Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information	**Staff Assigned Case No.:**
Project Name: 211 Waterman Ct., Washoe County, NV	
Project Description: Single Family Residential New Constrcution	
Project Address: 211 Waterman Ct., Washoe County, NV 89511	
Project Area (acres or square feet): 50,672 sf	
Project Location (with point of reference to major cross streets **AND** area locator): 200 ft North of NWC of East Marchmont Lane and Waterman Court, St. James Village	

Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
156-061-14	1.16 acres		

Indicate any previous Washoe County approvals associated with this application:
Case No.(s). n/a

Applicant Information (attach additional sheets if necessary)

Property Owner:		**Professional Consultant:**	
Name: Stephen J. Packer TTEE & Elizabeth E. Packer TTEE		Name: C.J. Price	
Address: 9179 Graycliff Lane		Address: 555 Prairie Dog Ct	
Reno, NV	Zip: 89523	Reno, NV	Zip: 89508
Phone: 775-846-8588	Fax: n/a	Phone: 775-322-8383	Fax:
Email: stevepacker@sbcglobal.net		Email: ardhomes@yahoo.com	
Cell: 775-846-8588	Other: 937-409-4	Cell: 775-322-8383	Other:
Contact Person: Stephen Packer		Contact Person: C.J. Price	
Applicant/Developer:		**Other Persons to be Contacted:**	
Name: Stephen J. Packer TTEE & Elizabeth E. Packer TTEE		Name:	
Address: 9179 Graycliff Lane		Address:	
Reno, NV	Zip: 89523		Zip:
Phone: 775-846-8588	Fax: n/a	Phone:	Fax:
Email: stevepacker@sbcglobal.net		Email:	
Cell: 775-846-8588	Other: 937-409-4	Cell:	Other:
Contact Person: Stephen Packer		Contact Person:	

For Office Use Only

Date Received: Initial:	Planning Area:
County Commission District:	Master Plan Designation(s):
CAB(s):	Regulatory Zoning(s):

Abandonment Application
Supplemental Information

(All required information may be separately attached)

1. What and where is the abandonment that is being requested?

Only the South 40 ft of Drainage Easement on North one-half of Lot 414 Map 3404a

2. On which map or document (please include with application) is the easement or right-of-way first referenced?

Map 3404a Document No. 2171913 June 20th, 1997

3. What is the proposed use for the vacated area?

Single Family Residence new construction

4. What replacement easements are proposed for any to be abandoned?

The attached Hydrology Letter from CFA Engineering shows no new easements are needed because this easement contains excess capacity.

5. What factors exist or will be employed to prevent the proposed abandonment from resulting in significant damage or discrimination to other property in the vicinity?

Despite record rain this year no water drained here. Remaining easement contains more excess capacity than needed to prevent damage to other properties.

6. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the abandonment request? (If so, please attach a copy.)

* Yes Document No. 3834034 recorded December 28, 2009	* No

IMPORTANT

NOTICE REGARDING ABANDONMENTS:

To the extent that Washoe County does not own the easements in question, it cannot abandon them. Therefore, an abandonment request is in effect a "quitclaim" by the County of whatever interest it might have in the easements in favor of the owners who applied for the abandonment. For example, if the abandonment is approved by Washoe County and recorded, it will likely affect the allowable building envelope on the property, to the benefit of the applicant. However, even if the abandonment is approved, it should not be construed as an assertion by the County of ownership over the easements in question. To the extent other property owners nearby or other entities might have any ownership interests in these easements, an approved abandonment by the County does not affect those interests and the property owners associated with this abandonment are responsible for utilizing whatever legal mechanisms are necessary to address those interests on their own.

June 22, 2023

1:1,128

0 50 100 200 ft

0 15 30 60 m

Washoe County GIS
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

LEGAL NOTES

ALL RIGHTS RESERVED

DRAWINGS AND SPECIFICATIONS REMAIN THE PROPERTY OF THE DESIGN PROFESSIONAL. COPIES OF THE DRAWINGS AND SPECIFICATIONS RETAINED BY THE CLIENT MAY BE UTILIZED ONLY FOR HIS/HER USE AND FOR OCCUPYING THE PROJECT FOR WHICH THEY WERE PREPARED, AND NOT FOR THE CONSTRUCTION OF ANY OTHER PROJECT.

ASSOCIATED RESIDENTIAL DESIGN, CJ PRICE "RESIDENTIAL DESIGNER" RESERVE ALL RIGHTS, INCLUDING BUT NOT LIMITED TO, THE USE AND RIGHT OF REPRODUCTION IN WHOLE OR IN PART IN ANY FORM OF THESE DOCUMENTS A . R . D . IS THE EXCLUSIVE OWNER OF ALL INSTRUMENTS OF SERVICE AND DOES HEREIN DISCLAIM ALL RESPONSIBILITY AND LIABILITY FOR THEIR UNAUTHORIZED USE ON ANY OTHER SITE, OTHER THEN THAT ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THESE DOCUMENTS ARE FOR LIMITED PUBLICATION ONLY, FOR ORIGINAL OWNER OR CONTRACTOR.

DO NOT SCALE PRINTS. USE WRITTEN DIMENSIONS ONLY.

ANY AND ALL CHANGES SHALL BE APPROVED, IN WRITING, BY THE OWNER . THE RESIDENTIAL DESIGNER WILL ASSUME NO RESPONSIBILITY FOR UNAUTHORIZED CHANGES OR INCORRECT INTERPRETATIONS.

WHERE THE REQUIREMENTS OF THE "CONTRACT DOCUMENTS" EXCEED THE "MINIMUM STANDARDS OF ANY BUILDING CODE OR ORDINANCE, THEN SAID REQUIREMENTS SHALL BE THE MINIMUM STANDARDS FOR THIS PROJECT AND SHALL NOT BE ABRIDGED.

ANY UNAUTHORIZED USE, CHANGE OR MODIFICATION TO THESE CONTRACT DOCUMENTS WILL VOID ALL RESPONSIBILITY AND LIABILITY FOR THIS PROJECT BY ASSOCIATED RESIDENTIAL DESIGN.

CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE "INTERNATIONAL RESIDENTIAL CODE" I.R.C. ADOPTED EDITION, AND ALL LOCAL GOVERNING ORDINANCES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH AND COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE I.R.C., I.B.C., AND ALL LOCAL CODES.

THE CONTRACTOR SHALL EXAMINE THE CONTRACT DOCUMENTS AND VERIFY ALL DIMENSIONS AND ELEMENTS ON THE DRAWINGS BEFORE COMMENCING CONSTRUCTION AND SHALL NOTIFY THE RESIDENTIAL DESIGNERS IMMEDIATELY, IN WRITING, OF ANY DISCREPANCIES BETWEEN THE DRAWINGS, CODES, CALCULATIONS, NOTES OR ORDINANCES. IN THE EVENT THE DESIGNER/ENGINEER CAN NOT BE CONTACTED THE MOST STRINGENT CONDITION OR CASE SHALL GOVERN.

THE CONTRACTOR SHALL EXAMINE AND VERIFY ALL SITE CONDITIONS, ELEMENTS AND UTILITIES AND SHALL BE RESPONSIBLE FOR ESTABLISHING AND COORDINATING ALL SERVICE REQUIREMENTS WITH THE APPROPRIATE PUBLIC AGENCY OR UTILITY PROVIDERS.

THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR "COURSE OF CONSTRUCTION" INSURANCE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL "PUBLIC LIABILITY" AND "PROPERTY DAMAGE" INSURANCE WHICH SHALL BE KEPT IN EFFECT THE ENTIRE TERM OF CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND PAY ALL WORKMAN COMPENSATION INSURANCE. ALL LOCAL STATE AND FEDERAL TAXES AND ALL BUILDING PERMITS AND FEES IN CONNECTION WITH THIS PROJECT.

NOTE :

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD PRIOR TO THE START OF CONSTRUCTION (TYP.) AT ALL SHEETS.

CONTRACTOR SHALL VERIFY ALL EXISTING GRADES AND CONDITIONS IN FIELD PRIOR TO THE START OF CONSTRUCTION.

ASSOC. RESIDENTIAL DESIGN OR CJ PRICE ARE NOT RESPONSIBLE FOR EXISTING TOPO ON LOT.

FIELD VERIFY ALL UTILITY LOCATIONS, CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS.

CONSTRUCTION SHALL MEET THE CURRENT BUILDING AND PLANNING DEPT. , I.R.C. REQUIREMENTS AND ANY APPLICABLE CC&R'S WITHIN THIS SUBDIVISION.

ALL PRE-FAB PRODUCTS SHALL BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS (TYP.) AT ALL SHEETS.

CONTRACTOR TO INSTALL 4" PVC. SLEEVES UNDER DRIVEWAY AND WALKWAYS ETC. ... NOT TO BE MISTAKEN FOR DRIVEWAY CULVERT.

ALL DIMENSIONS FROM PROPERTY LINE TO HOUSE ARE TO OUTSIDE OF STUDS OR OUTSIDE OF STEMWALL (TYP.)

PROVIDE 400 AMP. SERVICE MIN. TO PANEL AT HOUSE PER OWNER'S SPECS. (SEE OWNER FOR LOCATIONS)

CONTRACTOR TO ENSURE A MIN. OF 5% SLOPE AWAY FROM HOUSE TO DRAIN SWALE (TYP.)

CONTRACTOR TO ENSURE A MIN. OF 1% SLOPE AT ALL DRAIN SWALES (TYP.)

IT IS THE OWNERS RESPONSIBILITY TO PERPETUATE DRAINAGES.

NOTE :

ALL DRAINAGE MUST DRAIN AWAY FROM ANY BUILDINGS TO AN APPROVED DRAINAGE EASEMENT OR STREET.

ALL IMPROVEMENTS WITHIN THE COUNTY RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST COUNTY STANDARD SPECIFICATIONS AND DETAILS.

INSTALL 15 INCH DIAMETER CULVERT , CMP (MIN 16 GAUGE) OR RCP . MINIMUM CULVERT LENGTH TO BE DRIVEWAY WITH PLUS 4'-0" . (VERIFY IN FIELD)

A STREET CUT PERMIT IS REQUIRED FOR ANY WORK TO BE PERFORMED WITHIN THE WASHOE COUNTY RIGHT-OF-WAY.

THE WASHOE COUNTY ROAD DEPATMENT (328-2180) MUST APPROVE THE NEW DRIVEWAY CULVERT SIZE AND LOCATION PRIOR TO INSTALLATION.

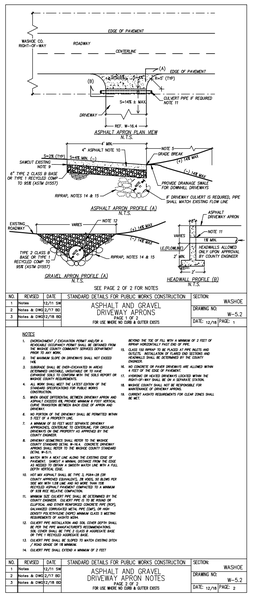
THE WASHOE COUNTY ROAD DEPARTMENT (328-2180) MUST APPROVE THE NEW DRIVEWAY CULVERT INSTALLATION PRIOR TO PERMIT FINAL / CERTIFICATE OF OCCUPANCY.

EXTERIOR CONC. NOTES

1. MIX = CONCRETE TO BE MIXED AT SIX (6) BAGS CEMENT PER CUBIC YARD.
2. THICKNESS = UNIFORM LAYER OF 4" MINIMUM.
3. COMPACTION = SUB GRADE TO BE COMPACTED TO 95% MAX. DRY DENSITY.
4. SLUMP = MAX. SLUMP NOT TO EXCEED 4".
5. AIR ENTRAINMENT = MIXTURE TO BE INFUSED WITH 4.5% TO 7.5% AIR.
6. WATER RATIO = MAX. WATER TO CONTENT RATIO NOT TO EXCEED @.45.
7. EXPANSION = EXPANSION JOINTS TO BE INSTALLED AT 10'-0" INTERVALS.
8. FINISH = PER OWNERS SPECS.
9. DRAINAGE = GRADE NOT LESS THAN 2% MIN. FOR DRAINAGE.
10. DILUTION = NO WATER TO BE ADDED DURING FINISHING.

GENERAL CONDITIONS NOTE :

SHOULD ANY PREHISTORIC OR HISTORIC REMAINS / ARTIFACTS BE DISCOVERED DURING SITE DEVELOPMENT, WORK SHALL TEMPORARILY BE HALTED AT THE SPECIFIC SITE AND THE STATE HISTORIC PRESERVATION OFFICE OF THE DEPARTMENT OF MUSEUMS, LIBRARY AND ARTS, SHALL BE NOTIFIED TO RECORD AND PHOTOGRAPH THE SITE. THE PERIOD OF TEMPORARY DELAY SHALL BE LIMITED TO A MAXIMUM OF TWO (2) WORKING DAYS FROM THE DATE OF NOTIFICATION.



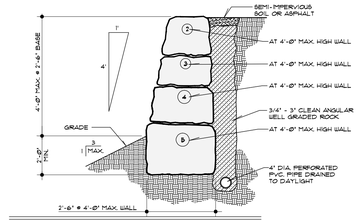
NO.	REVISED	DATE	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	SECTION	WASHOE
1	Notes A, D	3/21/00	ASPHALT AND GRAVEL DRIVEWAY APRONS	DRAWING NO.	W-5.2
2	Notes A, D	08/21/08		DATE: 12/18	PAGE: 1
3	Notes A, D	12/18/18	FOR USE WHERE NO CURB IS EXISTED		

WASHOE COUNTY DETAIL W-5.2

SEE ALL REQUIREMENTS FOR WASHOE COUNTY DETAIL W-5.2 -- CONTRACTOR SHALL VERIFY ALL IN FIELD.

NOTE :

CONTRACTOR SHALL FIELD VERIFY ALL FOUNDATION CONDITIONS IN FIELD PRIOR TO THE START OF CONSTRUCTION . CONTRACTOR SHALL VERIFY ALL STEMWALL HEIGHTS IN FIELD PRIOR TO CONSTRUCTION .



ROCK WALL SECTION

N.T.S.

RW

NOTE:

1. @ - DESIGNATES SIZE OF ROCK REQUIRED IE. 4 MAN OR 6 MAN.
2. SEE SITE PLAN OR OWNER FOR ROCKERY WALL LOCATIONS AND HEIGHTS.
3. INSTALL THE ROCKERY WALL IN ACCORDANCE WITH THE ASSOCIATION OF ROCKERY CONTRACTORS STANDARD ROCKERY CONSTRUCTION GUIDELINES.

NOTICE :

EXISTING UTILITIES ARE LOCATED ON THE PLANS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. A.R.D. BEARS NO RESPONSIBILITY FOR THE LOCATION OF THE UTILITIES SHOWN OR NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES BEFORE STARTING CONSTRUCTION AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES WITH THE UTILITY COMPANIES.

