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Stormwater Control Report

Pridmore Property
General Plan Amendment P17-00135
Rezone P20-00223 and Use Permit P20-00222
Planning Commission Hearing May 15, 2024



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Stormwater Control Report for the Pridmore Property (Formally Capell Valley School)

1191 Capell Valley Road

Napa, CA 94558

APN: 032-130-026

Prepared By:

CMP Civil Engineering & Land Surveying

1607 Capell Valley Road

Napa, CA 94558

(707) 266-2559

Date: 7/22/2020

A: Project Data

Property Owner	Pridmore Family
Project Name	Pridmore Property (Formally Capell School)
Application Submittal Date	4/15/2019
Project Location	1191 Capell Valley Road, Napa, CA
Project Phase #	NA
Project Type	Lodging units and accessory buildings
Total Project Site Area (ac)	5.08
Total New and Replaced Impervious Impervious Surface Area (sf)	23819
Total Pre-Project Impervious Surface Area (sf)	31276
Total Post-Project Impervious Surface Area (sf)	50559

B: Project Setting

-Project Location & Description

This project is located at 1191 Capell Valley Road, Napa County, California. The project is involves the construction of 9 small lodging units, a caretaker unit, two accessory buildings and associated driveway improvements.

-Existing Site Features and Conditions

The subject improvements are to be installed on the existing play fields surrounding the school. The existing site is relatively flat with slopes at 3% or less. The proposed improvement areas are surrounded by a densely vegetated grassy play fields with slopes at 3% or less. The field has existing local depressions of 1.5" or deeper. The density of these depressions is estimated at 50% coverage.

-Opportunities, Constraints and Design Strategies for Stormwater Control

Because the site is surrounded by a grassy field and is low sloped there are no obvious site constraints with regard to stormwater. This site is ideal for stormwater control. The site lends itself to low velocity sheet flow into the surrounding grassy play fields. The surrounding fields are low sloped with local depressions of 1.5" or deeper at an estimated density of 50%. Thus the strategy will be to allow all runoff to sheet flow along its natural drainage pattern into the above said grassy areas. The access road naturally drains into the said grassy areas. Overall this is an ideal design with minimal impact.

C: Drainage Areas, Design and Calculations

-Areas

Below is a table showing the Drainage Management Areas (DMA):

DMA Name or #	Surface Type & Description	Area (sf)
1	3 Lodging units, landscape features & portion of proposed driveway.	9097
2	6 Lodging units, landscape features & portion of proposed driveway.	13999
1	Caretaker unit, office/storage building & barn.	1920

Below is a table showing the Bio-Retention Facilities (BRF):

BRF Name or #	Surface Type & Description	Area (sf)
1	Existing grassy field that DMA-1 drains into.	14104
1	Existing grassy field that DMA-2 drains into.	29315
1	Existing grassy field that DMA-1 drains into.	17645

-Design

The runoff from DMA-1, 2 & 3 will drain onto the existing adjacent grassy play fields then sheet flow along natural drainage patterns into the respective BRF-1, 2 & 3. BRF-1, 2 & 3 are low sloped grassy fields with local depressions of 1.5" or deeper at an estimated density of 50%.

-Calculations

DMA-1 is 9097 sf in size. Thus BRF-1 must be able to retain a volume of water 1" deep by 9097 sf in size. Thus BRF-1 must retain $(9097\text{sf} \times 1" \times 1'/12") = 758$ cubic feet of water. BRF-1 is 14104 sf in size and has local depressions of 1.5" or deeper at an estimated density of 50%. Thus its retention capacity is $(14104 \times 50\% \times 1.5" \times 1'/12") = 882$ cubic feet of water. Based on this calculation BRF-1 is more than capable of retaining the required amount of runoff.

