

<b>DOCKETED</b>	
<b>Docket Number:</b>	24-OPT-02
<b>Project Title:</b>	Compass Energy Storage Project
<b>TN #:</b>	260332
<b>Document Title:</b>	Data Request Response 4_Attachment 8_Fire Flow Analysis
<b>Description:</b>	N/A
<b>Filer:</b>	Erin Phillips
<b>Organization:</b>	Dudek
<b>Submitter Role:</b>	Applicant Consultant
<b>Submission Date:</b>	11/27/2024 9:14:49 AM
<b>Docketed Date:</b>	11/27/2024

# **Attachment 8**

## Fire Flow Analysis



# Hydrant Fire Flow Test Request

Submitted On: Mar 11, 2022, 02:57PM EST

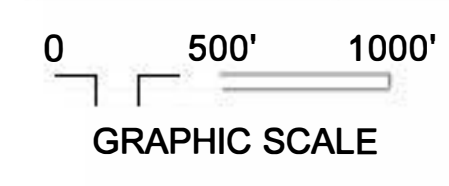
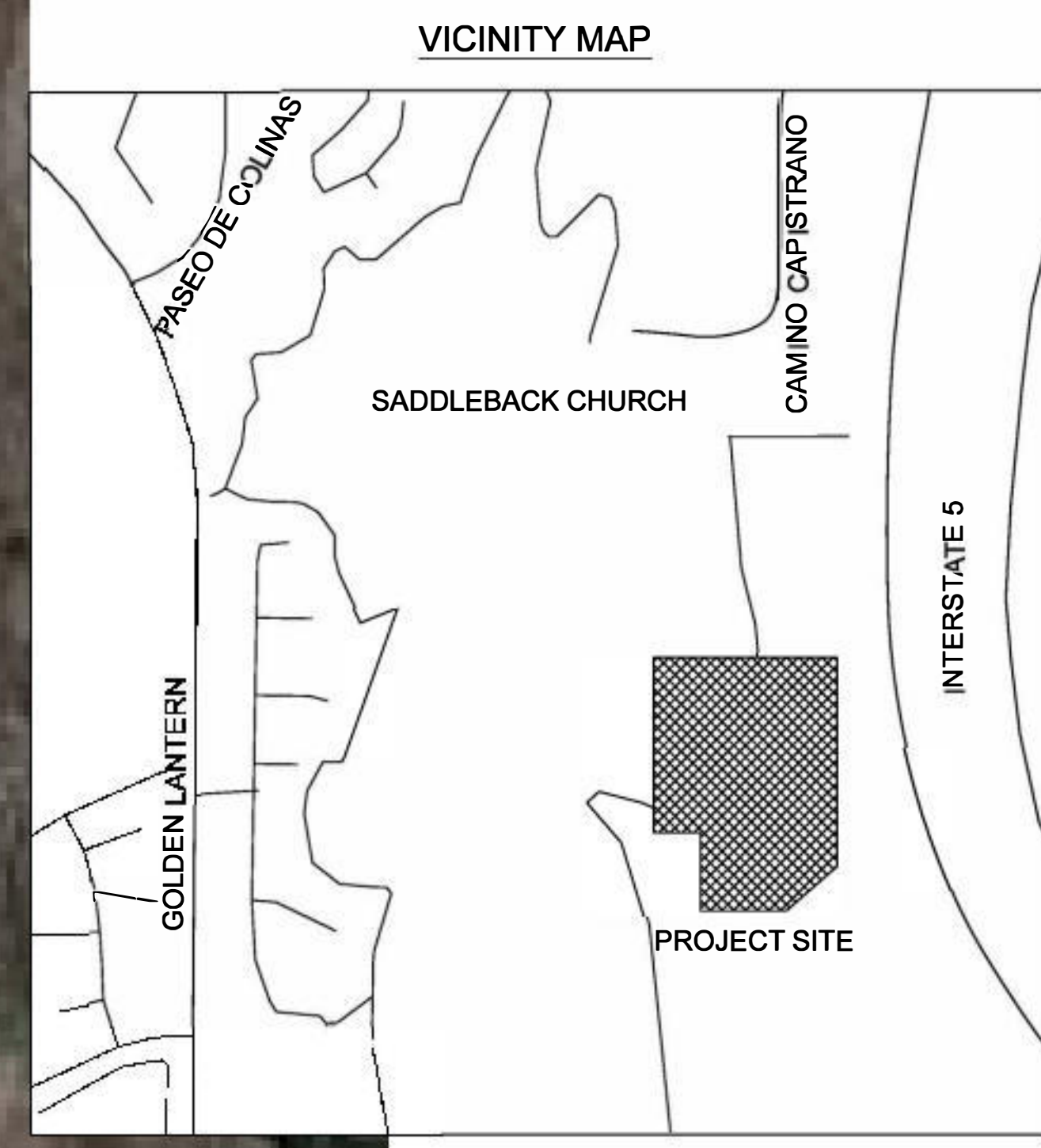
Moulton Niguel Water District