CALL BEFORE YOU DIG — UNDERGROUND SERVICE ALERT

2018 IWUIC NOTE :

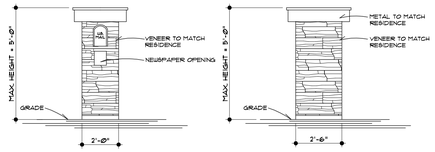
1.) BUILDING CONSTRUCTION AND MATERIALS SHALL MEET THE REQUIREMENTS OF CHAPTER 5 OF THE 2018 I.W.U.I.C INTERFACE CODE REGARDING CLASS 1R2 IGNITION RESISTANT CONSTRUCTION . (CONSTRUCTION MATERIALS)

2.) RESIDENCE SHALL MEET THE REQUIREMENTS OF THE 2018 I.W.U.I.C

3.) DEFENSIBLE SPACE IS REQUIRED TO CONFORM WITH THE 2018 I.W.U.I.C AND SHALL BE MAINTAINED. 30'-0" MINIMUM.

VEGETATION CLEARANCE NOTE :

VEGETATION CLEARANCE REQUIREMENTS IN THE URBAN - WILDLAND INTERFACE AREAS TO BE ACCORDANCE WITH INTERNATIONAL WILDLAND - URBAN INTERFACE CODE. 30'-0" MINIMUM .



FRONT VIEW MAIL BOX DETAIL

N.T.S.

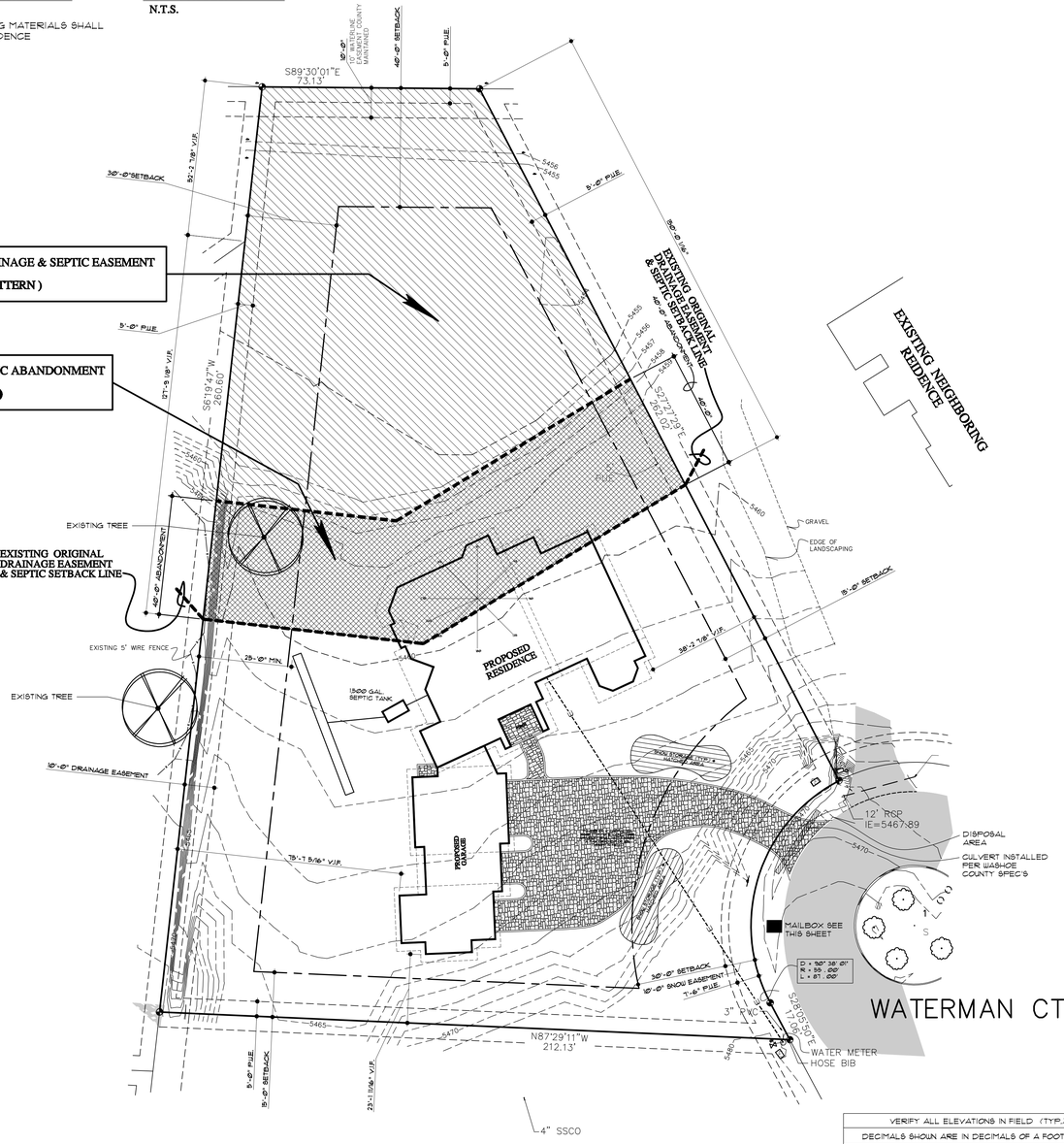
SIDE VIEW MAIL BOX DETAIL

N.T.S.

ALL BUILDING MATERIALS SHALL MATCH RESIDENCE

FIRE SPRINKLER NOTE :

RESIDENTIAL FIRE SPRINKLER SYSTEM REQUIRED FOR GARAGE AND RESIDENCE . SYSTEM SHALL BE AUTOMATIC SYSTEM INSTALLED PER ALL I.R.C. CODES FIRE SPRINKLER DESIGN AND DRAWINGS ARE TO BE A DEFERRED SUBMITTAL BY CONTRACTOR .



KEY :

----------	=	EXISTING GRADE
————	=	NEW FINISHED GRADE
—— – —— – ——	=	BUILDING SETBACKS
————	=	PROPERTY LINE
P.U.E.	=	PUBLIC UTILITY EASEMENTS
C.A.T.V.	=	CABLE TV EASEMENTS
D.E.	=	DRAINAGE EASEMENTS
→···→···→···	=	DRAINAGE SWALE

DISTURBED AREA

15,936 SQ. FT OF DISTURBED AREA (TOTAL) FROM CONSTRUCTION. THIS INCLUDES TEMPORARY STORAGE .

STABILIZING DISTURBED AREA

THE NATURAL GROUND COVER WHICH IS AFFECTED BY CONSTRUCTION OF THE RESIDENCE (or) ANY ADDITION'S TO THE PROPERTY SHALL BE SUITABLY RESTORED AND REPLACED UPON COMPLETION OF THE PROJECT . RESEED ALL DISTURBED AREA'S WITH NATIVE VEGETATION. TO MINIMIZE THE BURDEN OF THIS REQUIREMENT MINIMUM EXCAVATION AND DISRUPTION OF THE VEGETATION IS ADVISED. LANDSCAPING NOTES NEED NOT BE ELABORATE. MINIMUM REQUIREMENT IS THAT THEY INDICATE A RETURN TO A NATURAL STATE IN KEEPING WITH THE AREAS RURAL SETTING. (NOTE: WHEN PLANNING LANDSCAPING CONSIDERATION SHOULD BE GIVEN TO THE AREAS ARID CLIMATE.

