



Alex Mestdagh
Engineering Services Manager
City of Parker, CO
20120 E. Mainstreet Parker, CO
303-805-3204

January 4, 2019

RE: Drainage Conformance Letter for Ziggi's
Parker Pointe Subdivision

Mr. Mestdagh,

This letter is in regards to the drainage conformance letter you requested for the proposed Ziggi's development in Parker Pointe Subdivision. Based on the Final Drainage Report prepared by Perception Design Group dated 11/28/18 (Exhibit "A"), the 100 year flow for Lot 14 (Ziggi's lot) is 5.69 cfs. Refer to Exhibit "B" for the proposed Ziggi's grading plan. The 100 year flow for the proposed Ziggi's development (Exhibit "C") is 5.49 cfs.

Based on the above information, we conform with the required flow rate for the 100 year storm event. If you have any question, please feel free to give me a call.

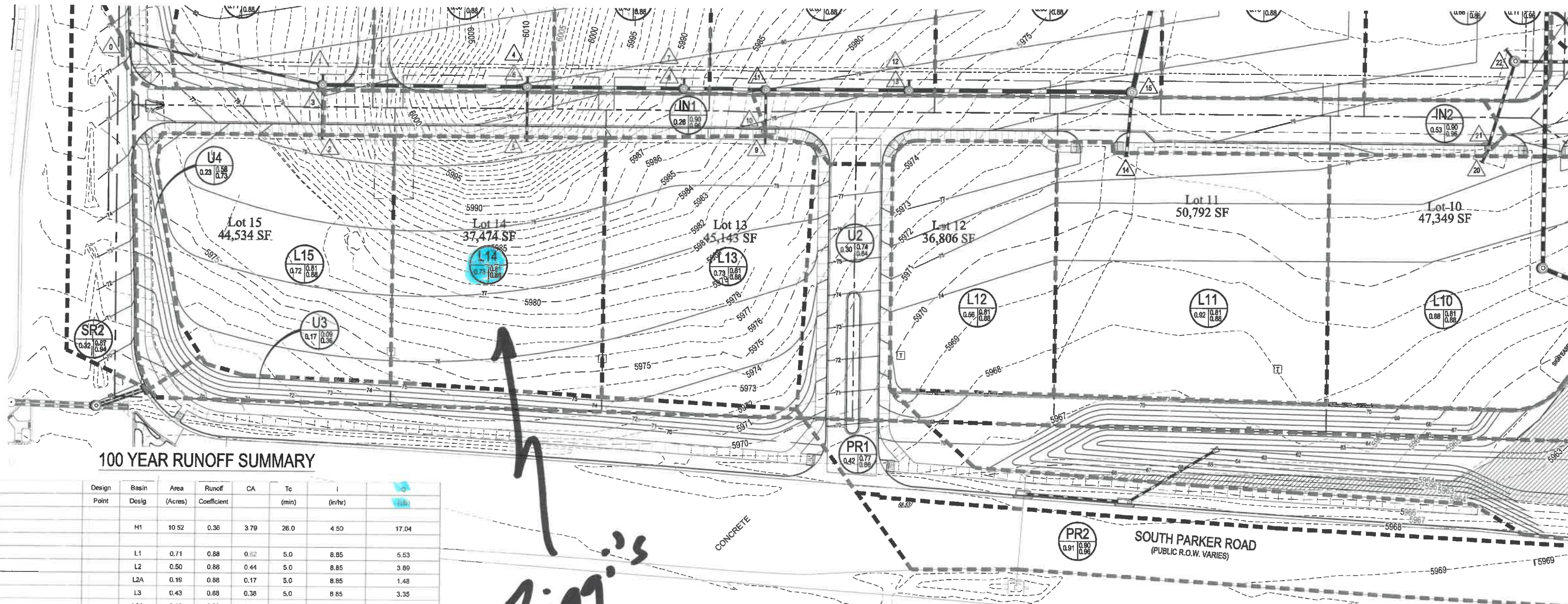
Sincerely,

A handwritten signature in black ink, appearing to be 'R. Day', written over the typed name and company.