<b>Business Name</b>	Compass Energy Storage LLC
<b>Contact Name</b>	<b>First Name:</b> Justin <b>Last Name:</b> Alvord
<b>Email Address</b>	jalvord@broadreachpower.com
<b>Billing Address</b>	<b>Street Address:</b> 333 Clay Street Suite 2800 <b>City:</b> Houston <b>State:</b> TX <b>Zip:</b> 77002
<b>Phone Number</b>	240-893-2738
<b>Fax Number</b>	
<b>Address</b>	<b>Street Address:</b> 29343 Camino Capistrano <b>City:</b> San Juan Capistrano <b>State:</b> CA <b>Zip:</b> 92675
<b>Reason for Fireflow Test Request</b>	We are planning to construct a battery energy storage project at this location, which will require fire hydrants to be placed on site. In discussions with OCFA, the requirement for flow is 1,500/gallons per minute. In discussions with MNWD, there are 8 inch pipes just north of this site. We are submitting this request to understand what flow rates could be drawn down to this site. Please note the fire hydrants on the attached plans are planned (not already existing) are denoted as red circle with crosses in the middle.
<b>Upload File(s)</b>	Compass18-1 (005).pdf



\$PINFO1\$  
 Form GDC-0401-01-09, ANSI (Imperial) MicroStation Border - Size D - 22 x 34  
 Revision 11A, Revision Date: 04-30-2010

**Additional  
 Water Needs  
 for Small Scale  
 Farm here**



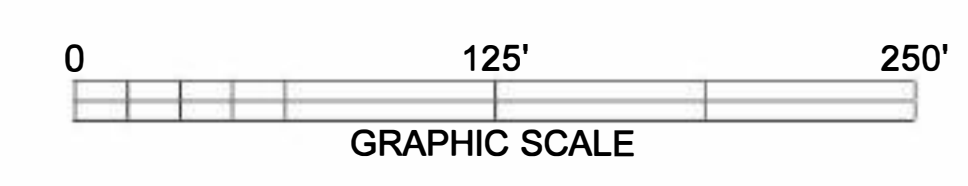
- NOTES**
- PROJECT OWNER: COMPASS ENERGY STORAGE LLC  
C/O BROAD REACH POWER LLC
  - PROJECT OWNER ADDRESS: 333 CLAY STREET, SUITE 2800, HOUSTON, TX 77002
  - PROJECT OWNER PHONE: 240-893-2738
  - LAND OWNER: SADDLEBACK VALLEY COMMUNITY CHURCH
  - OWNER OF LAND ADDRESS: 29251 CAMINO CAPISTRANO SAN JUAN CAPISTRANO, CA 92675
  - ENGINEER OF RECORD: SARGENT & LUNDY  
55 EAST MONROE STREET, CHICAGO, IL 60603
  - UTILITIES SERVING PROJECT:  
ELECTRIC - SAN DIEGO GAS & ELECTRIC  
8326 CENTURY PARK COURT, SAN DIEGO, CA 92126  
800-411-7343  
WATER - MOULTON NIGUEL WATER DISTRICT  
26161 GORDON ROAD, LAGUNA HILLS, CA 92653  
949-831-2500  
SEWAGE - NOT APPLICABLE  
TELEPHONE AND CABLE - AT&T  
208 S AKARD STREET, DALLAS, TX 75202  
800-288-2020  
NATURAL GAS - NOT APPLICABLE
  - PROJECT PARCEL 637-082-71, TOTAL 59.73 ACRES  
LEGAL DESCRIPTIONS PROVIDED IN PRELIM TITLE REPORT  
LEASE OPTION HAS BEEN EXECUTED WITH LAND OWNER  
INCLUDING ACCESS RIGHTS, MEMORANDUM PROVIDED
  - LAND USE:  

WITHIN 100FT	PLAN USE	ZONING
NORTH	LU 9.6 PC	PLANNED COMMUNITY DISTRICT
SOUTH	LU 9.6 PC	PLANNED COMMUNITY DISTRICT
EAST	AG BUS DIST	AGRIC BUSINESS DISTRICT
WEST	LU 1.0 GOS	GOS - GENERAL OPEN SPACE
  - EXISTING GARDENS AND ASSOCIATED ONSITE FACILITIES WILL BE REMOVED.
  - AREAS OF PROPOSED FACILITIES:  
BATTERY ENCLOSURES - 138,600 SQFT  
AUX POWER CENTERS - 500 SQFT  
INVERTERS/TRANSFORMERS - 12,600 SQFT  
PROJECT SUBSTATION - 38,500 SQFT  
SDG&E SWITCHYARD - 113,600 SQFT  
TOTAL - 303,800 SQFT
  - ALL DRIVE AND YARD SURFACES TO BE GRAVEL.
  - PROJECT TO BE CONSTRUCTED IN A SINGLE PHASE.

