CITY OF ALBUQUERQUE

Planning Department Alan Varela, Director



Mayor Timothy M. Keller

September 19, 2022

Graeme Means P.E. High Mesa Consulting Group 6010-B Midway Park Blvd Albuquerque, NM 87109

Re: 1200 Stagecoach

Request for Certificate of Occupancy - Permanent

Hydrology Final Inspection – Approved

Grading and Drainage Plan Stamp Date: 7/16/2021

Certification dated: 8/16/2022 Drainage File: M23D021

Dear Mr. Means,

Based on the submittal received 8/17/2022 and inspection on 8/18/222 in addition to the addressed

concern noted via email on 8/29/2022 this certification is approved for Permanent Certificate of

Occupancy by Hydrology.

If you have any questions, you can contact me at 505-924-3695 or dggutierrez@cabq.gov. Albuquerque

Sincerely,

David G. Gutierrez, P.E.

Senior Engineer, Planning Dept. www.cabq.gov

Development Review Services

in Gul

PO Box 1293

NM 87103



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

rroject riue:	Building Pe	ermit #:	Hydrology File #:				
			Work Order#:				
Legal Description:							
City Address:							
Applicant:			Contact:				
Address:							
Phone#:	Fax#:		E-mail:				
Other Contact:			Contact:				
Address:							
Phone#:	Fax#:		E-mail:				
TYPE OF DEVELOPMENT:	PLAT (# of lots)	RESIDENCE _	DRB SITE ADMIN SIT				
IS THIS A RESUBMITTAL?	Yes No						
DEPARTMENT TRANSPOR	RTATIONHY	DROLOGY/DRAINAC	GE				
Check all that Apply: TYPE OF SUBMITTAL: ENGINEER/ARCHITECT CER PAD CERTIFICATION CONCEPTUAL G & D PLAN GRADING PLAN DRAINAGE REPORT DRAINAGE MASTER PLAN FLOODPLAIN DEVELOPMEN ELEVATION CERTIFICATE CLOMR/LOMR TRAFFIC CIRCULATION LAY TRAFFIC IMPACT STUDY (T STREET LIGHT LAYOUT OTHER (SPECIFY) PRE-DESIGN MEETING?	IT PERMIT APPLIC YOUT (TCL) IS)	TYPE OF APPROVAL/ACCEPTANCE SOUGHT: BUILDING PERMIT APPROVAL CERTIFICATE OF OCCUPANCY PRELIMINARY PLAT APPROVAL SITE PLAN FOR SUB'D APPROVAL SITE PLAN FOR BLDG. PERMIT APPROVAL FINAL PLAT APPROVAL SIA/ RELEASE OF FINANCIAL GUARANTEE FOUNDATION PERMIT APPROVAL GRADING PERMIT APPROVAL SO-19 APPROVAL PAVING PERMIT APPROVAL GRADING/ PAD CERTIFICATION WORK ORDER APPROVAL CLOMR/LOMR FLOODPLAIN DEVELOPMENT PERMIT OTHER (SPECIFY)					
	D						

FEE PAID:_____

August 16, 2022

Renee Brissette, PE, CFM Senior Engineer, Hydrology City of Albuquerque Planning Department

Re: Engineer's Certification – 1200 Stagecoach Rd SE - M23/D021

Dear Renee:

I, J. Graeme Means, NMPE 13676, of the firm High Mesa Consulting Group, hereby certify that this project has been graded and will drain in substantial compliance with and in accordance with the design intent of the approved plan dated 07/28/2021. The record information edited onto the original design document has been obtained by Charles G. Cala, Jr., NMPS 11184, of the firm High Mesa Consulting Group. I further certify that I have personally visited the project site on 08/06/2022 and have determined by visual inspection that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for certificate of occupancy.

As noted on the attached as-built plan, the following deviations from the approved plan that do not preclude certification were noted:

- 1) The northern stormwater quality pond was not graded in close conformance to the design, but will still accept the intended runoff and has much greater capacity than required.
- 2) The drivepad geometry varies from the design, but does not impact the intended drainage patterns.
- 3) The flowline around the east side of the garage was constructed farther to the east than designed, but still functions as intended to route runoff around to the north and to the pond.
- 4) The gravel slope stabilization near the northeast side of the garage was not constructed, but this will not impact the public. Although the Owner may experience erosion, any sediment will end up in the much larger retention pond.
- 5) The gutters were constructed with additional downspouts at the SW and SE corners. The one at the SE corner is not problematic as the discharge goes to the flowline on the east side of the garage and to the retention pond. The downspout at the SW corner was problematic with respect to plan intent as it would discharge to the adjacent home. After my initial site visit, I alerted the Owner and he had his contractor comer back to seal off the opening at the gutter, thereby sending the runoff to the north as intended.

