf Markup Summary

1 (4)

Job No. 1183.20

PCD Project No.

PUDSP227

Subject: SW - Textbox
Page Index: 1
Date: 7/12/2022 7:37:07 AM
Author: Glenn Reese - EPC Stormwater
Color: ■
Layer:
Space:
Page Label: 1

PUDSP227

FOR
STERLING RANCH EAST
PRELIMINARY PLAN / PUD NO. 2

Add additional text for project name:
"FourSquare at Sterling Ranch"

Subject: SW - Textbox
Page Index: 1
Date: 7/12/2022 7:40:34 AM
Author: Glenn Reese - EPC Stormwater
Color: ■
Layer:
Space:
Page Label: 1

Add additional text for project name:
"FourSquare at Sterling Ranch"

PCD-ENGINEERING REVIEW COMMENTS
IN BLUE BOXES WITH BLUE TEXT

Subject: PCD Comment Legend
Page Index: 1
Date: 7/19/2022 12:13:46 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 1

Engineering Review
07/19/2022 12:13:51 PM
dsdrice
JCR@epc.com
(719) 536-7477
EPC Planning & Community
Development Department

Subject: EPC ENG Review
Page Index: 1
Date: 7/19/2022 12:13:54 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 1

4 (2)

NET DRAINAGE REPORT FOR
RANCH EAST PRELIMINARY PLAN / PUD NO. 2

of the drainage design, including, but not limited to, the drainage area and all other drainage
options for the proposed development, identify appropriate BMP and describe
major improvements and features and other aspects to be added.

FourSquare...?

Subject: Callout
Page Index: 4
Date: 7/19/2022 12:59:50 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 4


FourSquare...?

proposed extension of
ind East Fork Drainage
is proposed within
Sand Creek

Subject: Callout
Page Index: 4
Date: 7/19/2022 3:38:04 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 4


Sand Creek

improvements to the Sand
drainage report prepared by
dated [October 21, 2021](#). Pl
requirements and associate
waters

Subject:
Page Index: 5
Date: 7/19/2022 5:49:40 PM
Author: dsdrice
Color: 
Layer:
Space:
Page Label: 5

October 21, 202


ort prepared by JR Engineering, "Final D
ber 21, 2021. Please reference this rep
nts and associated wetland mitigation p
verify latest

Subject: Callout
Page Index: 5
Date: 7/19/2022 5:49:55 PM
Author: dsdrice
Color: 
Layer:
Space:
Page Label: 5

verify latest


is site have been previously studied in

The [adjacent](#) San
Drainage Basin Pl

Subject:
Page Index: 5
Date: 7/19/2022 5:52:28 PM
Author: dsdrice
Color: 
Layer:
Space:
Page Label: 5


adjacent

ort prepared by JR Engineering, "Final Design Report
ber 21, 2021. Please reference this report for all
its and associated wetland mitigation plans and
clarify this statement
site have been previously studied in the "Sand Creek
igned by Kiewit Engineering Corporation, March 1996
and Sand Creek Restoration Report by JR Engineering,
multant working with JR Engineering, LLC on this creek

Subject: Callout
Page Index: 5
Date: 7/19/2022 5:52:49 PM
Author: dsdrice
Color: 
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Space:
Page Label: 5


clarify this statement



Subject:
Page Index: 5
Date: 7/19/2022 5:53:20 PM
Author: dsdrice
Color: 
Layer:
Space:
Page Label: 5

h East Preliminary Plan No.
1 development areas

site included as a part of the "Water Development Drainage Plan for the
by M&E Civil Consultants, approved November 2018 which includes made
well as the large drainage north up to the top of the Sand Creek Drain.
measured from within Sand Creek that is significantly lower than the
Add MDDP
amendment
submitted with
Preliminary Plan?

Subject: Callout
Page Index: 5
Date: 7/19/2022 5:56:18 PM
Author: dsdrice
Color: 
Layer:
Space:
Page Label: 5

Add MDDP amendment submitted with Preliminary
Plan?

6 (1)



Subject: Callout
Page Index: 6
Date: 7/19/2022 5:55:22 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 6

Please color code and label the individual sites

7 (2)

west portion of the Sterling Ranch
tly approved by County Staff and
swales. [adjacent to this property](#)
s proposed development in these
roposed Preliminary Plan area but
for in the Retreat at TimberRidge

Subject:
Page Index: 7
Date: 7/19/2022 6:00:21 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 7

adjacent to this property

Subary basins versus the East Fork basins. The moment
separation:
[not this property](#)
velopment exists at the northwest portion of the Sterling
erRidge Filing No. 2 was recently approved by County 5
ediment basins and drainage swales adjacent to this p
d upon construction from this proposed development
s off-site basins (outside the proposed Preliminary Plan

Subject: Callout
Page Index: 7
Date: 7/19/2022 6:01:04 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 7

not this property

8 (1)

ment flows in a southerly direction. This basin is similar to the two
define the western edge of the East Fork basin. The sheet flows to
towards the south end of the basin as the topography becomes steeper
of the proposed Sterling Ranch Road crossing. The existing flow is
south direction as depicted in Figure 8. Given the difference in topography
MCC-0002, these flows are fully consistent with the flows described
Qu = 1.87 cfs.