- LEGEND**
- BATTERY ENCLOSURE
  - AUX POWER CENTER
  - INVERTER / TRANSFORMER
  - FIRE HYDRANT
  - 20-FOOT ACCESS ROAD
  - 10-FOOT HORSE TRAIL
  - RETAINING WALL
  - CHAIN LINK FENCE
  - 10-FOOT PRECAST FIRE WALL
  - 138KV TRANSMISSION LINE
  - LANDSCAPING
  - HYDRANT LINE



**PRELIMINARY**



HOLD INFORMATION		
NO.	DESCRIPTION	
	CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUB-CONTRACTOR(S)) PERFORMING THE WORK.	
RELEASE INFORMATION		
REV.	DATE	DESCRIPTION
0	03-02-2022	ISSUED FOR COMMENTS
ISSUE PURPOSE: -		
SPECIFICATION: -		
PROJECT NO.: -		
I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF ENTER NAME.		
ENTER NAME ENTER DATE		
MY LICENSE RENEWAL DATE IS: ENTER DATE PAGES OR SHEETS COVERED BY THIS SEAL: THIS DOCUMENT ONLY.		
CAD FILE NAME:		
PREPARED BY: <b>BCW</b>		
REVIEWED BY: <b>MAB</b>		
APPROVED BY: -		
ANY MODIFICATION OR ADDITION TO THIS DRAWING BY AN ORGANIZATION OTHER THAN SARGENT & LUNDY, IS NOT THE RESPONSIBILITY OF SARGENT & LUNDY.		
CA LICENSE: C2119863		
 SARGENT & LUNDY 55 EAST MONROE STREET CHICAGO, ILLINOIS 60603-5780		
 BROAD REACH POWER		
PROJECT		
<b>COMPASS BATTERY ENERGY STORAGE</b>		
DRAWING TITLE		
<b>GENERAL ARRANGEMENT</b>		
DRAWING NUMBER		REVISION
<b>CMP-SE-101</b>		
SHEET	1 OF 1	

\$FILEABREVS\$  
 \$TIMES\$  
 \$DATES\$



MOULTON NIGUEL WATER DISTRICT  
FLOW TEST REPORT



TODAY'S DATE\*:

Office: (949) 425-3558

DATE OF REQUEST:

FAX: (949) 831-3536

PROJECT LOCATION:

LOCATION OF TEST (SEE REFERENCE MAP):

MAIN LINE SIZE:

TEST METHOD: HYDRAULIC MODEL  FIELD FLOW

FLOW SIZE: 2 1/2"  4"

TOTAL FLOW (GPM):	STATIC PRESSURE**:	RESIDUAL PRESSURE:
<input type="text" value="1000"/>	<input type="text" value="182"/>	<input type="text" value="154"/>

PITOT TUBE READING:	ELEVATION OF TEST:	HYDRANT NOS.
<input type="text"/>	<input type="text" value="220"/>	<input type="text" value="FHI22004"/>

PSI Calc at 20 PSI (GPM)

FIELD COMMENTS:

TEST PERFORMED BY:

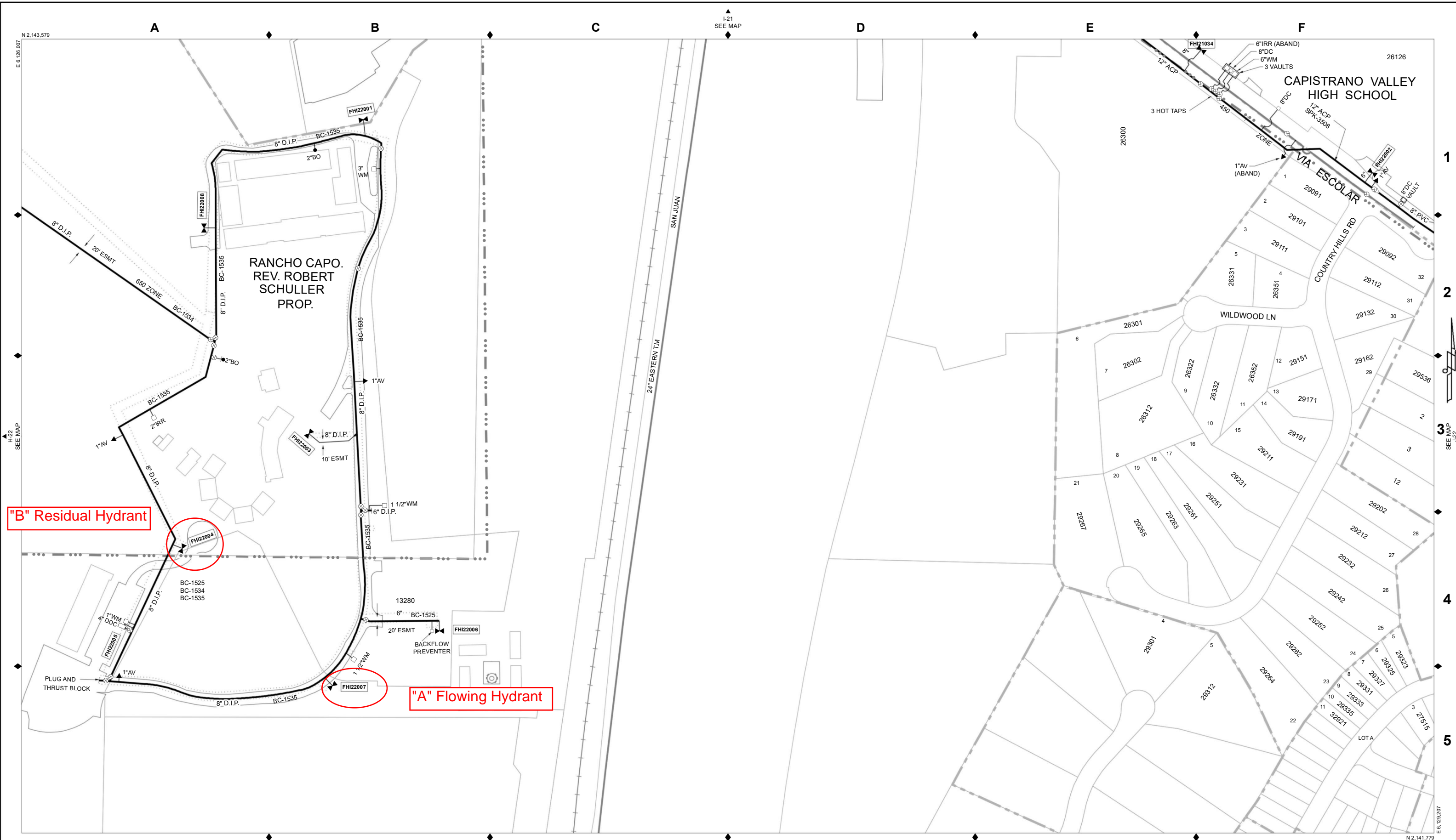
\* Test Information Is valid for 6 months from date performed.

**Date** 3/25/2022  
**Fire Flow No.** 277  
 Prepared by: Megan Emami  
 Pressure Zone: 650  
 Customer Site Location: 29343 Camino Capistrano San Juan Capistrano  
 Sectional Map: I 22  
 Assumptions:  
 Simulation on Max Month (September) at 9 am (equivalent to model hour 8)  
 System Demand w/o fire flow @ hour 8= 43523.46 gpm

Fire hydrants ID from Sectional Map → FHI22004 FHI22007  
 Simulated model Junction/pipes → **J28102 J28100 24098 22243**  
 Model Junction elevations (ft)/Pipe Dia (in) → 220 277 8" 8"  
 ↓ ↓ ↓ ↓

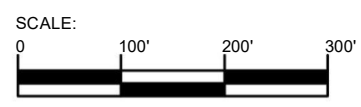
	<b>Fire Flows</b>	<b>Flowing Hydrant (A)</b>	<b>Residual Hydrant (B)</b>	<b>Pipe Vel near (A)</b>	<b>2nd Pipe Vel</b>
	gpm	psi	psi	fps	fps
Static Pressure	0	182	157	N/A	N/A
Flowing Pressure	250	180	155	3	2
Flowing Pressure	500	174	149	5	4
Flowing Pressure	800	163	137	8	5
Flowing Pressure	1000	154	127	10	6

**Note:**  
 In lieu of field tests, MNWD is providing these hydraulic model results.  
 The designer should take into account that these are model results only and should not be taken as absolute.  
 The system fluctuates constantly and design parameters should be adjusted as necessary.  
 These model results are only applicable at the points where the hydrants are; not at the actual pad site. The designer should take into account distance and elevation differences.  
 These are existing conditions only. The designer shall take care to develop appropriated future conditions.  
 Basing a fire system design on existing conditions only may create deficiencies.



"B" Residual Hydrant

"A" Flowing Hydrant



Projection: NAD83 State Plane California Zone 6

POTABLE WATER  
 MOULTON NIGUEL WATER DISTRICT  
 ORANGE COUNTY, CALIFORNIA  
 SECTIONAL MAP - I22

REVISED AS OF 4/19/2021

HYDRAULIC MODEL RESULTS 3/25/2022

### Hydrant Curve for Junction J28100 at 00:00 hrs