GRADING CUBIC YARD QUANTITIES

850 CUBIC YARDS OF CUT - TOTAL
850 CUBIC YARDS OF FILL - TOTAL
230 CUBIC YARDS OF IMPORTED BASE & SAND - TOTAL

DESIGN PARAMETERS

CODE = 2018 IRC & LOCAL DESIGN CRITERIA

PROJECT ELEVATION = 5,000'

SITE CLASS = D

WIND SPEED = 120 MPH

WIND EXPOSURE = C

DESIGN INCLUDES SNOW LOAD FOR DRIFT AND UNBALANCED LOADING

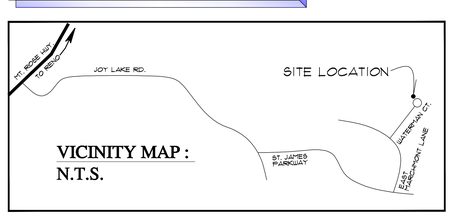
USE ALL APPLICABLE CODES THAT APPLY

1. 2018 I.B.C.	2. 2018 I.R.C.	3. 2018 I.E.B.C.
4. 2018 I.E.B.C.	5. 2018 U.P.C.	6. 2018 U.M.C.
7. 2018 I.M.C.	8. 2018 I.F.G.C.	9. 2018 I.W.U.I.C.
10. 2018 I.S.P.S.C.	11. 2018 N.F.P.A.	12. 2017 N.E.C.

IMPERVIOUS AREAS

LOT SIZE = 50,672 SQ. FT. = 20% ALLOWABLE COVERAGE = 10,134 SQ. FT.

HOUSE , GARAGE = 5,864 SQ. FT.
DRIVEWAY , WALKWAY & PORCH = 3,263 SQ. FT.
PATIO = 400 SQ. FT.
DECK COLUMNS = 25 SQ. FT.
TOTAL ACTUAL COVERAGE = 9,552 SQ. FT.



VICINITY MAP :

N.T.S.

OWNER CONTACT INFORMATION
STEVE & LIZZ PACKER
9178 GRAYCLIFF
RENO , NV. 89523
775-846-8588

VERIFY ALL ELEVATIONS IN FIELD (TYP.)

DECIMALS SHOWN ARE IN DECIMALS OF A FOOT (TYP.)

FINISHED ELEVATIONS

• MAXIMUM BUILDING HEIGHT	5489 . 00
• HIGHEST RIDGE OF RESIDENCE	--
• TOP OF TOP 1E @ MAIN FLOOR (10'-0 3/4")	--
• TOP OF 3/4" T. & G. PLY'WD. @ MAIN FLOOR	--
• TOP OF TOP 1E @ LOWER FLOOR (9'-0 3/4")	--
• TOP OF 4" CONC. SLAB @ LOWER FLOOR	--
• TOP OF 4" CONC. SLAB @ REAR OF GARAGE	--
• TOP OF 4" CONC. SLAB @ GARAGE DOORS	--

SITE PLAN

1" = 20' — 0"

LOT SIZE = 50,672 SQ. FT. ±
211 WATERMAN COURT
A . P . N . 156 - 061 - 14
RENO , NEVADA 89511 , WASHOE COUNTY

REVISIONS	BY

ASSOCIATED RESIDENTIAL DESIGN
LICENSED NEVADA RESIDENTIAL DESIGNER 91-P
CUSTOM HOMES AND ADDITIONS
595 PRAIRIE DOG COURT RENO NEVADA 89508
BUS. TEL. 775. 322. 8383 ardhomes@yahoo.com

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT ADOPTED I.B.C., I.R.C. AND 2018 IWUIC AND LOCAL BUILDING CODE (TYPICAL ALL SHEETS)

A CUSTOM RESIDENCE FOR : STEVE & LIZZ PACKER

211 WATERMAN COURT
A . P . N . 156 - 061 - 14
RENO , NEVADA 89511 , WASHOE COUNTY

Date	9-1-2023
Scale	NOTED
Drawn	CJ
Job	2302
Sheet	1
Of	- Sheets

LAND SURVEYORS
CIVIL ENGINEERS
LAND USE PLANNERS

September 5, 2023

Steve Packer
211 Waterman Court
Washoe County, NV

Subject: Abandonment Application WAB23-0003, 211 Waterman Court, APN 156-061-14

Mr. Packer
This memo has been prepared at your request to review the findings in the 1997 approved drainage report, titled "Hydrology Report for St. James's Village – Unit 1D" in order to potentially reduce an easement on the subject lot. This report assumed development of only the roads and utilities and preliminarily sized three detention ponds. Pond 5 (per the report) is the focus of this memorandum. We understand you desire to reduce the limits of the existing easement to facilitate construction of a single family residence that fits the existing topography and existing roads.

The approved Q100 runoff quantities from the 1997 report were used for this study review. Contours based on 2017 LIDAR data (as utilized by Washoe County and provided by Nevada Bureau of Mines) were used to model the current basin extents. Field measurements were taken on the existing outlet structure, a 24-inch concrete riser, with a single 3-inch diameter orfice. These measurements show that the orifice is approximately 0.5' above the bottom of the basin. The top of the riser is approximately 4 feet above the basin bottom. It should be noted that the design drawings for this development were reviewed but not used due to datum differences between the 1997 elevations and the 2017 LIDAR data. Based on the 2017 Lidar data, the basin bottom is at approximately 5452.5 and the top of the riser is at approximately 5456.5. Overflow relief from the basin occurs towards the northeast, at approximately elevation 5457.5.

The first basin model run reflects the performance of the existing basin and outlet structure. The 100-yr water surface elevation is approximately 5456.5, with an outflow of 1.1 cfs (Q100). With a 12-inch freeboard, it was estimate the easement could be moved towards the basin by approximately 35 feet. The storage volume required for this model is approximately 48,000 s.f., which is significantly less than the 54,000 cu.ft. available in the existing basin, before it spills northerly. The outflow from this basin is 1.1 cfs (Q100) plus/minus.

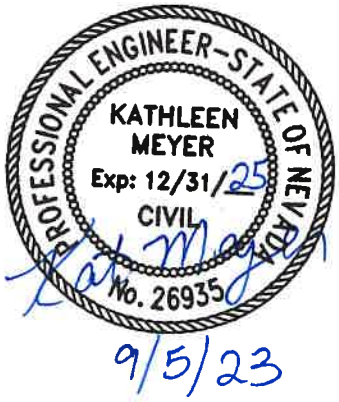
The second model run was performed using a modified riser with its top elevation cut down to elevation 5455 (2017 datum). This second model shows a ponded Q100 water surface of approximately 5455.8, with an outflow of approximately 20.7 cfs. The 1997 report states an undeveloped Q100 of 21.3 cfs from the area served by Pond 5. The proposed modifications meet the requirements for reducing developed flows to undeveloped levels.

With the modified outlet structure it should be feasible to adjust the existing southerly easement limits 40-feet northerly. The revised easement will still contain the 100-year storage extents (with a 12-inch vertical freeboard) while desired development of the lot. It is understood that the new residence will be constructed with finished floor elevation of 5459.5, which is 3.7 feet above the revised 100-year water surface elevation in Pond 5. It will also be 2 feet above the overflow elevation of 5457.5.

Based on this memo, we feel you have adequate justification to request a relinquishment of the southerly 40 feet of the existing drainage easement. Please see the enclosed exhibits showing the hydraulic modeling results and the revised easement.