Subject: Callout
Page Index: 8
Date: 7/19/2022 6:39:44 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 8

Sterling Ranch

Sheet flow in a southerly direction. This basin is similar to the two
sheet flows in a southerly direction. This basin is similar to the two

9 (1)



Subject: Callout
Page Index: 9
Date: 7/19/2022 7:00:42 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 9

Add sub-basins and DPs per plan redlines

11 (1)

cent retreat a
n a [natural](#) sw
y sediment b

Subject:
Page Index: 11
Date: 7/20/2022 7:54:57 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 11

natura

12 (3)

lines will be collected in various at grade inlets within the roadway basin plan flow described above and then routed through the grid of developed flow at this pipe outlet location into Pond P2D-16 at Design Point 4 ($Q = 186\text{ cfs}$, $Q_{50} = 374\text{ cfs}$). The design of the required outfall structure will be checked at this outlet will be provided at Pond P2D-16 and DP7 and DP6?

$Q_{100} = 322\text{ cfs}$ represents the urban residential basin that is included with East Preliminary Plan/UD No. 2 area and a small portion of the Plan area just east of Sand Creek, north of Briargate Pkwy. This basin

Subject: Callout
Page Index: 12
Date: 7/20/2022 8:08:36 AM
Author: dsdrice
Color:
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Page Label: 12

and DP7 and DP6?

2 area and a small portion of this north of Briargate Pkwy. This basin is included as a public storm system stub will be included in the outfalling to DP7?

$= 12\text{ cfs}$, $Q_{50} = 23\text{ cfs}$, Basin P1-A3
 $= 10\text{ cfs}$ all represent tributary area

Subject: Callout
Page Index: 12
Date: 7/20/2022 8:00:22 AM
Author: dsdrice
Color:
Layer:
Space:
Page Label: 12

outfalling to DP7?

basin... This basin is included as a public storm system stub will be included in the outfalling to DP7?

Subject: Callout
Page Index: 12
Date: 7/20/2022 8:08:24 AM
Author: dsdrice
Color:
Layer:
Space:
Page Label: 12

It appears that this basin needs to be broken up so that flows to Briargate inlets can be calculated.

13 (3)

please clarify this sentence - LP is DP6? This report will need to be adjusted as the intent of this report is to describe Design Point 5 developed flows along the way just east of Sterling Ranch Road into one single outfall by Design Point 7.

Subject: Callout
Page Index: 13
Date: 7/20/2022 8:02:35 AM
Author: dsdrice
Color:
Layer:
Space:
Page Label: 13

please clarify this sentence - LP is DP6?

this low point. The previously plus any bypass from inlets west and north... ed flows at this pipe

Subject: Callout
Page Index: 13
Date: 7/20/2022 8:06:18 AM
Author: dsdrice
Color:
Layer:
Space:
Page Label: 13

plus any bypass from inlets west and north...

all need to be adjusted as the intent of this report is to describe Design Point 5 developed flows along the at east of Sterling Ranch Road into one single outfall Design Point 7. (address the north side) for the south side... with the following two basins being tributary to this... (address the north side since there is a median) and Basin P1-A4 ($Q = 7\text{ cfs}$), one within the ROW tributary to this low-point. The

Subject: Callout
Page Index: 13
Date: 7/20/2022 8:10:01 AM
Author: dsdrice
Color:
Layer:
Space:
Page Label: 13

for the south side. (address the north side since there is a median)

14 (3)

ch Road: The total anticipated developed flows entering this
inlets for stormwater detention pond design (sheet).
Full Spectrum EDD
245.0 ac. Revise per FSD
redlines
road lined with 6.5 max. slopes
ridge
Q₅ = 270 cfs, Q₁₀ = 280 cfs

Subject: Callout
Page Index: 14
Date: 7/20/2022 8:14:17 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 14

Revise per FSD redlines

ch East M

Subject:
Page Index: 14
Date: 7/20/2022 8:14:26 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 14

East

ch East Metro District)
Delete "East"
storm system within Briargate Pkwy.
reference the "Drainage Letter for
prepared by JR Engineering, LLC, dated

Subject: Callout
Page Index: 14
Date: 7/20/2022 8:14:40 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 14

Delete "East"

15 (6)

s a combined total re
i) of (Q₅ = 8.8 cfs), Q₁₀
rm system will run in

Subject: SW - Highlight
Page Index: 15
Date: 7/12/2022 3:02:31 PM
Author: Glenn Reese - EPC Stormwater
Color: ■
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Space:
Page Label: 15

(Q₅ = 8.8 cfs)

Specify that although this Q₅
exceeds what was shown in the
MDDP, it is still less than the
pre-development Q₅, so it is ok.