Robert Day, P.E
Cynergy



STROH ROAD



100 YEAR RUNOFF SUMMARY

Design Point	Basin Desig.	Area (Acres)	Runoff Coefficient	CA	Tc (min)	I (in/hr)	Q (cfs)
	H1	10.52	0.36	3.79	26.0	4.50	17.04
	L1	0.71	0.88	0.62	5.0	8.85	5.53
	L2	0.50	0.88	0.44	5.0	8.85	3.89
	L2A	0.19	0.88	0.17	5.0	8.85	1.48
	L3	0.43	0.88	0.38	5.0	8.85	3.35
	L3A	0.16	0.88	0.14	5.0	8.85	1.25
	L4	0.63	0.88	0.55	5.0	8.85	4.91
	L4A	0.24	0.88	0.21	5.0	8.85	1.87
	L5	0.63	0.88	0.55	5.0	8.85	4.81
	L5A	0.24	0.88	0.21	5.0	8.85	1.87
	L6	0.78	0.88	0.69	5.0	8.85	6.07
	L7	0.68	0.88	0.60	5.0	8.85	5.30
	L8	0.87	0.88	0.77	5.0	8.85	6.78
	L9	0.71	0.88	0.62	5.0	8.85	5.53
	L10	0.88	0.88	0.77	5.0	8.85	6.85
	L11	0.92	0.88	0.81	5.0	8.85	7.16
	L12	0.56	0.88	0.49	5.0	8.85	4.36
	L13	0.73	0.88	0.64	5.0	8.85	5.69
	L14	0.73	0.88	0.64	5.0	8.85	5.69
	L15	0.72	0.88	0.63	5.0	8.85	5.61
	IN1	0.26	0.96	0.25	5.0	8.85	2.21
	IN2	0.53	0.96	0.51	5.0	8.85	4.50
	IN3	0.11	0.96	0.11	5.0	8.85	0.93
	SR1	3.75	0.42	1.58	22.4	4.90	7.72
	OS1	23.34	0.39	9.10	25.5	4.50	40.96
TOTAL FLOW TO FOREBAY							103.45
TOTAL TO POND							144.41
	U1	1.37	0.36	0.49	25.5	4.50	2.22
	U2	0.3	0.84	0.25	25.5	4.50	1.13
	U3	0.17	0.36	0.06	25.5	4.50	0.28

2.99 lot

DETENTION SUMMARY

ZONE	VOLUME	ELEVATION	RELEASE RATE
WQCV	0.586 AC-FT		41 HOURS
EURV+WQCV	1.472 AC-FT	5968.03	70 HOURS
100 YEAR	2.753 AC-FT	5970.05	36.7 CFS

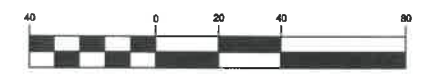
LEGEND

- 5340 --- EXISTING CONTOUR
- 42 --- PROPOSED CONTOUR
- R1 BASIN DESIGNATION
- 0.20 0.75 5 YR RUNOFF COEFFICIENT
- 0.83 100 YR RUNOFF COEFFICIENT
- BASIN AREA

* Final Drainage Report 11/28/18



GRAPHIC SCALE



(IN FEET)
1 inch = 40ft.