Regards,

Kathleen Meyer, P.E.
Engineering Manager



9/5/23

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

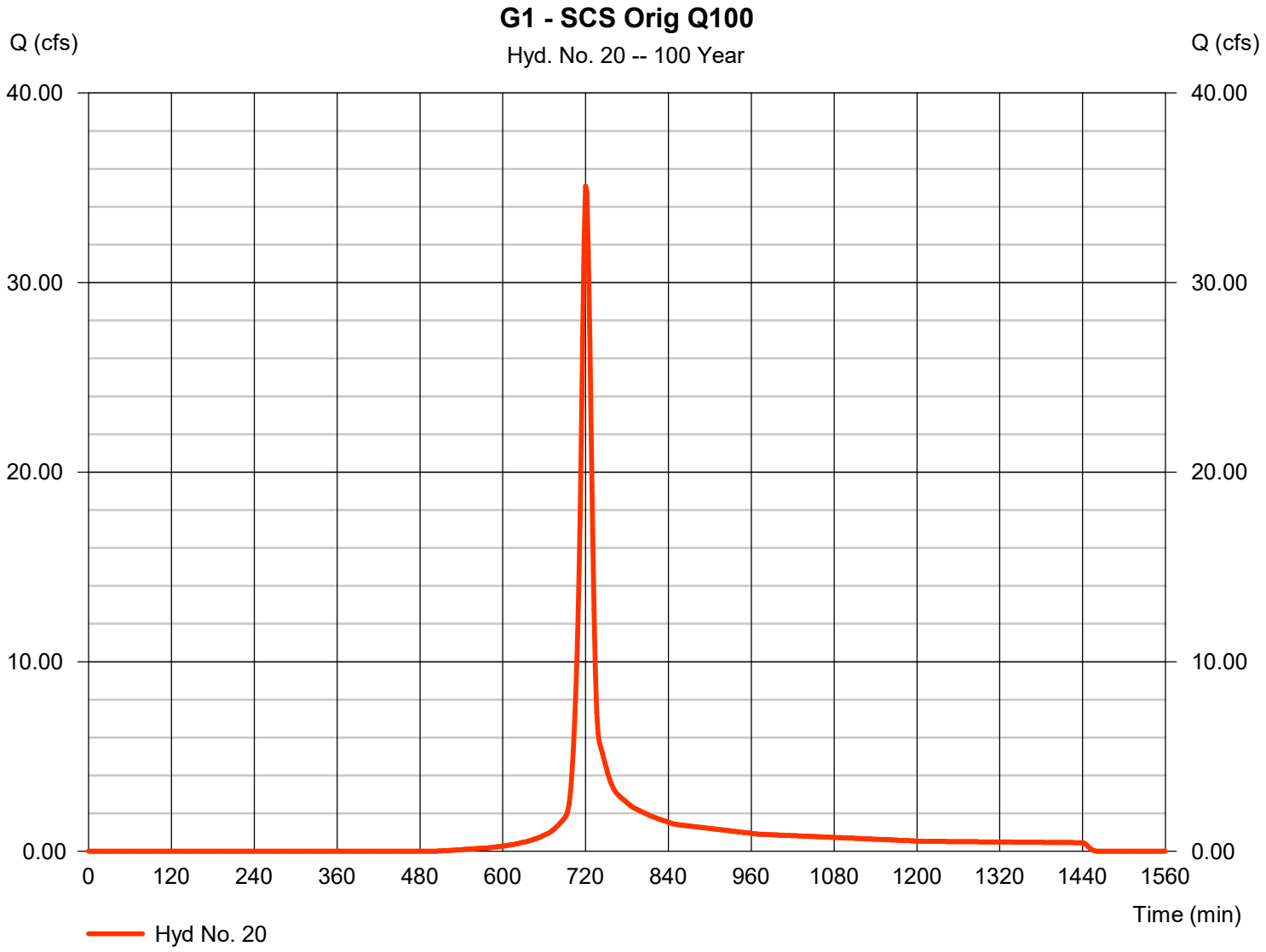
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	13.55	1	12	9,759	------	------	------	Tc calc using G1
2	Rational	22.30	1	30	40,140	------	------	------	Pond 5 Und Q10
3	Rational	39.03	1	30	70,245	------	------	------	Pond 5 Dev Q10
5	Rational	44.60	1	30	80,280	------	------	------	Pond 5 Und Q100
6	Rational	55.75	1	30	100,350	------	------	------	Pond 5 Dev Q100
11	Rational	75.01	1	12	54,007	------	------	------	Pond 5 Und Q10 Tc 12min
12	Rational	93.76	1	12	67,509	------	------	------	Pond 5 Dev Q10 Tc 12
14	Rational	56.26	1	12	40,505	------	------	------	Pond 5 Und Q100 Tc 12
15	Rational	93.76	1	12	67,509	------	------	------	Pond 5 Dev Q100 Tc 12
17	Reservoir	0.000	1	n/a	0	15	0.00	0.000	100yr
18	Reservoir	45.78	1	18	66,178	15	5456.32	45,398	100 Yr Lidar
20	SCS Runoff	35.08	2	720	90,978	------	------	------	G1 - SCS Orig Q100
21	Reservoir	20.71	2	728	90,491	20	5455.77	31,385	Orig Q100 - Lidar Cons
22	Reservoir	1.122	2	942	89,984	21	5456.54	45,291	Orig Q100 - Orig Basin

Hydrograph Report

Hyd. No. 20

G1 - SCS Orig Q100

Hydrograph type	= SCS Runoff	Peak discharge	= 35.08 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 90,978 cuft
Drainage area	= 5.957 ac	Curve number	= 67
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.00 min
Total precip.	= 7.95 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