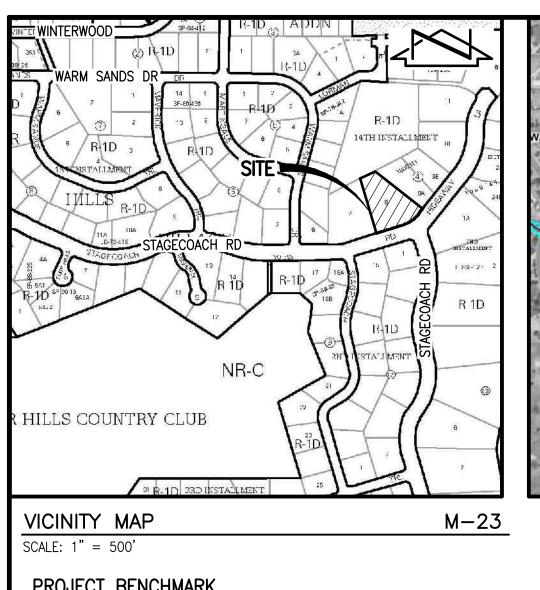
The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the grading and drainage aspects of this project. Those relying on this record document are advised to obtain independent verification of its accuracy before using it for any other purpose.



Graeme Means, N.M.P.E. 13676

08/16/2022

GM/*
Enclosure



F.I.R.M. 386 OF 825 SCALE: 1" = 500'

PROJECT BENCHMARK

AN AGRS BRASS DISK STAMPED "9-M23", SET IN A CONCRETE POST 0.3 FEET ABOVE GROUND, 1100' EAST FROM THE INTERSECTION OF STAGECOACH RD AND PEDREGOSA PL ON THE NORTH SIDE OF THE DIRT ROAD. ELEVATION = 5991.67 FEET (NAVD 1988)

TEMPORARY BENCHMARK #201 (T.B.M.)

A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184", SET IN DIRT NEAR CURB NEAR THE SOUTHEAST CORNER OF THE PROJECT SITE, AS SHOWN ON THIS

ELEVATION = 5791.17 FEET (NAVD 1988)

TEMPORARY BENCHMARK #202 (T.B.M.)

A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184". SET IN DIRT TO THE NORTH OF THE GROUP OF SMALL TREES IN THE SOUTHWEST CORNER OF THE PROJECT SITE, AS SHOWN ON THIS SHEET. ELEVATION =5782.92 FEET (NAVD 1988)

TEMPORARY BENCHMARK #203 (T.B.M.)

A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184", SET IN DIRT NEAR THE NORTHEAST CORNER OF THE PROJECT SITE, AS SHOWN ON THIS SHEET. ELEVATION = 5785.03 FEET (NAVD 1988)

CONSTRUCTION NOTES:

- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1987, PUBLISHED BY THE NEW MEXICO CHAPTER AMERICAN PUBLIC WORKS ASSOCIATION. (REVISED
- . TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 811, FOR DESIGNATION (LINE-SPOTTING) OF EXISTING PUBLIC UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
- 4. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- . UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE TOPOGRAPHIC AND UTILITY SURVEY CONDUCTED BY THIS FIRM DATED 07/16/2021 AND INCLUDED AS SHEET 1 OF THIS PLAN SET. THAT UTILITY SURVEY AND SUBSURFACE UTILITY ENGINEERING EFFORT IS NOT ALL-INCLUSIVE AND MAY NOT REPRESENT UTILITIES/INFRASTRUCTURE THAT HAVE BEEN ABANDONED-IN-PLACE, WERE INACCESSIBLE, OR OTHERWISE UNDETECTABLE DUE TO UNFORESEEN AND UNCONTROLLABLE SITE AND/OR UTILITY CONDITIONS. FURTHER, THAT UTILITY INVESTIGATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFORE. THE PROPERTY OWNER, DEVELOPER, OR CONTRACTOR IS FULLY

RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE IDENTIFY AND PRESERVE ANY AND ALL EXISTING UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUES, NEW MEXICO EXCAVATION LAWS (NM811), MUNICIPAL AND LOCAL ORDINANCES, SITE SPECIFIC RULES AND REGULATIONS, IF ANY PERTAINING TO THE LOCATION OF THESE UTILITY LINES AND FACILITIES

- / OR UNUSED AS A RESULT OF THIS PROJECT SHALL NOT BE ABANDONED IN PLACE, BUT SHALL INSTEAD BE COMPLETELY REMOVED WITHIN THE PROJECT AREA AND CAPPED AT THE PROJECT LIMITS, UNLESS OTHERWISE NOTED.
- . THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING
- THE GRADES INDICATED ON THIS PLAN ARE FINISHED GRADES UNLESS OTHERWISE INDICATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING SUBGRADE AT ELEVATIONS THAT SHALL ACCOMMODATE PROPOSED IMPROVEMENTS AS INDICATED ON THE PLANS INCLUDING, BUT NOT LIMITED TO, SURFACE DRAINAGE STRUCTURES, PAVING AND LANDSCAPING SURFACING.

THIS IS NOT A BOUNDARY SURVEY OR A RIGHT-OF-WAY SURVEY. APPARENT PROPERTY CORNERS, RIGHT-OF-WAY LINES, OR PROPERTY LINES AS SHOWN ARE DERIVED FROM RECORD SURVEY PLATS, RIGHT-OF-WAY MAPS, OR DEEDS REFERENCED HEREON AND ARE NOT GUARANTEED OR TO BE RELIED ON FOR THE ESTABLISHMENT OF PROPERTY LINES.

THE BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON THE PLAT OF FOUR HILLS VILLAGE FOURTEENTH INSTALLMENT FILED 10/30/1974 (D6-94).

THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE PARTIAL TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP NMPS NO. 11184, DATED 07/16/2021 (2021.039.1)

LEGEND

C&G CURB AND GUTTER CDP CONCRETE DRIVEPAD CRUSHER FINES CONCRETE DRIVEWAY EDGE OF CONCRETE FLOWLINE OVERHEAD COMMUNICATION (# OF LINES) OVERHEAD ELECTRIC (# OF LINES) RIVER ROCK RAILROAD TIES TOP OF CURB TOP OF CONCRETI WIRE FENCE ELEC CONDUIT ELEC METER ELEC PP **GATEPOST** GAS METER IRR CONTROL TIMER IRR VALVE BOX SAS SINGLE CO SAS MANHOLE WATER METER BOX WATER AIR RELEASE VALVE

XERISCAPE PLANT CONIFEROUS TREE AND DIAMETER SMALL CONIFEROUS TREE 1.2'ø DECIDUOUS TREE AND DIAMETER

LANDSCAPE ROCK/BOULDER

SMALL DECIDUOUS TREE SMALL SHRUB INVERT TOP OF ASPHALT PAVEMENT TOP OF CURB TOP OF GRATE + 20.05 EXISTING SPOT ELEVATION 17.25 PROPOSED SPOT ELEVATION EXISTING FLOWLINE PROPOSED FLOWLINE ——-5780-—— **EXISTING CONTOUR** PROPOSED CONTOUR EXISTING DIRECTION OF FLOW PROPOSED DIRECTION OF FLOW _---RIGHT OF WAY LINE

PUBLIC EASEMENT LINE

-E ----E ----

HIGH POINT / DIVIDE

APWA UTILITY COLOR CODE

_ - - + - -

ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES

YELLOW - GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS

SITE CHARACTERISTICS

CALCULATIONS:

A. PRECIPITATION ZONE = $B_{.} = P_{360} =$ C. TOTAL PROJECT AREA $(A_T) = 12,833$

0.29 D. LAND TREATMENTS

1.	EXIS	(ISTING LAND TREATMENT DEVELOPED LAND TREATMENT										
	PRO	JECT SITE	12,833	12,833 SF PROJECT SITE					12,833		SF	
			0.29	AC					0.29		AC	
	LAND TREATMENT AREA (SF/		REA (SF/AC)		%	LAND TREATMENT AF			REA (SF/AC)			%
	Α					Α						
	В					В						
	С		12,833	SF	100%	С			8,793	;	SF	69%
			0.29	AC					0.20		AC	
	D					D			4,040	;	SF	31%
			•						0.09	,	AC	