Perception Design

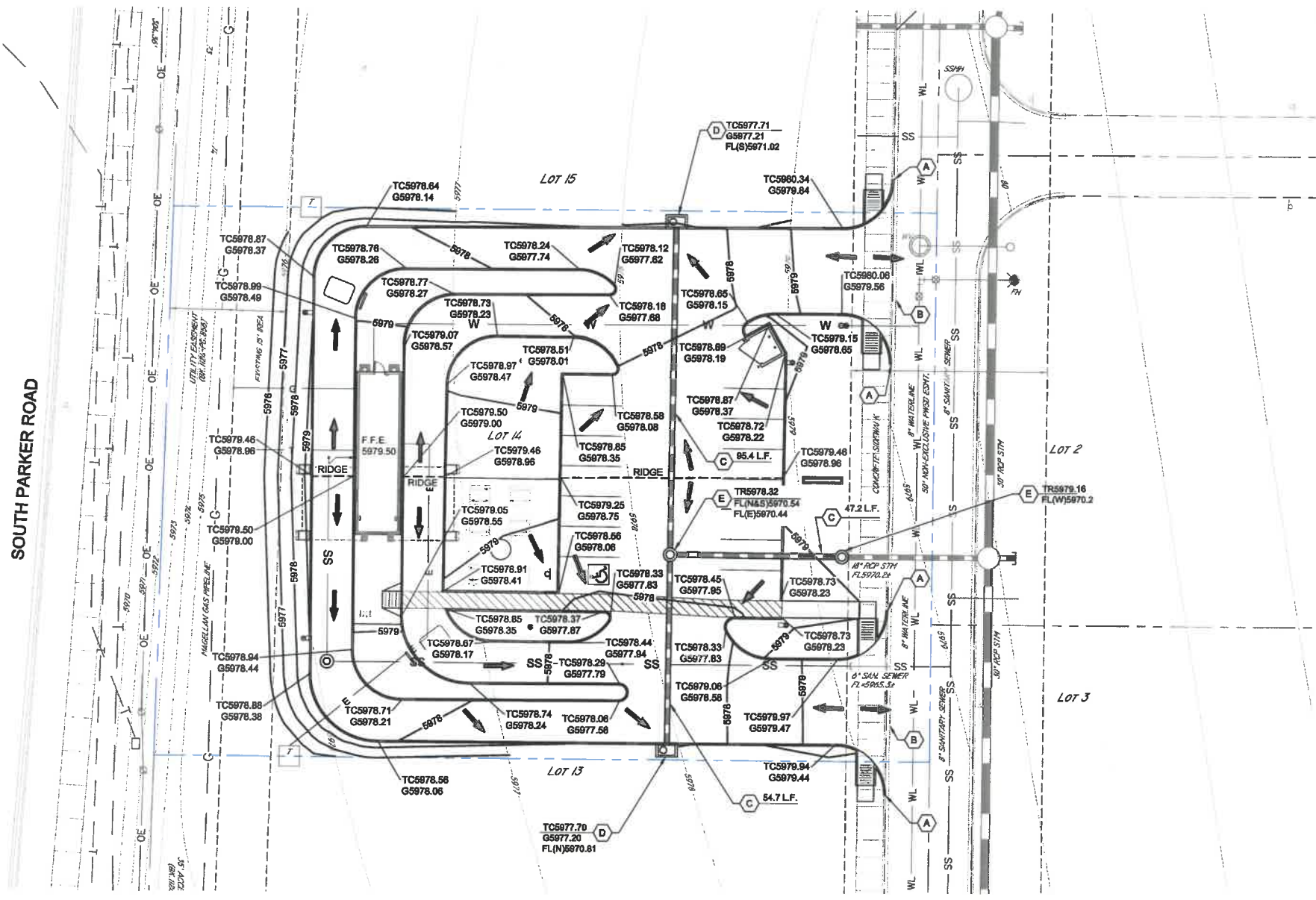
Ziggi's Proposed Grading Plan

Exhibit "B"



ROBERT L. DAY, PE
ENGINEER OF RECORD
CYNTERGY ENGINEERING, PLLC
CA # 3537
EXPIRES 6/30/2020

Ziggi's COFFEE
PARKER, COLORADO



1 GRADING PLAN
SCALE: 1" = 20'
NORTH
SCALE: 1" = 20'-0"

LEGEND (ABBREVIATIONS)

CICI	CAST IRON CURB INLET
CMP	CORRUGATED METAL PIPE
CO	SANITARY SEWER CLEAN OUT
ES	ELECTRICAL SECONDARY UNDERGROUND
F.F.E.	FINISH FLOOR ELEVATION
FL	FLOW LINE
G	GUTTER
GL	GAS LINE
HDPE	HIGH-DENSITY POLYETHYLENE
IE	INVERT ELEVATION
LF	LINEAR FOOT
LS	LANDSCAPE AREA
O.C.	ON CENTER
OE	OVERHEAD ELECTRICAL LINE
PP	POWER POLE
R	RADIUS
SD	STORM DRAIN
SS	SANITARY SEWER LINE
SSMH	SANITARY SEWER MANHOLE
T	THICK
TC	TOP OF CURB
TG	TOP OF GRATE
TSS	TRAFFIC SIGNAL BOX
TSP	TRAFFIC SIGNAL POLE
TYP	TYPICAL
UE	UNDERGROUND ELECTRICAL LINE