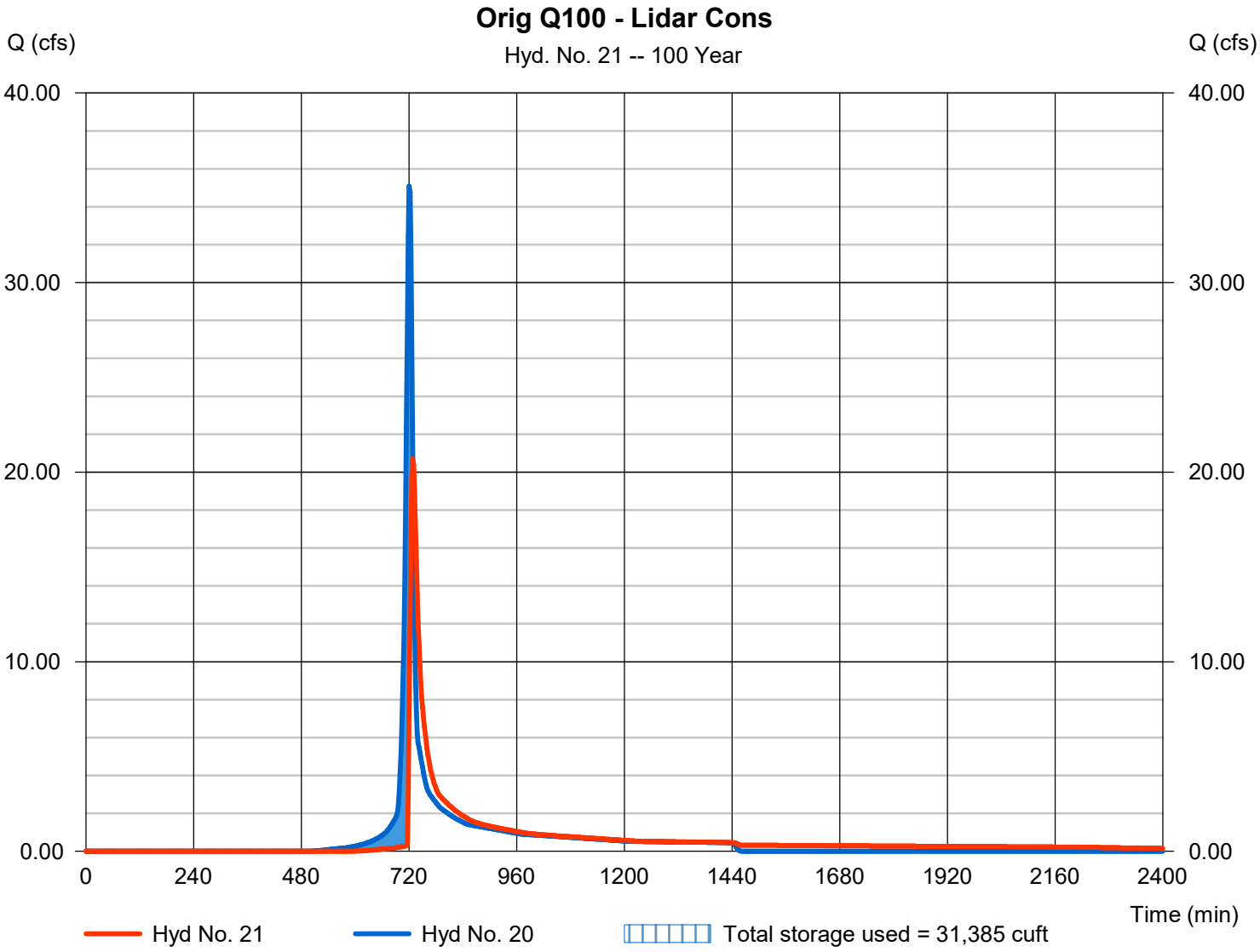
Hydrograph Report

Hyd. No. 21

Orig Q100 - Lidar Cons

Hydrograph type	=	Reservoir	Peak discharge	=	20.71 cfs
Storm frequency	=	100 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	90,491 cuft
Inflow hyd. No.	=	20 - G1 - SCS Orig Q100	Max. Elevation	=	5455.77 ft
Reservoir name	=	Pond 5A Lidar	Max. Storage	=	31,385 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Saturday, 09 / 2 / 2023

Pond No. 3 - Pond 5A Lidar

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 5452.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	5452.50	00	0	0
0.50	5453.00	1,850	463	463
1.50	5454.00	8,423	5,137	5,599
2.50	5455.00	15,430	11,927	17,526
4.50	5457.00	20,600	36,030	53,556

Lowered Riser Top Elevation

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	3.00	0.00	Inactive
Span (in)	= 18.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	1
Invert El. (ft)	= 5450.00	5453.00	0.00	0.00
Length (ft)	= 32.00	0.00	0.00	0.00
Slope (%)	= 0.90	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

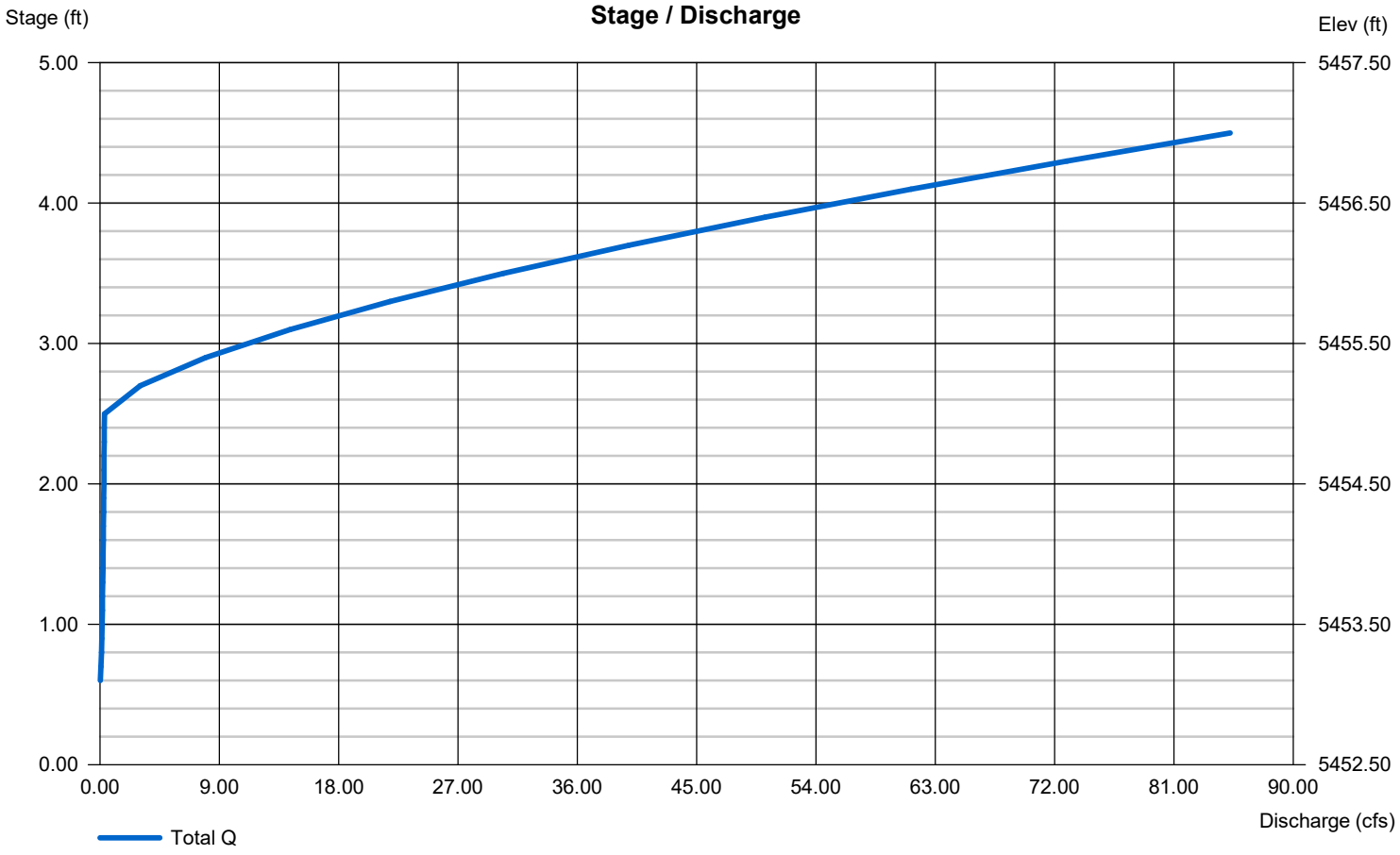
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 9.00	0.00	0.00	0.00
Crest El. (ft)	= 5455.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