DMA-2 is 13999 sf in size. Thus BRF-2 must be able to retain a volume of water 1" deep by 13999 sf in size. Thus BRF-2 must retain $(13999\text{sf} \times 1" \times 1'/12") = 1167$ cubic feet of water. BRF-2 is 29315 sf in size and has local depressions of 1.5" or deeper at an estimated density of 50%. Thus its retention capacity is $(29315 \times 50\% \times 1.5" \times 1'/12") = 1832$ cubic feet of water. Based on this calculation BRF-2 is more than capable of retaining the required amount of runoff.

DMA-3 is 9097 sf in size. Thus BRF-3 must be able to retain a volume of water 1" deep by 1920 sf in size. Thus BRF-3 must retain $(1920\text{sf} \times 1" \times 1'/12") = 160$ cubic feet of water. BRF-3 is 17645 sf in size and has local depressions of 1.5" or deeper at an estimated density of 50%. Thus its retention capacity is $(17645 \times 50\% \times 1.5" \times 1'/12") = 1103$ cubic feet of water. Based on this calculation BRF-3 is more than capable of retaining the required amount of runoff.

D: Potential Pollutant Sources and Source Control Measures

Potential Pollutant Source	Permanent Source Control	Operational Source Control
Landscape maintenance equipment	Equipment posing a significant source of pollutants will be stored inside the proposed barn.	The area immediately surrounding the existing storage building will be regularly inspect for said equipment and any found will be moved into the barn.
Fertilizer & Pesticides	All bulk fertilizer and pesticides will be stored in the proposed barn.	The area immediately surrounding the existing storage building will be regularly inspect for said bulk fertilizer and pesticides and

		any found will be moved inside.
Refuse	All trash and recyclables will be stored in appropriate containers and disposed of properly.	The area immediately surrounding all buildings will be regularly inspect for said refuse and any found will be placed into appropriate containers.

E: Stormwater Facility Maintenance

-Ownership and Responsibility for Maintenance in Perpetuity

Maintenance of stormwater facilities will be the responsibility of the property owner and will be performed by the owner or owner’s subordinates as part of routine maintenance of buildings, grounds and landscaping. The applicant has reviewed the Napa County, standard agreement regarding the maintenance of stormwater facilities and commits to execute any necessary agreements prior to completion of construction. Current owner accepts responsibility for interim operation and maintenance of stormwater treatment and flow-control facilities until such time as this responsibility is formally transferred to a subsequent owner.

-Summary of Maintenance Requirements for Each Stormwater Facility

The Bio-Retention Facility’s will be inspected on a regular basis for debris or refuse. Any found will be removed immediately. The Bio-Retention facility’s will be inspected for any concentration of runoff resulting in rilling after significant rainfall events. A significant rain event is one that produces ½” of rainfall within a continuous 24 hour period. Any rilling found will be repaired in a way that disperses the concentrated flow back to sheet flow. Vegetation will be maintained on the Bio-Retention Facility at all times. Any denuded areas will be reseeded.

F: Construction Checklist

Source or Treatment Control	Plan Sheet #
Verify DMA-1 drains to BRF-1 as shown on plan	4
Verify DMA-2 drains to BRF-2 as shown on plan	4
Verify DMA-3 drains to BRF-3 as shown on plan	4

G: Certifications

The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the BASMAA *Post-Construction Manual*.