Subject: SW - Textbox with Arrow
Page Index: 15
Date: 7/12/2022 3:03:13 PM
Author: Glenn Reese - EPC Stormwater
Color: ■
Layer:
Space:
Page Label: 15

Specify that although this Q₅ exceeds what was shown in the MDDP, it is still less than the pre-development Q₅, so it is ok.

Can you clarify that 100% of the proposed soil
disturbances within this PUD will be treated by the
WQ pond and/or runoff reduction? It appears to be
true from the map on pdf pg 80 below. But would
be nice to document this in the text here as well.

Subject: SW - Textbox
Page Index: 15
Date: 7/12/2022 3:36:46 PM
Author: Glenn Reese - EPC Stormwater
Color: ■
Layer:
Space:
Page Label: 15

Can you clarify that 100% of the proposed soil disturbances within this PUD will be treated by the WQ pond and/or runoff reduction? It appears to be true from the map on pdf pg 80 below. But would be nice to document this in the text here as well.

If not 100%, state which basins (or portions of basins) will not be treated and which treatment exclusions apply, per the PBMP Applicability Form.



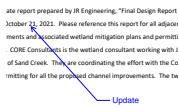
Subject: Callout
Page Index: 15
Date: 7/20/2022 8:17:55 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 15

Address the effect of diverting this flow to the main Sand Creek channel, how it will be mitigated, and how historic flows are being matched at the south SR property line where these flows previously went.



Subject: Callout
Page Index: 15
Date: 7/20/2022 8:19:32 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 15

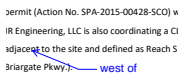
Address when this pond will need to be completed and current status.



Subject: Callout
Page Index: 15
Date: 7/20/2022 8:20:11 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 15

Update

16 (1)



Subject: Callout
Page Index: 16
Date: 7/20/2022 8:20:45 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 16

west of

20 (1)



Subject: Callout
Page Index: 20
Date: 7/19/2022 7:36:52 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 20

Update when available

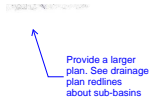
25 (1)



Subject: Callout
Page Index: 25
Date: 7/19/2022 7:35:27 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 25

Provide an outline of this site

42 (1)



Subject: Callout
Page Index: 42
Date: 7/19/2022 7:33:17 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 42

Provide a larger plan. See drainage plan redlines about sub-basins

43 (1)



Subject: Text Box
Page Index: 43
Date: 7/19/2022 7:32:24 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 43

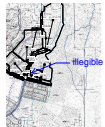
Not checked with this review

59 (2)



Subject: Callout
Page Index: 59
Date: 7/19/2022 7:31:25 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 59

Provide a larger plan



Subject: Callout
Page Index: 59
Date: 7/19/2022 7:33:44 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 59

illegible

60 (1)



Subject: Text Box
Page Index: 60
Date: 7/19/2022 7:30:51 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 60

Not checked with this review

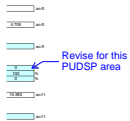
71 (1)



Subject: Text Box
Page Index: 71
Date: 7/19/2022 7:30:07 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 71

Not checked with this review

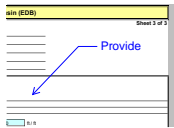
77 (1)



Subject: Callout
Page Index: 77
Date: 7/19/2022 7:29:29 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 77

Revise for this PUDSP area

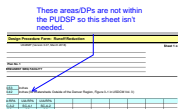
79 (1)



Subject: Callout
Page Index: 79
Date: 7/19/2022 7:27:45 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 79

Provide

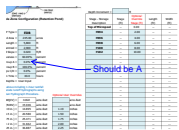
81 (1)



Subject: Callout
Page Index: 81
Date: 7/19/2022 7:23:33 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 81

These areas/DPs are not within the PUDSP so this sheet isn't needed.

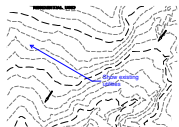
83 (1)



Subject: Callout
Page Index: 83
Date: 7/19/2022 7:08:58 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: 81

Should be A

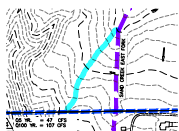
90 (1)



Subject: Callout
Page Index: 90
Date: 7/20/2022 7:57:16 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

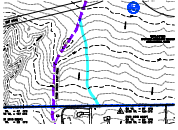
Show existing utilities

92 (10)

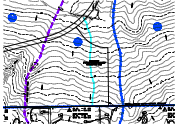


Subject:
Page Index: 92
Date: 7/19/2022 6:42:00 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 3