A. EXISTING CONDITION 100 YEAR STORM

PROJECT SITE

a. VOLUME 100-YR, 6-HR $WT_E = (E_A \cdot A_A + E_B \cdot A_B + E_C \cdot A_C + E_D \cdot A_D)/A_T$ \Rightarrow (0.67 • 0.00) + (0.86 • 0.00) + (1.09 • 0.29) + (2.58 • 0.00)/0.29 = 1,170 CF $V_{100.6 \, HR} = (E_W/12) \cdot A_T \Rightarrow (1.09/12) \cdot 0.29 =$ 0.0268 AC-FT = b. PEAK DISCHARGE 100-YR

 $Q_{100} = Q_A \cdot A_A + Q_B \cdot A_B + Q_C \cdot A_C + Q_D \cdot A_D$ \Rightarrow (1.84 • 0.00) + (2.49 • 0.00) + (3.17 • 0.29) + (4.49 • 0.00) =

B. <u>DEVELOPED CONDITION 100 YEAR STORM</u>

PROJECT SITE a. VOLUME 100-YR, 6-HR

 $WT_E = (E_A \cdot A_A + E_B \cdot A_B + E_C \cdot A_C + E_D \cdot A_D)/A_T$ \Rightarrow (0.67 • 0.00) + (0.86 • 0.00) + (1.09 • 0.20) + (2.58 • 0.09)/0.29 = 1,670 CF $V_{100.6 \text{ HR}} = (E_W/12) \cdot A_T \Rightarrow (1.56/12) \cdot 0.29 =$ 0.0383 AC-FT =

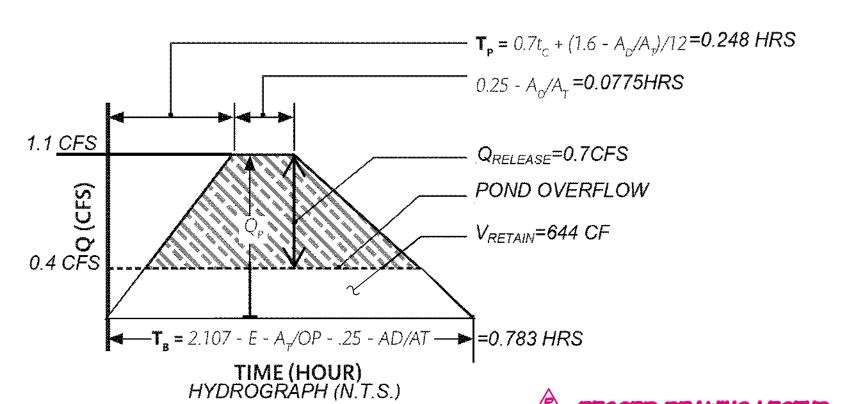
b. STORM WATER QUALITY VOLUME

 $V_{SWQV} = ((P_{SWQV})/12) \cdot A_D$ \Rightarrow ((0.42)/12) • (0.09) = AC-FT = 140 CF VOLUME REQUIRED ONSITE VOLUME PROVIDED = 664 CF (AVERAGE END AREA METHOD); VOLUME PROVIDED > VOLUME REQUIRED c. PEAK DISCHARGE 100-YR

 $Q_{100} = Q_A \cdot A_A + Q_B \cdot A_B + Q_C \cdot A_C + Q_D \cdot A_D$ \Rightarrow (1.84 • 0.00) + (2.49 • 0.00) + (3.17 • 0.20) + (4.49 • 0.09) = 1.1 CFS

C. COMPARISON 100 YEAR STORM PROJECT SITE

a. VOLUME 100-YR, 6-HR 1670 - 1170 = 500 CF (GROSS INCREASE) $\Delta V_{PROJECT SITE(GROSS)} =$ $\Delta V_{PROJECT SITE (NET)} = \Delta V_{PROJECT SITE (GROSS)} - V_{SWQV-RET} = 500-664=$ -164 CF (DECREASE) b. PEAK DISCHARGE 100-YR $\Delta Q_{100(GROSS)} =$ 1.1 - 0.9 = 0.2 CFS (GROSS INCREASE) $\Delta Q_{100(NET)}$ = -0.2 CFS (NET DECREASE) 0.7 - 0.9 =