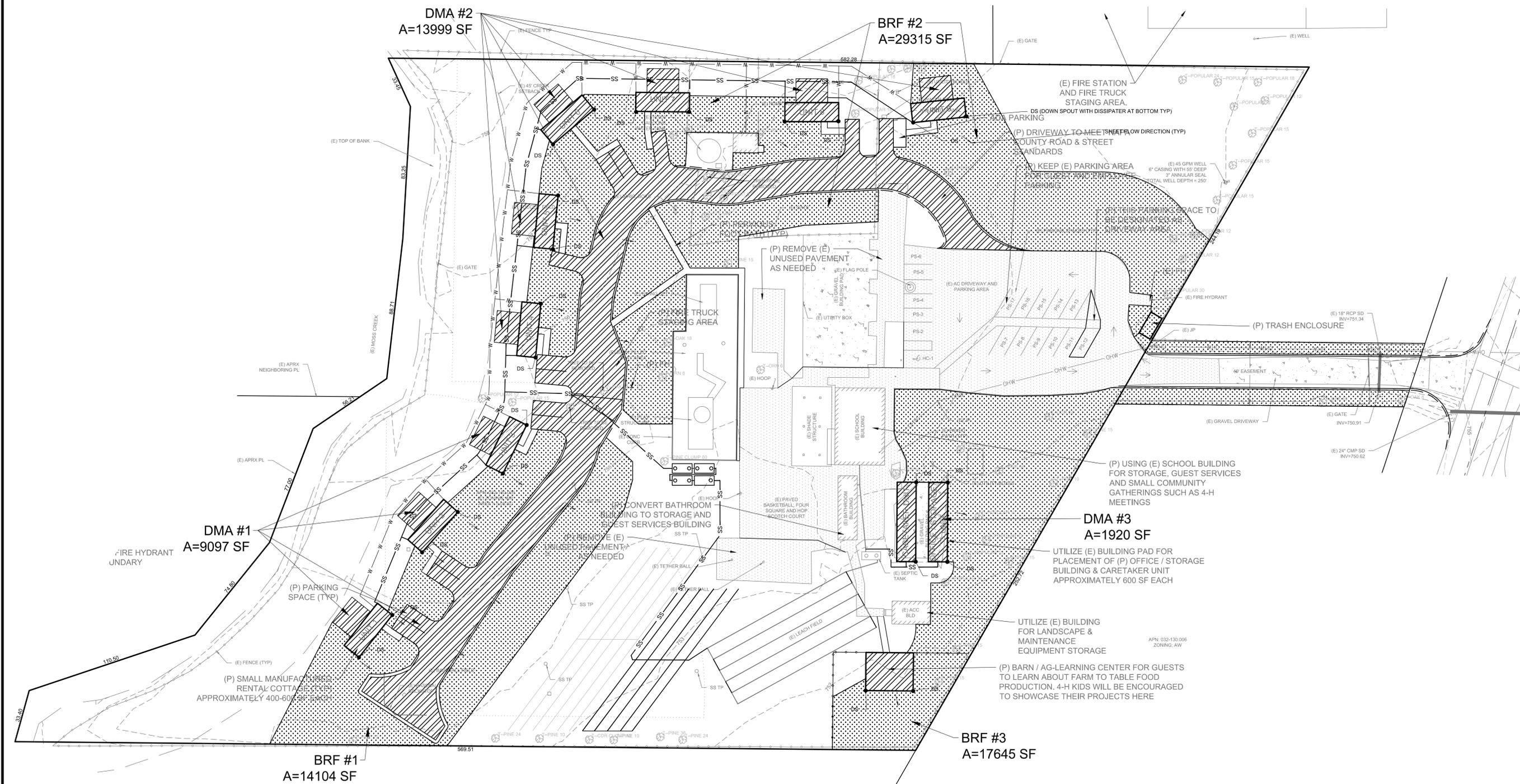
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 PROJECT #: 00685 DATE: 05/12/2020

DATE	DESCRIPTION
5/12/21 <td>COUNTY COMMENTS 9/25/2020</td>	COUNTY COMMENTS 9/25/2020

PROJECT INFO:
PRIDMORE PROPERTY (PREVIOUSLY CAPELL SCHOOL)
 1191 CAPELL VALLEY ROAD
 NAPA, CA 94558
 APN:032-130-026

STORMWATER CONTROL PLAN

SHEET NAME:
4
 SHEET:



- STORMWATER NOTES:**
- GUTTER DRAINS FROM ALL EXISTING AND PROPOSED STRUCTURES TO DRAIN OUT ONTO SPLASH BLOCKS THEN SHEET FLOW INTO EXISTING VEGETATED AREAS.
 - RUNOFF FROM EXISTING AND PROPOSED DRIVEWAY, PARKING AND OTHER PAVED AREAS TO DRAIN ONTO SURROUNDING EXISTING VEGETATED AREAS AS SHOWN.