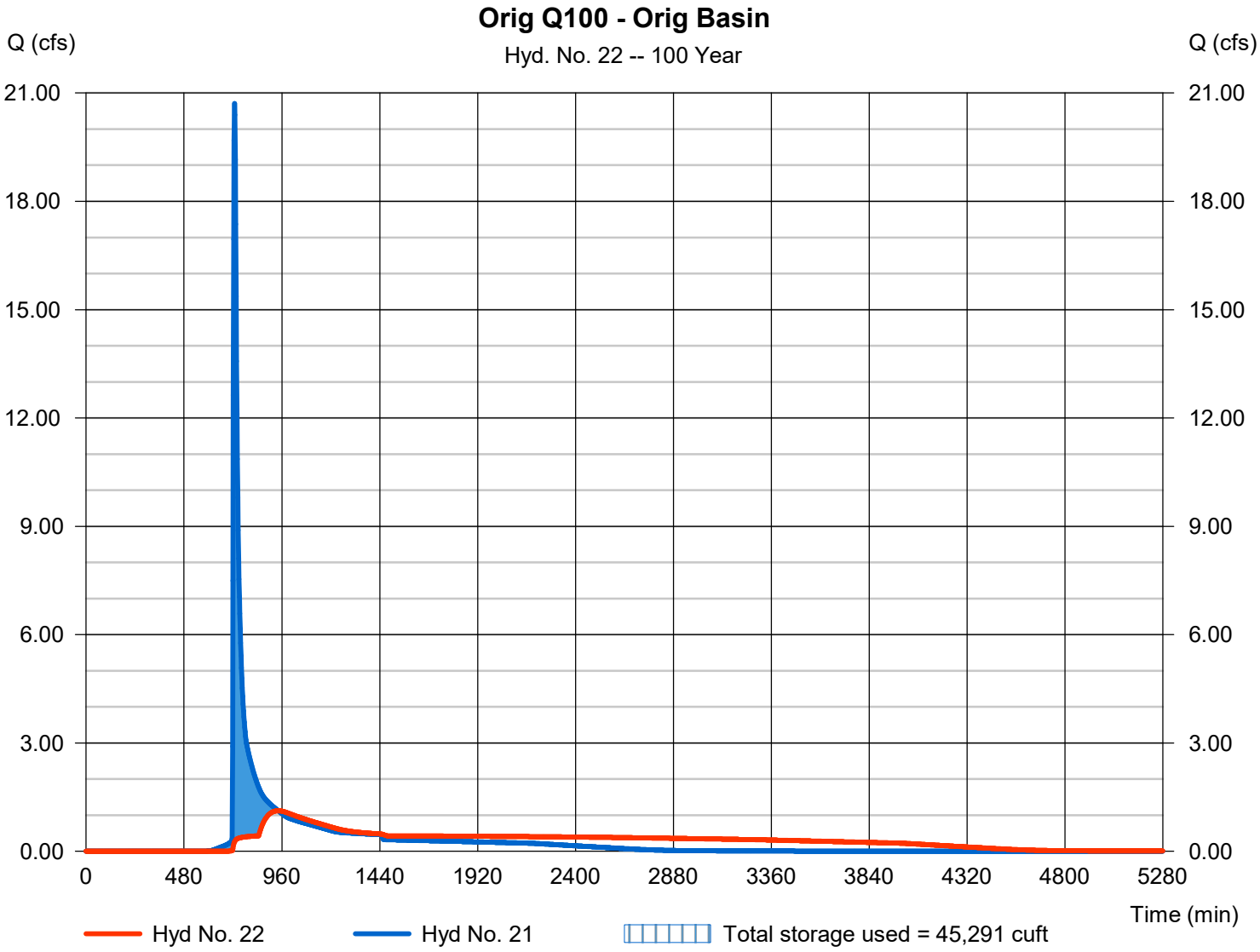
Hydrograph Report

Hyd. No. 22

Orig Q100 - Orig Basin

Hydrograph type	=	Reservoir	Peak discharge	=	1.122 cfs
Storm frequency	=	100 yrs	Time to peak	=	942 min
Time interval	=	2 min	Hyd. volume	=	89,984 cuft
Inflow hyd. No.	=	21 - Orig Q100 - Lidar Cons	Max. Elevation	=	5456.54 ft
Reservoir name	=	Pond 5A Lidar Old	Max. Storage	=	45,291 cuft

Storage Indication method used.



Pond Report

Pond No. 4 - Pond 5A Lidar Old

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 5452.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	5452.50	00	0	0
0.50	5453.00	1,850	463	463
1.50	5454.00	8,423	5,137	5,599
2.50	5455.00	15,430	11,927	17,526
4.50	5457.00	20,600	36,030	53,556

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	3.00	0.00	Inactive
Span (in)	= 18.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	1
Invert El. (ft)	= 5450.00	5453.00	0.00	0.00
Length (ft)	= 32.00	0.00	0.00	0.00
Slope (%)	= 0.90	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

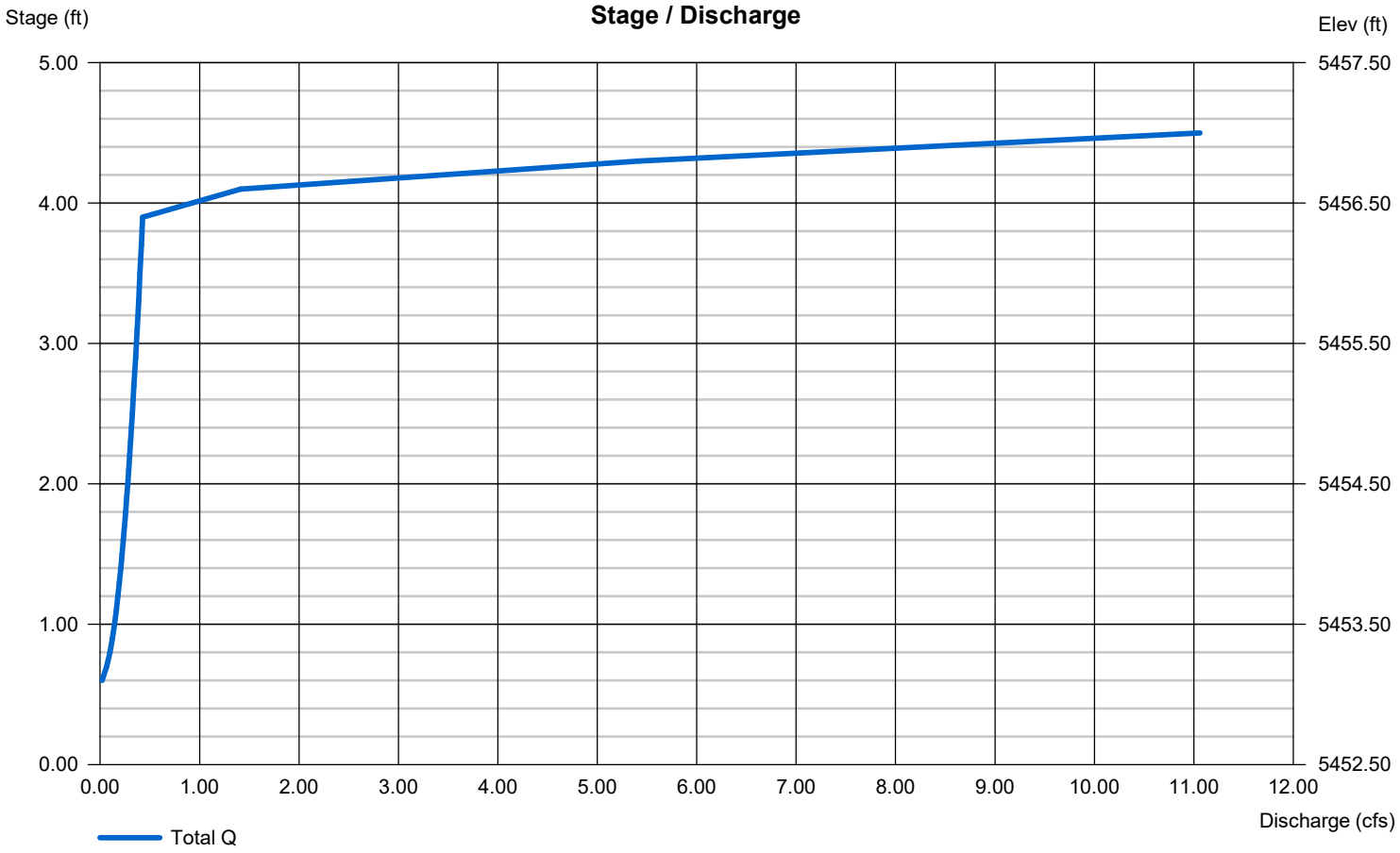
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 9.00	0.00	0.00	0.00
Crest El. (ft)	= 5456.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Hydrology Report

for

St. James's Village - Unit 1D

Washoe County, Nevada

Prepared for:

St. James's Village, Inc.
241 Ridge St., Suite 305
Reno NV 89501

15 April 1997

cfa

PLANNERS ENGINEERS SURVEYORS LANDSCAPE ARCHITECTS

1150 CORPORATE BLVD RENO NV 89502 (702) 856-1150 FAX (702) 856-1160

INTRODUCTION

This report presents hydrologic and hydraulic calculations and the storm drainage plan for St. James's Village - Unit 1D (46 lots) in Washoe County, Nevada. The 63-acre site is located north of Browns Creek. The proposed lots lie outside the FEMA flood zone. Roads will be privately maintained and drained by a system of ditches and culverts sized for the 100-year peak runoff. Three detention ponds (privately maintained) reduce peak flows to pre-development levels in the 100-year storm.

SITE DESCRIPTION

The project site consists of about 63 acres located north of Browns Creek, a tributary to Steamboat Creek. The site is bounded by sparsely developed land on the north, undeveloped land to the east, Browns Creek to the south, and St. James's Village Unit 1C to the west.

The site is presently undeveloped except for a haul road. The existing ground slopes downhill to the north and east at approximately 5 - 15 percent. Vegetation consists of sparse pine trees and sagebrush. According to the geotechnical investigation by Kleinfelder, Inc., surface soils consist generally of silty and clayey sands with numerous cobbles and boulders.

PROJECT DESCRIPTION

St. James's Village Unit 1D consists of 46 custom residential lots (1-acre minimum) and 2 common area parcels on 63 acres. Primary residential access will be via the extension of Woods Park Drive from the present terminus in Unit 1C. Only the streets and utilities will be constructed, leaving the lots in their natural condition. The CC&R's restrict cover to a maximum of 20% of the lot. Streets and storm drains will be privately owned and maintained.

FLOOD POTENTIAL

According to the FEMA Flood Insurance Rate Map, Panel 3250, dated September 30, 1994, St. James's Village Unit 1D lies in Flood Zone X unshaded (outside the limits of the 500-year flood). The 100-year flood limits for Browns Creek have not been mapped in detail. Browns Creek flows in a well-defined canyon and the lots are at or above the rim. For the purposes of the official plat the floodplain limits were approximated as the base of the canyon slope.

EXISTING DRAINAGE

Most of the site drains to the north and east, leaving the site as sheet flow or shallow concentrated flow at several locations. Portions of the site drain southerly to Browns Creek. Browns Creek has a 100-year flow of about 450 CFS, per Nimbus Engineers.

PROPOSED DRAINAGE

The proposed on-site storm drain system consists of roadside swales, culverts, and lot line drainage ditches sized for the peak runoff from the 100-year storm. The majority of the drainage is routed through one of the three detention ponds. Roadway drainage will be treated for petrochemicals and silts. Erosion control measures include interceptor swales at the top of all cut slopes and rock rip-rap at areas of concentrated flow.

HYDROLOGY

The site was analyzed using the SCS TR-55 method. The computer program Quick TR-55 was used to generate hydrographs for on-site and off-site drainage basins in the 10-year and 100-year storms. Drainage basins are delineated on the Hydrology Map and are labeled to conform to the Master Hydrology Report. (Unit 1D covers Watershed G and parts of Watersheds H and I.) The original CN of 51 (sagebrush with grass understory, fair condition) was considered to be too low and was revised to 59 (sagebrush, fair to poor condition). The 10-year

and 100-year flows were computed for existing and developed conditions at the three detention pond locations and at Browns Creek. Flows at critical design points on-site were also calculated using TR-55. To obtain hydrographs with 0.1-CFS resolution, TR-55 was run with watershed areas multiplied by ten and the resulting hydrographs were then divided by ten. All flows are shown on the Hydrology Map and on the improvement plans. Hydrologic computations are presented in Appendix B and the results are summarized in Table 1 below:

Table 1 - Peak Flow Summary (without detention)

Exist Watershed(s)	Developed Watershed(s)	Event	Existing Peak (cfs)	Developed Peak (cfs)
G1-G7, H4-H5, H8	G1-G7 (Pond 5)	Q10	2.7	8.0
		Q100	21.3	35.0
H1-H3	H1-H3 (Pond 6)	Q10	0.6	2.7
		Q100	4.9	10.4
H6-H7, H9-H10, I1	H4-H10 (Pond 7T)	Q10	1.2	7.2
		Q100	9.3	26.1
I2	I1-I2 (Browns Ck)	Q10	0.2	1.6
		Q100	1.8	6.0

DETENTION

All drainage to the north is intercepted by one of the three proposed detention ponds. Pond 5 is located north of Waterman Court, Pond 6 is sited just outside the northeast corner of Unit 1D, and the temporary Pond 7T is situated east of Unit 1D at the proposed terminus of Woods Park Drive. With future development, flows reaching Pond 7T will be conveyed down Woods Park Drive to the ultimate planned location of Pond 7 about 2000 feet easterly (see Master Hydrology). These ponds will be maintained by the St. James's Village Homeowners Association.

Detention pond data and routing computations are presented in Appendix C and are summarized in Table 2 below.

Table 2 - Detention Pond Summary

			10-Year Storm				100-Year Storm			
Watershed	Pond	Spill WS	Qin	WS	Qout	Qexist	Qin	WS	Qout	Qexist
G	P5	5453.00	8.0	5451.20	0.7	2.7	35.0	5452.83	14.6	21.3
H	P6	5410.00	2.7	5408.44	0.4	0.6	10.4	5409.38	5.0	4.9
H	P7T	5415.00	7.2	5412.27	3.2	1.2	26.1	5414.77	7.8	9.3
Total G+H			**17.9**		**4.3**	**4.5**	**71.5**		**27.4**	**35.5**
I	---		1.6		1.6	0.2	6.0		6.0	1.8
Project Total			**19.5**		**5.9**	**4.7**	**77.5**		**33.4**	**37.3**

"Total G + H" represents the flow discharged to TMS property to the north. This flow is held to existing levels in the 10-year and 100-year event. The "Project Total" includes the flows to Browns Creek, which are increased somewhat due to development. However, the increase will not significantly affect the peak flows in Browns Creek because the on-site peak will occur much sooner than the off-site peak.

CONCLUSIONS

1. St. James's Village Unit 1D (46 lots) can be developed as planned without adverse impact to downstream properties.

2. The project will be drained by a storm drain system sized for the 100-year storm.

3. Detention facilities as proposed will maintain the 10-year and 100-year flows at pre-development levels with respect to downstream properties.

REFERENCES

CFA, Inc., Hydrology Report - St. James's Village Unit 1B, April 1994.

CFA, Inc., Master Hydrology Report - St. James's Village, April 1994.