Q_P = 1.1 CFS $T_P = 0.7T_C + (1.6-A_D/A_T)/12 = (0.7)(0.2) + (1.6-0.31)/12$ T_P =0.248 HRS

 $T_{ATT} = 0.25 (A_D/A_T) = (0.25)(0.31) = 0.0775HRS$

 $T_{\rm B} = (2.107)(1.55)(0.29/1.1)-(0.0775)$

 $T_B = (2.107)(E)(A_T/Q_P)-T_{ATT}$

RECORD DRAMING LEGEND CONSTRUCT RECORD INFORMATION (VERIFIED BY ENGINEER, AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY) RECORD INFORMATION FROM AS-BUILT SURVEY RECORD INFORMATION FROM AS-BUILT SURVEY ♠ 28,95.92 RECORD INFORMATION FROM AS-BUILT SURVEY

0.9 CFS

DRAINAGE PLAN:

 $T_B = 0.783HR$

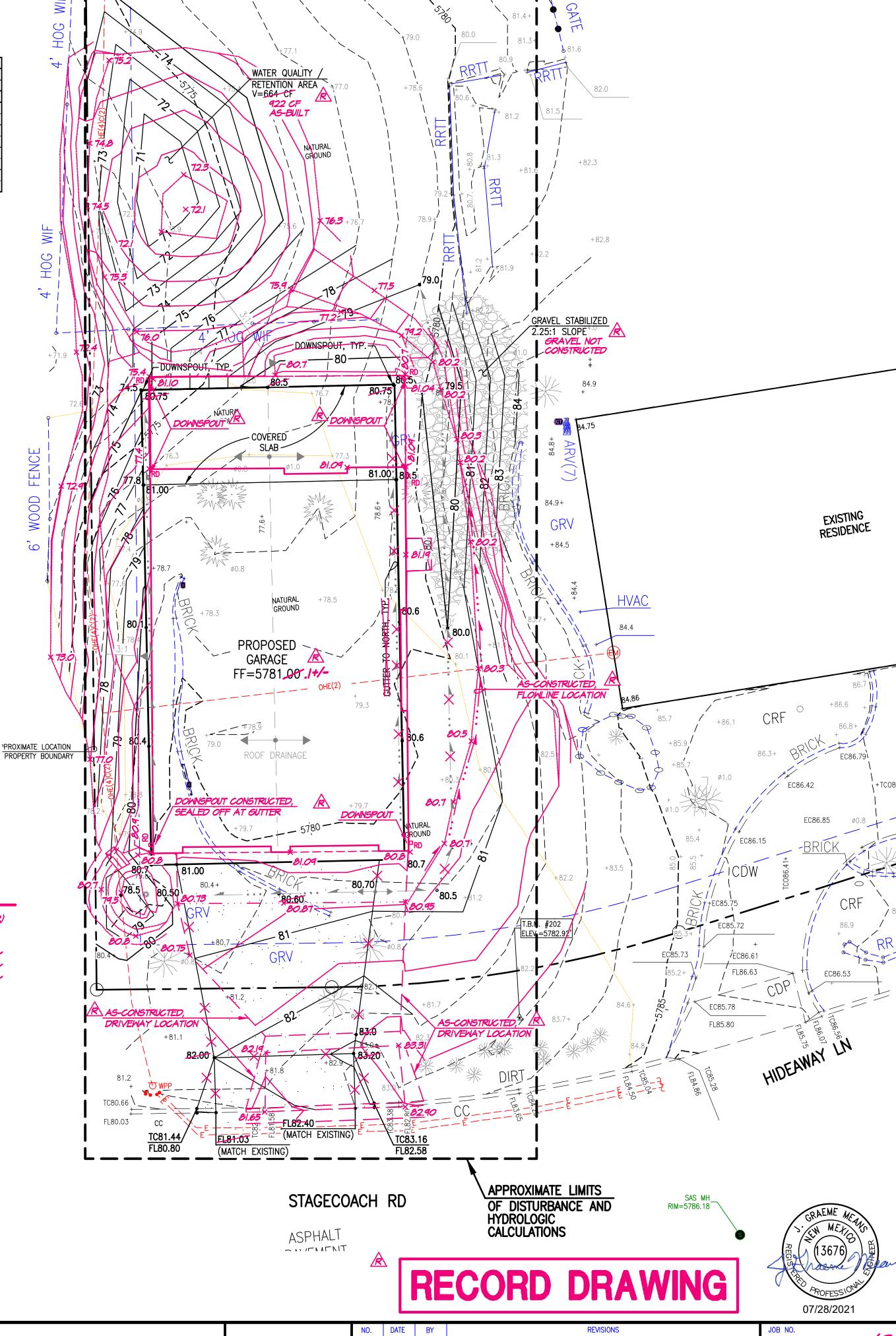
THE PROPOSED SUBMITTAL IS MADE IN SUPPORT OF BUILDING PERMIT BY THE CITY OF ALBUQUERQUE. THE EXISTING SITE IS LOCATED IN THE FOUR HILLS VILLAGE AREA OF SOUTHEAST ALBUQUERQUE NEAR THE INTERSECTION OF STAGECOACH RD AND STAGECOACH LN. THE SITE IS BOUNDED UNDEVELOPED NATURAL LANDSCAPING TO THE NORTH, DEVELOPED RESIDENTIAL SITES TO THE EAST AND WEST AND STAGECOACH RD TO THE SOUTH. AS SHOWN BY THE FIRM LOCATED ON THIS SHEET, THE EXISTING SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. THE EXISTING SITE IS AN UNDEVELOPED SIDEYARD PORTION OF A SINGLE FAMILY HOME SITE. THAT GENERALLY SLOPES FROM EAST TO WEST. EXISTING RUNOFF FREELY LEAVES THE SITE ON THE WEST EDGE OF THE SITE BETWEEN THE RESIDENTIAL SITES TOWARDS WARMS SANDS DR.