GRADING PLAN LEGEND

---	LOT 2 PROPERTY LINE
---	CONTOUR LINE (EXISTING)
---	CONTOUR LINE (NEW)
→	DRAINAGE FLOW ARROW
TC 5975.50	TOP OF CURB ELEVATION (NEW)
G 5975.00	GUTTER ELEVATION (NEW)
FG 5975.00	TOP OF PAVEMENT ELEVATION (NEW)

- GRADING PLAN KEY NOTES**
- (A) MATCH EXISTING
 - (B) SAWCUT, FULL DEPTH
 - (C) INSTALL 18" STORM DRAIN @ 0.50%
 - (D) CONSTRUCT CURB INLET, TYPE "R" COLORADO DOT STANDARD PLAN NO. M-604-12
 - (E) CONSTRUCT 4" DIA MANHOLE, COLORADO DOT STANDARD PLAN NO. M-604-20

- GRADING PLAN NOTES**
1. THE CONTRACTOR SHALL CONTACT "UNCC" AT 811 OR 1-800-922-1887, THREE (3) WORKING DAYS BEFORE BEGINNING ANY WORK, SO EXISTING UNDERGROUND UTILITIES MAY BE LOCATED AND MARKED.
 2. EXISTING UTILITIES ARE SHOWN APPROXIMATELY AND FOR GENERAL INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
 3. MANHOLE LIDS AND SLEEVES IN PAVED AREAS SHALL BE HS-26 TRAFFIC RATED.
 4. UNDERGROUND STORM DRAINAGE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AND DETAILS.
 5. PROVIDE PIPE BOLLARDS AT LOCATIONS SHOWN AND AT LOCATIONS SPECIFIED BY THE OWNER, REGULATORY AGENCIES AND UTILITY COMPANIES. COORDINATE BOLLARD INSTALLATION WITH FINISHED PAVING GRADE.
 6. EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
 7. UNLESS OTHERWISE SHOWN, NEW PAVING SHALL BE CONSTRUCTED TO ALLOW FOR POSITIVE DRAINAGE TO CATCH BASIN, CURB, GUTTER, AND OTHER RUNOFF COLLECTION DEVICES. NEW PAVEMENT SLOPE SHALL BE MINIMUM 0.50% FOR CONCRETE AND 1.5% FOR ASPHALT UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ARCHITECT/ENGINEER.
 8. ALL DISTURBED AREAS THAT ARE NOT TO BE PAVED SHALL BE SODDED UNLESS NOTED OTHERWISE.
 9. CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL MEASURES AND TO COMPLY WITH DEPARTMENT OF ENVIRONMENTAL QUALITY STANDARDS.
 10. EXISTING BOUNDARY AND TOPOGRAPHIC SURVEY IS BASED OFF SITE DEVELOPMENT CONSTRUCTION PLAN FOR PARKER POINT PREPARED BY PERCEPTION DESIGN GROUP, INC.. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF EXISTING GROUND CONDITIONS ARE NOT REPRESENTATIVE IN THE FIELD.
 11. THE CONTRACTOR SHALL KEEP THE SITE CLEAN AT ALL TIMES AND CONTROL DUST RESULTING FROM THE EARTHWORK OPERATIONS. THE CONTRACTOR SHALL NOT TRACK MUD ON THE PUBLIC STREETS.
 12. NEW CONTOURS DENOTE TOP OF FINISHED PAVING AND GRADED AREA AS INDICATED. ALL PROPOSED ELEVATIONS ARE TOP OF CURB, GUTTER OR FINISH GRADE AS INDICATED ON THE PLANS, UNLESS NOTED OTHERWISE.
 13. STORM DRAIN STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AND DETAILS.
 14. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES AND SHALL NOT DAMAGE OR DISTURB ANY SERVICE. THE CONTRACTOR SHALL REPAIR, AT HIS OWN EXPENSE, ANY DAMAGED UTILITIES CAUSED BY HIS CONSTRUCTION OPERATIONS.
 15. ALL DRAINAGE PIPES, SHALL HAVE A MINIMUM COVER OF (1) FEET TO TOP OF PIPE, UNLESS NOTED OTHERWISE.
 16. BEDDING MATERIALS SHALL BE OF GRADE AS SPECIFIED IN THE CITY STANDARD SPECIFICATIONS. PIPES SHALL BE PLACED ON AT LEAST 6-INCHES OF BEDDING MATERIALS, AND BACKFILLED WITH SAME MATERIALS.
 17. ADJUST ALL VALVE BOXES AND MANHOLE COVERS TO FINISHED GRADE WHEN APPLICABLE.
 18. THE CONTRACTOR SHALL COMPLY WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), TO MAINTAIN A VIABLE TRENCH SAFETY SYSTEM AT ALL TIMES.
 19. THE CONTRACTOR SHALL FURNISH ALL BONDS AND INSPECTION FEES AS REQUIRED BY THE CITY.
 20. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
 21. IF A CONFLICT EXISTS BETWEEN THE PLANS, SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ARCHITECT/ENGINEER FOR CLARIFICATION PRIOR TO CONSTRUCTION.
 22. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED PERMITS AND FOR CONTACTING THE CITY TO ARRANGE FOR A PRE-CONSTRUCTION CONFERENCE IF SO REQUESTED BY THE CITY, PRIOR TO THE START OF CONSTRUCTION.
 23. CONTRACTOR SHALL COMPLY WITH REQUIREMENTS FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY.
 24. FOR PAVEMENT THICKNESSS AND MATERIAL SPECIFICATIONS, REFER TO PLAN SHEETS AND/OR DETAILS SHEETS.
 25. UNDERGROUND UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL STANDARDS.
 26. SIDEWALK JOINTS SHALL BE PLACED IN ACCORDANCE WITH DETAIL 2/CS101.
 27. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. ANY DISCREPANCY FOUND SHALL BE DISCUSSED WITH THE ENGINEER OF RECORD PRIOR TO ANY CONSTRUCTION WORK.