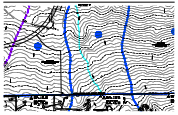
Show existing utilities



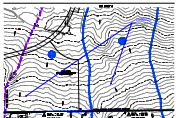
Subject:
 Page Index: 92
 Date: 7/19/2022 6:42:35 PM
 Author: dsdrice
 Color: ■
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 Space:
 Page Label: [1] SHEET 3



Subject:
 Page Index: 92
 Date: 7/19/2022 6:43:17 PM
 Author: dsdrice
 Color: ■
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 Page Label: [1] SHEET 3

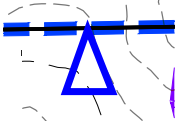


Subject:
 Page Index: 92
 Date: 7/19/2022 6:46:29 PM
 Author: dsdrice
 Color: ■
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 Page Label: [1] SHEET 3



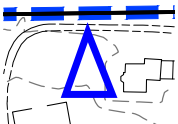
Subject: Callout
 Page Index: 92
 Date: 7/19/2022 6:57:12 PM
 Author: dsdrice
 Color: ■
 Layer:
 Space:
 Page Label: [1] SHEET 3

Sub-basins need to be broken out to separate areas not affected by this development.



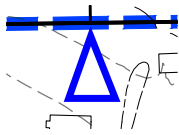
Subject: Polygon
 Page Index: 92
 Date: 7/19/2022 6:59:07 PM
 Author: dsdrice
 Color: ■
 Layer:
 Space:
 Page Label: [1] SHEET 3

Add DP



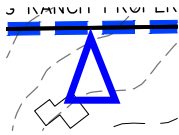
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 Page Index: 92
 Date: 7/19/2022 6:59:07 PM
 Author: dsdrice
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 Page Label: [1] SHEET 3

Add DP



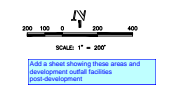
Subject: Polygon
Page Index: 92
Date: 7/19/2022 6:59:07 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 3

Add DP



Subject: Polygon
Page Index: 92
Date: 7/19/2022 6:59:07 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 3

Add DP



Subject: Text Box
Page Index: 92
Date: 7/19/2022 7:03:07 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 3

Add a sheet showing these areas and development outfall facilities post-development

93 (14)



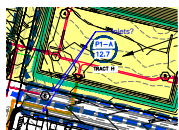
Subject: Text Box
Page Index: 93
Date: 7/14/2022 3:25:30 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

Provide an additional plan zoomed in to this development area to show more detail



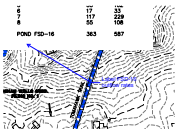
Subject: Callout
Page Index: 93
Date: 7/19/2022 12:05:32 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

See E911 comments on road names.



Subject: Callout
Page Index: 93
Date: 7/20/2022 7:59:13 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

Inlets?



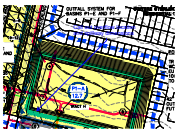
Subject: Callout
Page Index: 93
Date: 7/19/2022 7:13:08 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

Label FSD-16 outflow rates



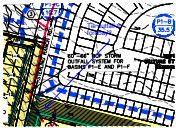
Subject: Callout
Page Index: 93
Date: 7/19/2022 7:14:18 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

Provide a plan showing the outfall location



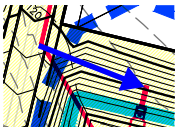
Subject: Callout
Page Index: 93
Date: 7/19/2022 7:27:10 PM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

Call out overflow location and spillway dimensions



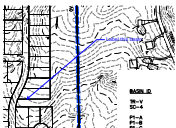
Subject: Callout
Page Index: 93
Date: 7/20/2022 7:49:25 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

Tie outfall to forebay?

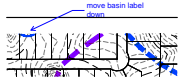


Subject: Arrow
Page Index: 93
Date: 7/20/2022 7:49:31 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

Label this basin



Subject: Callout
Page Index: 93
Date: 7/20/2022 7:50:24 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1



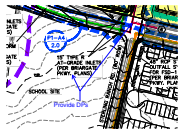
Subject: Callout
Page Index: 93
Date: 7/20/2022 7:51:09 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

move basin label down



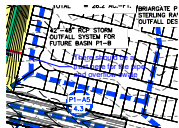
Subject: Callout
Page Index: 93
Date: 7/20/2022 7:56:44 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

Show existing utilities



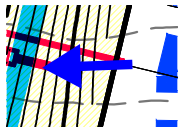
Subject: Callout
Page Index: 93
Date: 7/20/2022 8:10:51 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

Provide DPs



Subject: Callout
Page Index: 93
Date: 7/20/2022 8:13:02 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1

There should be a tract here for the pipe and overflow swale



Subject: Arrow
Page Index: 93
Date: 7/20/2022 8:13:25 AM
Author: dsdrice
Color: ■
Layer:
Space:
Page Label: [1] SHEET 1