THIS PROPOSED PROJECT IS THE DEVELOPMENT OF AN EXISTING SIDEYARD WITH A NEW GARAGE, PAVED DRIVEWAY AND NEW DRIVEPAD. THE PROPOSED PROJECT WILL NOT EXCEED 1 ACRE OF DISTURBANCE AREA. THE PROJECT WAS DESIGNED TO DIRECT RUNOFF AROUND THE NEW GARAGE BUT STILL MAINTAIN THE EXISTING DRAINAGE PATTERN OF THIS SITE, THE MAJORITY OF THE SITE INCLUDING THE ROOF DRAINAGE WILL BE DIRECTED NORTH TO A NEW WATER QUALITY RETENTION AREA LOCATED AT THE WEST EDGE OF THE SITE. THE NEW POND IS SIZED TO HOLD 664 CF WHICH EXCEED THE CITY'S WATER QUALITY EVENT VOLUME REQUIREMENT OF 140 CF AND THE 100-YEAR 6 HOUR STORM VOLUME INCREASE OF 500 CF. THIS VOLUME RETENTION WILL ALSO RESULT IN A NET DECREASE IN PEAK DISCHARGE FOR THE PROJECT AREA FROM 0.9 CFS TO 0.7CFS. THE RETENTION AREA WILL OVERFLOW TO THE WEST TO THE HISTORICAL OUTFALL.

TO SUMMARIZE, THIS PROJECT WILL ACCOMPLISH THE FOLLOWING:

- THE PROPOSED DEVELOPMENT FOLLOWS THE EXISTING DRAINAGE PATTERNS ONSITE AND WILL CONTINUE FREE DISCHARGE.
- THE SITE'S DISCHARGE WILL NOT ADVERSELY IMPACT THE DOWNSTREAM CONDITION.
- THE SITE WILL RETAIN THE CITY OF ALBUQUERQUE'S REQUIRED WATER QUALITY EVENT AND INCREASE IN RUNOFF GENERATED BY THE NEW DEVELOPMENT.
- THE PROPOSED ONSITE RETENTION WILL RESULT IN A NET DECREASE IN RUNOFF AND PEAK DISCHARGE

• THE DISTURBED AREA OF SITE WILL NOT EXCEED 1 ACRE



HIGH MESA Consulting Group

Phone: 505.345.4250 • Fax: 505.345.4254 • www.highmesacg.com

SCALE: 1" = 10"

GRADING AND DRAINAGE PLAN ELLIOTT RESIDENCE GARAGE 1200 STAGECOACH RD SE, ALBUQUERQUE, NM

2021.039/ ENGINEER'S CERTIFICATION DESIGNED BY $_{\rm G.M./R.J.0}$ 07-29-2021 PPROVED BY $\underline{\mathsf{G.M.}}$

6010-B Midway Park Blvd. NE • Albuquerque, New Mexico 87109