CAUTION EXISTING UTILITIES !!!
EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED ONLY BY VISUAL INSPECTION. IT SHALL BE THE

DOCUMENTS WITHOUT SIGNATURE AND REQUIRED SEAL OF AOR/EOR ARE NOT FOR CONSTRUCTION

STIPULATION FOR REUSE
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE AT PARKER, COLORADO. CONTEMPORANEOUSLY WITH THIS ISSUE DATE OR HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

ISSUES / REVISIONS

NO	DATE	REVISION
1	7/16	

ISSUE DATE: 10/18/16
PROTO DATE:
CHECKED BY: WCM
DRAWN BY: AWD

Ziggi's Storm Water Cakes

Exhibit "C"

PROJECT: PARKER, COLORADO - Ziggi's
 PROJECT NO: 180010001

POST DEVELOPMENT

Drainage Condition	Total Area ft ²	Total Area Acre	C Value 2 yr	C Value 5 yr	C Value 10 yr	C Value 100 yr	Travel Time			Rainfall				Peak flow				
							Length ft	Slope %	K VALUE	t _c min	I ₂ in/hr	I ₅ in/hr	I ₁₀ in/hr	I ₁₀₀ in/hr	Q ₂ cfs	Q ₅ cfs	Q ₁₀ cfs	Q ₁₀₀ cfs
BUSINESS (COMMERCIAL AREA)	24,087	0.56	0.87	0.87	0.88	0.89	163	1.09	20	1.30	4.19	5.89	6.95	11.02	2.04	2.87	3.42	5.49
														TOTAL	2.04	2.87	3.42	5.49